



National Audit Office



REPORT

# Environmental Sustainability Overview

Department for Education

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National Audit Office

# Environmental Sustainability Overview

**Department for Education**

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## **Report by the Comptroller and Auditor General**

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**Gareth Davies**  
**Comptroller and Auditor General**  
**National Audit Office**

**20 June 2023**



# This report assesses the approach taken by the Department for Education to environmental sustainability.

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## Key facts

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**143**

commitments in Department for Education's (DfE's) Climate Change and Sustainability Strategy from 2022 to 2030

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**37%**

of public sector emissions come from education settings (state primary and secondary schools and universities)

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**6**

number of schools capable of operating at net zero carbon, with 28 more in construction as part of the School Rebuilding Programme

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**500**

number of schools that DfE expects will be net zero carbon in operation after completion of the DfE's School Rebuilding Programme, equivalent to 2% of the school estate. Local authorities and other responsible bodies are directly responsible for a larger proportion of the estate outside this programme

**10,710**

number of schools with a significant chance of flooding at least once in 75 years (at April 2022)

**£170 million**

the funding allocated to DfE's Sustainability and Climate Change portfolio between 2022-23 and 2024-25

**28%**

of £584 million public sector decarbonisation scheme funding allocated by the Department for Energy Security & Net Zero, up to 31 May 2023, to educational establishments

# Summary

**1** This report gives an overview of the approach taken by the Department for Education (DfE) to environmental sustainability. We have produced it in response to a request from the Environmental Audit Committee (EAC). This is the seventh in a series of sustainability overviews we have produced, each of which examines how different parts of government fulfil their sustainability remit. Our overviews cover areas of activity common to all government departments that impact on sustainability (see Appendix One). They also take account of the individual circumstances of each department.

**2** In April 2022, DfE published an ambitious Sustainability and Climate Change Strategy (2022–2030). This overview considers DfE’s work to implement its strategy in its first year. The strategy has a broad scope: it applies to DfE, its agencies and public bodies and the education and children’s services systems in England – early years, schools, further education, higher education, and children’s social care. It sets out DfE’s plans to meet obligations to improve the environment and its policies to improve the sustainability of education services and promote learning about and understanding of environmental sustainability and climate change. It makes 143 commitments in five broad areas: the education estate, green skills and careers, climate education, operations and supply chain, and international influence.

**3** This overview covers:

- DfE’s approach to delivering and overseeing its sustainability strategy (Part One);
- progress in the first year of its strategy and in meeting environmental obligations (Part Two); and
- DfE’s capacity to influence sustainable practices in new and existing schools, as well as its understanding of climate risk and energy efficiency of the school sector more generally (Part Three).

**4** DfE is responsible for the school system in England and is ultimately accountable for securing value for money from the funding it provides for schools, via a devolved system of responsibility. The school estate consists of around 21,600 maintained schools funded by DfE, of which more than 11,400 are run by local authorities and more than 10,200 are academies run by single or multi-academy trusts. These responsible bodies oversee the day-to-day running of schools and decide how funding is used, within broad parameters set by DfE. Education is the public sector’s largest emitter of carbon from buildings: 37% of public sector emissions, comprising 13% from state primary schools, 11% from state secondary schools and 13% from universities.

## Key findings

Setting up to deliver environmental commitments and obligations

**5 DfE created a Sustainability and Climate Change Unit (SCCU) in April 2021 to coordinate and lead its work on environmental sustainability.** SCCU has raised the profile of sustainability within DfE and provided a focal point and impetus for DfE to act on key environmental risks. SCCU is responsible for a mixture of coordination and assurance work across DfE and for delivering key programmes under the strategy. Since April 2022, SCCU has taken steps to bring new and existing work within a portfolio, organise resources and secure some funding to start projects (paragraphs 1.7 to 1.10).

**6 One year after DfE published its strategy, its accountability arrangements for delivery are still in development.** We have seen limited evidence of oversight for the portfolio and strategy above SCCU, which puts sustainability at risk of being deprioritised or traded-off when making decisions. Sustainability is not yet embedded fully in departmental governance as DfE has not yet finalised responsibilities and accountability for strategy commitments across the whole department. DfE created SCCU to coordinate a range of interventions within a sustainability portfolio, as multiple teams across DfE are responsible for delivering the strategy. SCCU has established relationships with policy teams (such as capital, skills, qualifications), and is procuring contracts to deliver its central sustainability initiatives. DfE is in the early stages of developing a full programme plan (paragraphs 1.9, 1.14 and 1.15 and Figure 6).

Funding and resourcing the strategy

**7 The cross-cutting nature of the strategy means that DfE has no visibility of overall spending.** By February 2023, DfE had allocated £170 million for 2022-23 to 2024-25 to sustainability work. SCCU monitors the use of this funding. Spending towards the strategy elsewhere in DfE is not visible to SCCU; there are significant school capital funding streams of more than £2 billion intended to improve the condition of the school estate that can, but do not have to be, used in a way that also improves sustainability (paragraphs 1.16, 1.17 and 3.11 to 3.13, and Figures 4 and 10).

**8 There is a mismatch between the funding allocated for this work and the ambitions of the strategy.** DfE has not fully costed its strategy. In 2022-23, SCCU's revenue funding reduced by 15%. This reduced its staffing, contributing to delays, and degraded SCCU's delivery confidence in some projects. Where funding was approved for projects, DfE has had to scale them back due to lack of staff following cross-government resource constraints. DfE descope two projects to align with what it could deliver, including the Resilient Schools Programme, which is designed to identify low-cost ways to increase the resilience to climate change of the existing estate. In August 2022, DfE reduced the project's budget from £90.5 million to £4.6 million. DfE is working to secure additional funding to deliver its strategy commitments beyond 2025 (paragraphs 1.16, 1.18, 1.19 and 3.9).



## Delivery progress

**9 DfE has only recently established a means of monitoring whether the strategy is on track and can be delivered.** Until late April 2023, there was limited visibility of the totality of strategy commitments and how they were going. We were not able to easily assess what progress had been made. From 2023, SCCU brought together milestones for its central sustainability initiatives. During our audit, SCCU started to collate a complete, up-to-date record of all the commitments in its strategy and it is in the process of developing an approach to measuring benefits. At May 2023, it considered 18 of 19 commitments marked for delivery in 2022 and nine of 47 marked for delivery in 2023 as complete (paragraphs 2.2 to 2.4).

**10 SCCU has made good progress in delivering its own sustainability initiatives and in supporting DfE's compliance with statutory requirements.** SCCU has secured funding and has announced, or is in discussion with, contractors to deliver: a National Education Nature Park, Climate Action Awards, a Standardised Emissions Framework and an International Green Skills conference. SCCU has worked with the Department for Energy Security & Net Zero (DESNZ), its predecessor body the Department for Business, Energy & Industrial Strategy (BEIS) and the Department for Environment, Food & Rural Affairs (Defra) to support DfE and to address risks to meeting some of its statutory obligations. SCCU is also leading work on how DfE will manage benefits from, and understand the impacts of, work towards the strategy (paragraphs 1.10, 2.5 to 2.10 and Figures 5 and 6).

## Understanding the sustainability of the school estate and how to improve it

**11 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 cannot yet strategically target funding or sustainability interventions to schools. The data DfE does have are not complete or up-to-date, particularly for old schools. It has started work to improve data coverage to enable it to monitor and target funding better. It plans to standardise emissions data and reporting; develop a climate risk framework to assess the risks to schools from flooding, overheating and water scarcity; and set emissions targets for the sector by 2025 (paragraphs 3.7, 3.8 and 3.33, and Figure 7).

**12 DfE is piloting innovative ways to reduce emissions and increase energy efficiency in school buildings, in order to assess which initiatives justify future investment.** DfE is using an 'innovate, test and invest' approach with available funding to learn what does or does not work and what is worth scaling up with the money it has available. It is running a series of pilots to test approaches to operating schools at zero carbon; improve energy efficiency, and resilience to the effects of climate change; and use ultra-low carbon construction methods. From 2025, DfE expects to invest in scaling up and rolling out successful approaches to the education sector. However, its approach to evaluation and assessing benefits is still developing (paragraphs 1.10 and 3.9, and Figures 8 and 9).

## Influencing environmental sustainability in schools

**13 DfE recognises that there are safety risks within the school estate, so it has focused capital funding on improving the condition of school buildings, with sustainability integrated where there is an opportunity to do so.** Capital funding for schools is aimed at improving the condition and safety of school buildings. There is no specific requirement for schools to spend funding on sustainability measures although improving the condition of buildings can often improve energy efficiency. Many school buildings are in poor condition and consequently schools, academy trusts and local authorities find it difficult to prioritise sustainability improvements when using capital funding. DfE provided a one-off £447 million 'energy efficiency' allocation in December 2022 but schools can decide to spend it on other capital projects. DfE has worked with DESNZ and its predecessor BEIS to improve the availability of other funding to decarbonise schools, for example, ensuring schools receive funding from the Public Sector Decarbonisation Scheme in line with their share of public sector emissions. As a result, DESNZ set an intention to increase the share of grants going to schools in the latest funding round. DESNZ told us that the education sector submitted enough funding bids to get at least 30% of the total £595 million potentially on offer (paragraphs 3.11 to 3.13, 3.15 to 3.17, and Figures 10 and 11).

**14 DfE has incorporated sustainability requirements into some elements of capital funding, including new school buildings.** DfE is standardising construction of centrally funded new-build schools, so that these buildings are net zero in operation. It created a standardised net zero building specification in 2021, which is compulsory for all new school buildings contracted by DfE. As at June 2023, there were six net zero schools, with 28 in construction as part of the School Rebuilding Programme. DfE intends to rebuild 500 schools by 2030, 2% of the school estate. It also started factoring environmental sustainability into its allocation of school condition funding from 2022-23 by requiring schools to demonstrate consideration of a sustainable approach in project bids. DfE strengthened its requirements for 2023-24 so schools have to also provide evidence of works that lead to greater environmental sustainability (paragraphs 3.14, 3.20 and 3.21).

**15 Responsible bodies and schools are not required to meet any minimum environmental standards for their estate.** However, all work must comply with building regulations, which include energy efficiency. Many local authorities and schools have made environmental commitments independently of national government. Local authorities that rebuild schools are encouraged to use the DfE's standards as they surpass building regulations in terms of energy efficiency, but they are not mandatory for local authority-led projects. Similarly, sustainable buildings standards only apply to refurbishment of existing buildings in limited circumstances, such as under DfE's School Rebuilding Programme. It is usually for responsible bodies (local authorities and academy trusts) to decide if work to improve the condition of school buildings is done in a way that contributes to improved sustainability or reduced emissions (paragraphs 3.3, 3.11 and 3.20 to 3.22).

**16 DfE has started to encourage schools and responsible bodies to change to sustainable practices through guidance or direct engagement but this work is at an early stage.** SCCU launched two initiatives in May 2023 to improve school awareness and engagement with sustainability issues. For example, DfE plans for all education settings to have a sustainability lead, who will own a Climate Action Plan (to include activities, procurement, adaptation and decarbonisation plans), although these measures are voluntary. DfE also provides schools with some sustainability guidance, incorporating messages around energy efficiency and water use into estates guidance. DfE currently engages with the sector via stakeholder groups and newsletters but recognises it has more work to do to convince and advise schools about how to be more sustainable (paragraphs 2.9, 3.22, 3.25 and 3.26).

**17 DfE does not know what contribution its current schemes will have on reducing total carbon emissions across the sector but they will likely not bring it close to achieving the 75% reduction which government is targeting across the wider public sector.** Government has a target to reduce direct emissions from public sector buildings by 75% by 2037, compared with a 2017 baseline. Education settings (schools and universities) produce 37% of public sector carbon emissions. DfE plans to introduce emissions targets from 2025, recognising that it has to take action as a significant emitter within the public sector. Current sustainability schemes are fairly small-scale and DfE has not secured funding for the strategy beyond 2025. DfE estimates that at its current rate of progress, 80% of the existing estate will not be retrofitted by 2050 so it needs to identify ways to accelerate change. It is now exploring options to fund improvement on a wider scale, for example by aggregating schools together to get funding for solar panels. DfE undertook some exploratory analysis in January 2023 to test the potential opportunity from investment in retrofitting solar panels and energy efficiency measures for all state schools. This suggested that the cost might be in the region of several billion pounds, many times its current annual dedicated funding on sustainability measures, with potential savings and income net of maintenance costs slightly higher than costs but with significant variation between schools depending on factors such as size, condition and location (paragraphs 1.3, 3.9, 3.32 to 3.36 and Figure 13).

**18 DfE is still working to develop a good understanding of the climate risks that schools are exposed to.** DfE does not currently understand how the risks from flood, overheating and water scarcity, areas of growing risk that could disrupt learning or cause damage, apply to the education estate. DfE accepts that the resilience of the education estate is an area where it is currently exposed given the lack of sufficient investment. It knows that 10,710 schools are at significant chance of flooding, which could be anything from a few inches to a few feet of water and expects this to rise to at least 13,662 schools by the 2050s. DfE is developing a draft risk assessment framework for climate adaptation to enable it to target its interventions to reduce schools' vulnerability although, as at April 2023, progress was slower than expected. It plans to assess the risks of flood, water scarcity and overheating to education services and publish this assessment by January 2024. This builds on DfE's submission to government's third National Adaptation Programme, a detailed assessment of how DfE plans to reduce risks to education services from flood, overheating and water scarcity (paragraphs 3.29 to 3.31).

## **Conclusion**

**19** DfE is one year into its ambitious eight-year Sustainability and Climate Change Strategy. Its efforts so far have been in setting up internal structures and processes to enable it to manage, monitor and deliver a range of initiatives. It is still developing governance and accountability measures, and raising awareness of its aims both within DfE and the sector more generally.

**20** DfE is taking steps to incorporate sustainability into its new build schools but net zero schools delivered through the School Rebuilding Programme will only represent 2% of the estate when complete. To make the most of the money it has available, DfE is testing ways to reduce emissions and adapt the schools at highest risk of harm from climate change. These measures will not make a contribution to achieving government's overall goals that is in proportion to the scale of emissions from the school estate unless they are rolled out at a much larger scale, and relatively soon. As it stands there is no plan in place for achieving the scale of decarbonisation across the education sector that is needed for DfE to make a proportionate contribution to government's targets.

**21** DfE is planning to secure additional funding for this work, but it does not yet have a clear view of the sector's current sustainability position, what interventions offer the best value for money and what it will cost to decarbonise the school estate. Given the uncertainty around the additional funding that is likely to be available, it is important that DfE works with the sector to share evidence for what works, to encourage schools to use their capital and maintenance funds to make improvements in a way that also supports government's sustainability objectives.

## Recommendations

**22** As DfE continues to implement its strategy, it will need to take steps to ensure it gets the maximum return from the funding available. We recommend that DfE should:

- a** **by the end of 2023, agree department-wide governance and accountability arrangements for the strategy**, particularly for areas of DfE without dedicated sustainability governance. This should include the relative responsibilities of the SCCU and other areas of DfE in relation to strategy commitments;
- b** **by April 2024, two years into the strategy, implement a plan to measure benefits from the strategy**;
- c** **develop a clear evidence base of what sustainability measures work in schools and where to target its funding within the school estate as part of its preparations for the next Spending Review**. It needs to define metrics for assessing pilots (to include user feedback and cost-effectiveness) and improve data so that it has a better understanding of schools most vulnerable to climate risk;
- d** **once an emissions target is in place for the education sector, publish a decarbonisation plan** to define progress towards net zero for its estates;
- e** **align resources to the strategy, making sure the relationship between funding in place and ambitions is realistic**. This will also include prioritising the strategic risks to the estate including climate/environmental risk and re-assessing what is possible should it not receive the funding it hopes for; and
- f** **share evidence, examples and learning with the sector so that schools can make informed decisions about what sustainability interventions would work best for their circumstances**.

# Part One

## How the Department for Education is set up to deliver environmental sustainability

**1.1** This part sets out the Department for Education's (DfE's) Sustainability and Climate Change Strategy and assesses its set-up, governance and accountability for delivering environmental commitments.

**1.2** DfE is responsible for education and children's services in England and is ultimately accountable for securing value for money from the funding provided. This includes early years, schools, further and higher education policy, apprenticeships, and wider skills. In England, there were 21,600 state-funded schools in January 2023 which educate 8.4 million pupils, including more than 11,400 local authority maintained schools and more than 10,200 academies. Local authorities oversee local authority maintained schools while academy trusts are responsible for academies.

**1.3** The education sector, due to its size and reach within society, has an important role to play in supporting the delivery of government's environmental goals and mitigating and adapting to the effects of climate change. Education is the public sector's largest emitter of carbon from buildings (37% of public sector emissions comprising 13% from state primary schools, 11% from state secondary schools and 13% from universities) and reaches millions of children, young people and adults, influencing awareness, knowledge and skills relating to the environment (**Figure 1**).<sup>1</sup>

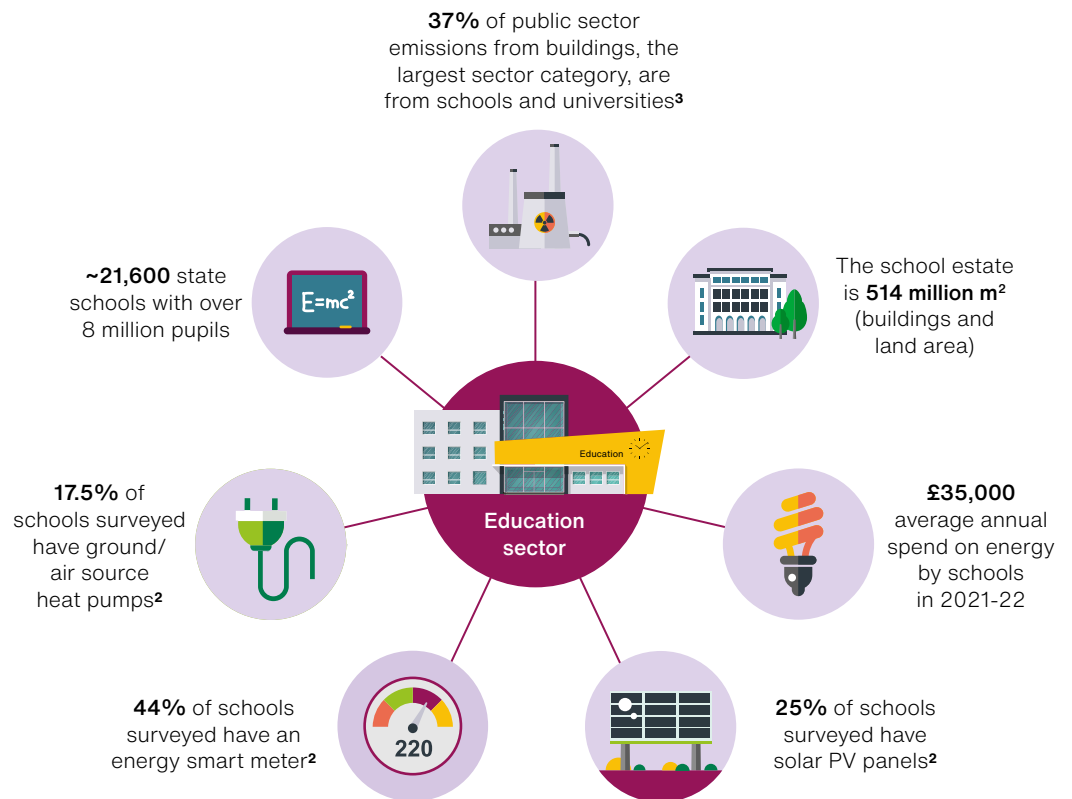
**1.4** The UK government has statutory obligations to the environment through, for example, the Climate Change Act (2008) and the Environment Act (2021). DfE must meet the environmental obligations it has under law, for example, a forthcoming obligation from the Environment Act to consider a set of environmental principles in its policy-making (paragraph 2.7). In 2022, DfE published its own commitments to promote learning about environmental sustainability and climate change; and to improve the sustainability of DfE and the education sector.<sup>2</sup>

<sup>1</sup> Department for Business, Energy & Industrial Strategy, *Phase 3b Public Sector Decarbonisation Scheme Technical Annex: Public Sector Emissions by Sector, Deriving Sectoral Emissions using the Building Energy Efficiency Survey*, August 2022. See Table 5.

<sup>2</sup> Department for Education, *Sustainability and climate change: a strategy for the education and children's services systems, Policy paper*, April 2022.

**Figure 1**  
A snapshot of the education sector

Education is the public sector's largest emitter of carbon from buildings



**Notes**

- 1 School and pupil numbers represent data for England only and is based on publicly available *Education and training statistics for the UK* for the year 2022/23.
- 2 Data based on Condition Data Collection (CDC) phase 2, which is in progress so is only a partial dataset of 7,411 schools. This collection began in December 2020 and will provisionally complete in July 2025.
- 3 Emissions include state primary and secondary schools, university residential and non-residential buildings.
- 4 The size of the school estate is based upon a Department for Education Condition of School Buildings Survey, published in May 2021.
- 5 Average annual energy spend includes local authority maintained schools and academies which reported data.

Source: National Audit Office collation of data sources from Department for Education

## The Sustainability and Climate Change Strategy

**1.5** DfE published its Sustainability and Climate Change Strategy in April 2022 with the vision that “the United Kingdom is the world-leading education sector in sustainability and climate change by 2030” (**Figure 2**). It sets out 143 commitments across five action areas that it, along with its agencies and public bodies, must take over eight years. Government announced its commitment for the UK “to be a world leader in sustainability right across the education system by engaging young people” at the UN climate summit (COP26) in November 2021, launching the draft strategy as part of national climate education pledges by 23 countries.

**1.6** The strategy covers changes to culture, curriculum and procurement practices as well as infrastructure changes. Key commitments include a Climate Action Award to recognise achievements and encourage skills related to sustainability; and a National Education Nature Park to promote and support engagement with and learning about the environment. DfE expects to invest £22.5 million in the Nature Park to 2024-25, to fund environmental improvements in education settings, support the biodiversity of the estate and create resources to engage young people.

## How DfE is set up to meet environmental commitments and obligations

### The Sustainability and Climate Change Unit

**1.7** DfE set up its Sustainability and Climate Change Unit (SCCU) in April 2021, to develop its strategy, embed sustainability into DfE’s operations and policies and provide momentum for change. Before SCCU, DfE had no central arrangements to respond to the challenges relating to sustainability and climate change.

**1.8** SCCU is responsible for:

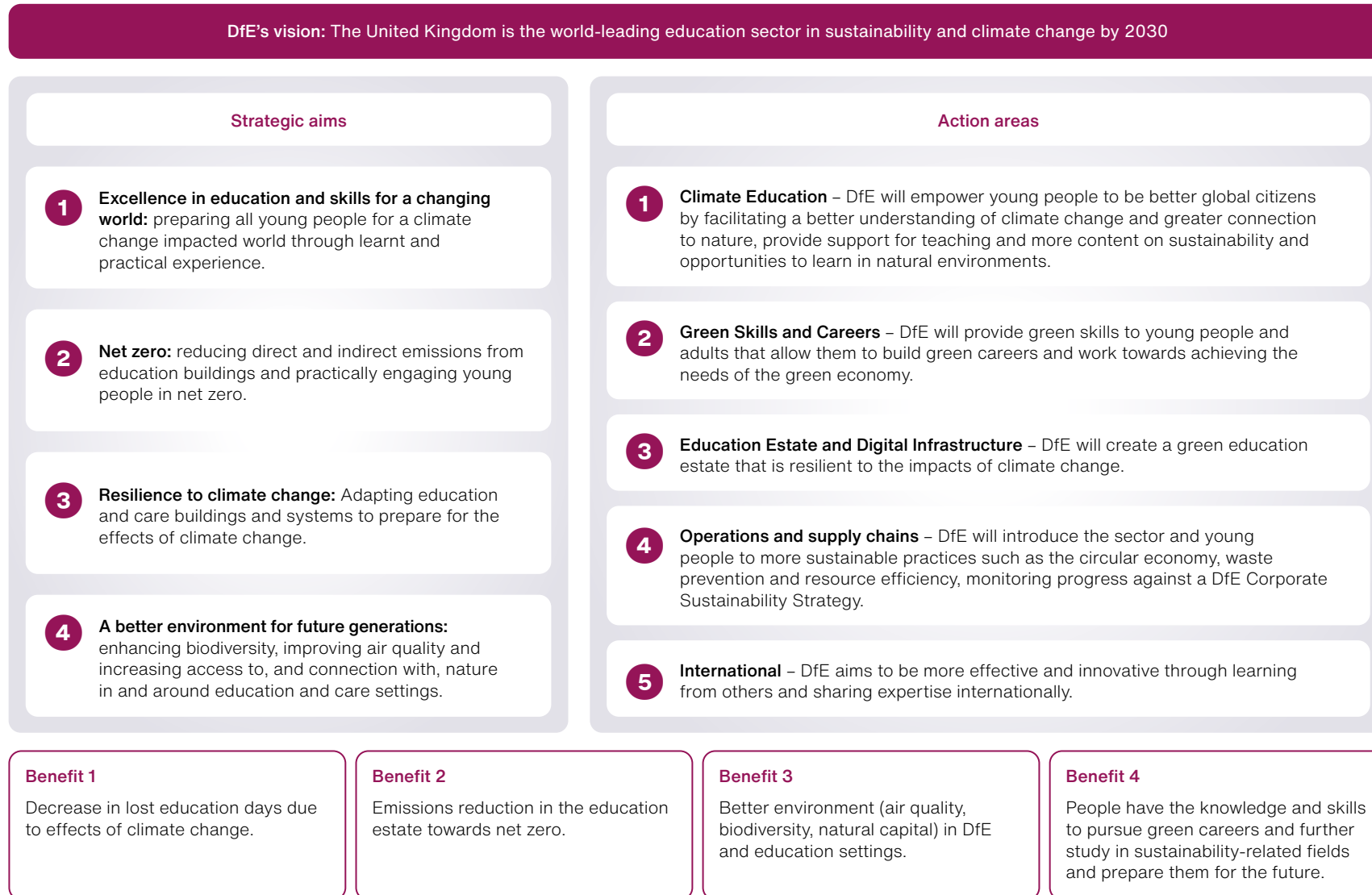
- developing DfE’s Sustainability and Climate Change Strategy and, from April 2022, for delivering central sustainability programmes, a sub-set of strategy commitments;
- co-ordinating and assuring delivery of projects from across DfE that will deliver its strategy commitments, and bringing these together within a portfolio;
- supporting DfE’s attendance at cross-government boards, including the 25-Year Environment Plan Board and the Climate Change Integrated Review Implementation Group; and
- leading and co-ordinating work to support DfE and the education sector to meet statutory environmental obligations.



## Figure 2

### Overview of the Department for Education's (DfE's) Sustainability and Climate Change Strategy, 2022

The strategy includes four main aims to be achieved by 2030 and encompasses a wide range of policy areas



Source: National Audit Office summary of Department for Education Sustainability and Climate Change Strategy and benefits realisation work

## DfE's Sustainability and Climate Change portfolio

**1.9** DfE has chosen to manage the work to deliver its strategy as a portfolio of different projects rather than a single integrated programme, as there are multiple teams and individuals responsible for its delivery. While SCCU has a co-ordinating and assurance role, it is not responsible for overseeing everything that is being spent or delivered across DfE to meet the commitments in its strategy (see Figure 3 and Figure 4). DfE has also told us that it does not have capacity to work with all of its agencies and bodies on the strategy, although they are within its scope.

**1.10** SCCU has brought together work from across DfE into a Sustainability and Climate Change portfolio. By May 2023, SCCU:

- identified a senior civil service sponsor who has overall responsibility for assurance over commitments within each action area in the strategy and for DfE's Corporate Strategy, agreed their responsibilities and brought them together in a Portfolio Delivery Board;
- used the Portfolio Delivery Board to discuss portfolio risks and key initiatives, assess delivery confidence, make decisions and share feedback; and
- started work to understand what outcomes and benefits the strategy could deliver, and to develop a consistent approach to evaluate programmes and projects.

## **Governance of and accountability for sustainability and climate change within DfE**

### Governance in the first year of DfE's strategy

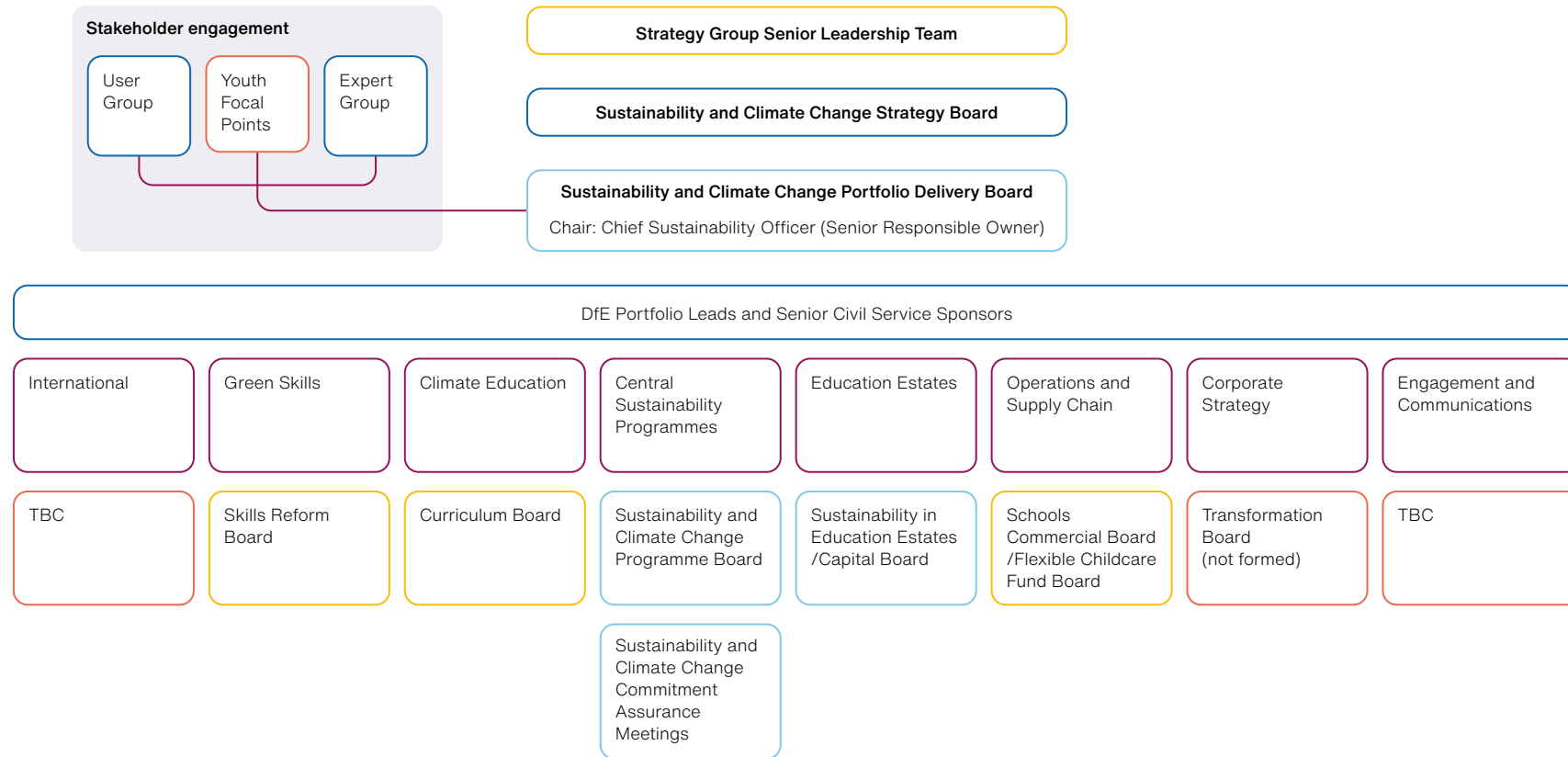
**1.11** Incomplete governance around DfE's sustainability portfolio in the first year of the strategy limited how well SCCU could keep track of delivery and hold teams to account. In August 2022, SCCU established the Portfolio Delivery Board to assure and provide constructive challenge on delivery progress for all projects and programmes within the portfolio. Early meetings focused on commitments for delivery in or from 2022, but did not present progress against milestones or expected delivery dates. The Board did consider portfolio risks from the outset, with SCCU's assessment of key risks highlighted to each meeting.

**1.12** SCCU reviewed its sustainability governance in December 2022, when the Unit moved from DfE's Operations Group into its Strategy Group. SCCU identified a senior civil service sponsor to attend the Portfolio Delivery Board for each of the 'action areas' in its strategy, and agreed their responsibilities in May 2023 (**Figure 3** on pages 17 and 18). SCCU expects that this will bring more accountability to senior responsible owners across DfE for activity not delivered directly by SCCU.

### Figure 3

Department for Education's (DfE's) sustainability governance and accountability arrangements (operational and planned) from May 2023

The Sustainability and Climate Change Unit (SCCU) approved some elements of sustainability governance in May 2023, while other arrangements are still to be confirmed



- DfE priority area for sustainability
- Dedicated sustainability governance, pre-May 2023
- Dedicated sustainability governance, discussed or confirmed May 2023
- DfE Board with links to senior decision-making and risk management, relationship with Sustainability governance in development
- Governance not confirmed
- Stakeholder feedback

Source: National Audit Office analysis of Department for Education governance papers

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**Figure 3** *continued*

## Department for Education's (DfE's) sustainability governance and accountability arrangements (operational and planned) from May 2023

**Notes**

- 1 Up to May 2023, DfE's dedicated sustainability governance arrangements consisted of its Portfolio Delivery Board and Programme Board (established in summer 2022), the Sustainability in Education Estates Steering Group (SEESG, established in January 2023) and the Sustainability and Climate Change Commitment Assurance Meetings (established April 2023).
- 2 In May 2023, the Portfolio Delivery Board discussed expanded sustainability governance as above; and approved its revised terms of reference and the responsibilities of senior civil service sponsors and co-sponsors.
- 3 SCCU expects existing departmental boards to provide governance of strategy commitments, other than for central sustainability programmes and in relation to the education estate. These arrangements are still to be confirmed.

Source: National Audit Office analysis of Department for Education governance papers

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**1.13** In May 2023, the Portfolio Board discussed expanded arrangements for sustainability governance in DfE. Some elements, including the responsibilities of senior civil service sponsors and co-sponsors, were approved, while others are still to be confirmed. It is too soon to see the impact of these recent changes to governance.

**1.14** Overall, DfE's arrangements for strategy governance remain incomplete and not yet fully embedded in departmental governance. At May 2023, four months after SCCU moved into DfE's Strategy Group, some governance arrangements are still to be confirmed: DfE is still determining the role of DfE's Strategy Group Leadership Team, and has not agreed the new reporting arrangements above SCCU and the Portfolio Board.

**1.15** While the Portfolio Board confirmed the responsibilities of senior civil service sponsors, DfE has not finalised how sustainability governance will work for commitments delivered in parts of the department other than the central sustainability initiatives (SCCU's own portfolio) or the education estate, covered by the Sustainability in Education Estates Steering Group (Figure 3). SCCU has escalated potential risks from sustainability not being fully embedded in DfE, including reputational risks and risks from de-prioritisation. SCCU is also leading work to develop delivery plans for the priority areas in the strategy.

## Funding and resourcing the strategy

**1.16** DfE designed its strategy as aspirational, knowing it did not yet have funding secured for all its plans. It has not fully costed its strategy and there is no single body within DfE that seeks or oversees funding for the whole strategy. Funding for commitments is bid for and managed by the responsible team across DfE, with SCCU monitoring these and reporting to financial governance bodies to provide some visibility of the portfolio. In January 2023, SCCU met DfE's Investment Committee to update it on portfolio funding, including for central sustainability initiatives, and to support sustainability improvements to the school estate. There are other sources of funding that can be used by schools to improve sustainability set out in Part Three.

**1.17** By February 2023, DfE had allocated £170.4 million between 2022-23 and 2024-25 to programmes to improve sustainability (**Figure 4** overleaf), and comprising:

- £137.9 million (81%) for pilot projects designed to test the effectiveness of measures to make education buildings more sustainable or more resilient to climate change; and
- £32.5 million (19%) for central sustainability programmes, including initiatives such as National Education Nature Park, Climate Action Plans, and standardising emissions reporting.

**1.18** DfE reduced its staff during 2022-23, to meet departmental headcount reduction targets. For example, SCCU expected to have up to 36 full-time equivalent (FTE) staff and an administration budget of £2.8 million for 2022-23. By December 2022, SCCU had to reduce this by 15% to £2.38 million with its move into DfE's Strategy Group. By March 2023, there were 32 FTE staff in SCCU.

**1.19** The resource constraints and lack of administrative funding have degraded delivery confidence as DfE had to adjust to reduced resources. DfE scaled back on some funded programmes. For example:

- in February 2023, DfE decreased funding for the Schools Water Strategy, which includes measures to increase flood resilience and reduce water usage in schools, from £52.1 million to £39.3 million over three years as this was what they had the capacity to spend; and
- in August 2022, DfE reduced funding for the Resilient Schools programme, intended to support schools to identify low-cost ways to adapt to climate change, from £90.5 million to £4.6 million.

**Figure 4**

The Department for Education's (DfE's) current and planned funding for its Sustainability and Climate Change portfolio covering 2022–2025

**Just over 19% of total funding is dedicated to the central sustainability programme initiatives**

Programme/Project	DfE Group/Team	Total funding 2022–2025	2022-23 funding	2023-24 funding	2024-25 funding
		(£mn)	(£mn)	(£mn)	(£mn)
Sustainability in education estates	Operations and Infrastructure				
Pilot projects	Schools capital/ Commercial and Risk Protection Arrangement (RPA)	137.9	21.8	63.8	52.3
Sustainability and Climate Change Unit (SSCU) central sustainability programmes	Strategy Group (from December 2022)				
Key initiatives	SCCU	32.5	0.6	12.4	19.5
<b>Total</b>		<b>170.4</b>	<b>22.4</b>	<b>76.2</b>	<b>71.8</b>

**Note**

1 This table shows the funding allocated in February 2023. It does not include other sources of funding that can be used by schools to improve sustainability such as condition fundings.

Source: National Audit Office analysis of Department for Education financial data.

## Part Two

### Delivery progress

**2.1** This part sets out the Department for Education's (DfE's) progress in delivering its Sustainability and Climate Change Strategy (2022–2030) commitments including programmes led by the Sustainability and Climate Change Unit (SCCU). It also covers the DfE's work to meet environmental obligations and assesses the adequacy of monitoring and reporting arrangements.

#### **Progress in the first year of the strategy**

**2.2** DfE is developing its approach to understanding progress against the strategy. Until recently, it did not have definitive information about what it had committed to deliver in its strategy, including the number of commitments or a consistent interpretation of what start or end dates meant in practice. Recognising this, SCCU worked to establish an updated list of strategy commitments, their owner and status and to clarify delivery dates. In April 2023, it confirmed 143 individual commitments of which 66 were for delivery in 2022 or 2023. It is positive that SCCU has made a more complete assessment of the commitments. However, we are not able to say if this is on track, ahead or behind schedule as DfE had not previously set a baseline against which we could assess where it should be by now.

**2.3** SCCU uses reporting to its Portfolio Delivery Board to update progress but its understanding of overall progress is still developing. Between August and December 2022, the Portfolio Delivery Board looked only at commitments that were to be delivered in or from 2022 and not at those for 2023 or further ahead. In 2023, SCCU improved its approach to understanding progress, by bringing together an overview of milestones for central sustainability initiatives and by including a greater breakdown of the commitments at its Portfolio Delivery Board.

#### 2.4 At May 2023, it assessed:

- overall delivery confidence as amber/red. This includes consideration of strategy commitments (2022 and 2023), SCCU central sustainability initiatives, wider DfE work including on environmental obligations, and key risks. This rating arose from a combination of resourcing issues, multiple high-level risks and a lack of understanding across the whole risk landscape;
- 45 commitments as complete, 70 in progress, two paused, 20 as not started, five de-scoped and one as delayed;<sup>3</sup> and
- 66 strategy commitments linked to 2022 and 2023 as rated amber/green, with 18 of 19 commitments marked for delivery as complete in 2022 and nine of 47 marked for delivery in 2023 as complete.

### Progress towards DfE's statutory obligations to the environment

**2.5** Some of the commitments in DfE's strategy are in response to statutory environmental obligations that DfE must meet or support its sectors to meet. SCCU is responsible for leading work on four of these and monitoring DfE's response to others through its Portfolio Delivery Board (Figure 5). We cover DfE's response to environmental obligations for the school estate in Part Three.

**2.6** In May 2023, SCCU assessed the overall delivery confidence of work towards its environmental obligations as amber/green, meaning it considered successful delivery to be probable subject to risks being managed. The red delivery confidence in **Figure 5** is in relation to water efficiency and covers aspects such as integrating water efficiency into retrofit programmes and reducing non-household water demand. In our report, *Water supply and demand management*, we found that the Department for Environment, Food & Rural Affairs (Defra) has not been sufficiently influential to ensure water efficiency is a priority across government.<sup>4</sup>

**2.7** The Environment Act (2021) puts a legal duty on departments to consider environmental principles in their policy-making from November 2023.<sup>5</sup> SCCU has incorporated preparation for this duty into an internal change programme, which Defra has recognised as well advanced. DfE has identified a risk that, due to resource constraints, compliance may fall short or may not be of good quality. To mitigate this, SCCU worked with Defra to develop a training course for ministers and staff, although the training is not mandatory and the principles have yet to be incorporated into DfE's processes, such as for securing funding.

<sup>3</sup> This included 18 completed pre-2022.

<sup>4</sup> Comptroller and Auditor General, *Water supply and demand management*, Session 2019-2021, HC 107, National Audit Office, June 2020, p. 11.

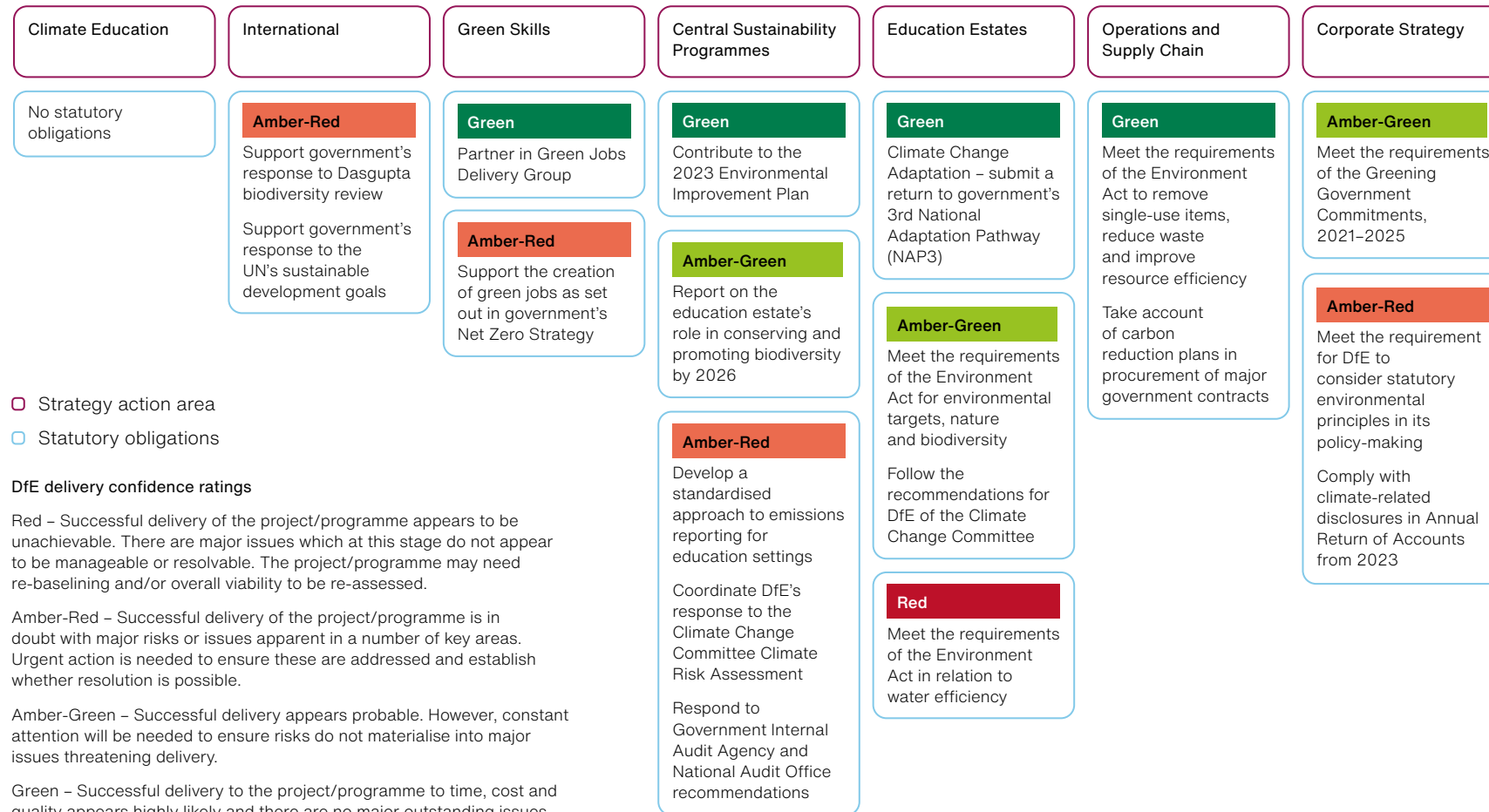
<sup>5</sup> The five environmental principles are: integration, prevention, rectification at source, polluter pays and precautionary. Available at: [www.gov.uk/government/publications/environmental-principles-policy-statement/environmental-principles-policy-statement#the-5-environmental-principles](http://www.gov.uk/government/publications/environmental-principles-policy-statement/environmental-principles-policy-statement#the-5-environmental-principles)



## Figure 5

### The Department for Education's (DfE's) confidence in delivery of its statutory environmental obligations as of May 2023

DfE assessed that successful delivery of the majority of statutory environmental obligations is likely but with some areas of concern



□ Strategy action area

□ Statutory obligations

#### DfE delivery confidence ratings

**Red** – Successful delivery of the project/programme appears to be unachievable. There are major issues which at this stage do not appear to be manageable or resolvable. The project/programme may need re-baselining and/or overall viability to be re-assessed.

**Amber-Red** – Successful delivery of the project/programme is in doubt with major risks or issues apparent in a number of key areas. Urgent action is needed to ensure these are addressed and establish whether resolution is possible.

**Amber-Green** – Successful delivery appears probable. However, constant attention will be needed to ensure risks do not materialise into major issues threatening delivery.

**Green** – Successful delivery to the project/programme to time, cost and quality appears highly likely and there are no major outstanding issues that at this stage appear to threaten delivery.

#### Note

1 The main statutory sources of obligations are the Environment Act, which became legislation in 2021, and the Climate Change Act, which became legislation in 2008. The Environment Act introduced long-term targets around improving the health of rivers, reducing air pollution and halting the decline of wildlife populations. The Climate Change Act set out a net zero carbon target for 2050, carbon budgets, the functions of the Climate Change Committee as well as other provisions around waste reduction, renewable transport and charges for carrier bags.

Source: National Audit Office analysis of Department for Education programme and portfolio board papers

## Progress against central sustainability programmes

**2.8** SCCU is directly responsible for 10 programmes and reports on progress monthly. Monitoring of the SCCU programme is more developed than across the rest of the portfolio, with monthly progress reports against milestones since September 2022. **Figure 6** sets out progress at May 2023.

### Figure 6

Progress of main sustainability initiatives led by the Department for Education's (DfE's) Sustainability and Climate Change Unit (SCCU) as of May 2023

SCCU is leading on a number of initiatives that are aiming to be delivered in 2023

Sustainability and Climate Change Unit-led Strategy Initiatives	Purpose	Status and expected delivery as of May 2023
The National Education Nature Park & Climate Action Award	The Nature Park will bring together all the land from across the education estate into a 'virtual nature park' allowing students to engage with the environment and monitor improvements in biodiversity. The Climate Action Award will recognise achievements by individuals and schools	In contract Roll-out expected autumn 2023
Sustainable leadership (Climate Action Plans and regional support)	All settings across all sectors will have a sustainability lead and schools will develop Climate Action Plans	Business case in development Awarding of contracts – expected summer 2023 Regional support – expected autumn 2023
Reporting emissions	This includes reporting against net zero targets, establishing a Standardised Emissions Framework and developing a data strategy	In contract (preliminary stage) Emissions data strategy pre-discovery output for all settings – expected May 2023
Climate risk	To monitor and evaluate DfE's response to climate risk and progress on risk reduction. To develop and publish a risk assessment framework to understand the climate risks to schools from flooding, overheating and water scarcity	Design and preparation Draft framework – expected May 2023
International Green Skills Conference	To generate collaboration between sectors on how best to ensure our global economy has the skills to deliver greater sustainability and productivity	Contract has been signed Conference to be held in September 2023

Source: National Audit Office analysis of Department for Education programme and portfolio board papers

**2.9** DfE has delivered some initiatives, such as adding climate change and sustainability into existing science teachers Continuing Professional Development. In May 2023, it announced two national initiatives aimed at raising school awareness and engagement with sustainability issues for teaching staff and students. The National Education Nature Park and Climate Action Plans encourage individual schools to engage directly with the strategy (paragraphs 1.6 and 3.25).

**2.10** DfE published a Corporate Sustainability Strategy in March 2023, with plans to embed sustainability in its office estate, decision-making and business processes. It covers staff skills, policy development and DfE culture, as well as wider Greening Government Commitments (GGCs) such as waste, water, travel and climate change adaptation. DfE is developing measures to assess its impact, including ways to baseline and monitor staff awareness and sustainability metrics.

**2.11** The GGCs are actions that government departments and their agencies must make to reduce their impact on the environment. Defra published updated commitments for 2021–2025 in October 2021. These include targets to reduce emissions from buildings, reduce water use, minimise waste and promote resource efficiency. Defra has yet to publish departments' performance against the current commitments. However, DfE provided a summary of its performance in 2022-23 that shows it is meeting GGC targets to reduce water consumption and waste. DfE is working towards GGC targets to reduce its greenhouse gas emissions.

## Part Three

### Improving the environmental sustainability of the school estate

**3.1** This part of the report sets out the Department for Education's (DfE's) responsibilities for the school estate and assesses the work DfE has done to understand the sustainability position across the estate and pilot new sustainability measures. We assess DfE's approach to working with the sector to understand and improve the sustainability and climate resilience of new and existing buildings.

**3.2** The school estate consists of around 21,600 maintained schools, of which more than 11,400 are run by local authorities and more than 10,200 are academies run by single or multi-academy trusts and are financed by DfE.

**3.3** Many local authorities and schools have made environmental commitments independently of national government. In our 2021 report on *Local government and net zero in England*, we estimated that 91% of local authorities in England had adopted at least one commitment to decarbonise in line with net zero and that 73% of single- and upper-tier authorities had a commitment to work towards carbon neutral or net zero emissions in their area.<sup>6</sup> In contrast, according to a survey by the National Governance Association, 41% of schools or trusts had taken action on environmental sustainability.<sup>7</sup>

**3.4** DfE's Sustainability and Climate Change Strategy identified the education estate and digital infrastructure as one of its priority 'action areas'. The strategy articulates DfE's ambition for a green, sustainable education estate that is resilient to the impacts of climate change. Its Sustainability and Climate Change Unit (SCCU) has four main areas of activity:

- build all new schools and colleges to net zero standard in operation and test the best solutions for design and retrofit;
- support the sectors in reducing emissions;
- implement climate adaptation and mitigation measures in education settings; and
- improve the natural environment.

DfE aims to deliver its policy commitments through a mixture of direct interventions, structural changes and work to influence individuals' choices and behaviours.

<sup>6</sup> Comptroller and Auditor General, *Local government and net zero in England*, Session 2021-22, HC 304, National Audit Office, July 2021.

<sup>7</sup> National Governance Association, *The priorities and challenges facing our schools*, *School and trust governance in 2022*, September 2022, p. 14.

## **Governance and leadership for the school estate**

**3.5** In February 2023, DfE identified gaps in ownership and leadership of the strategic risks to the school estate, specifically safety, building condition, and environmental risk. Current responsibilities are:

- SCCU is responsible for assessing risks and coordinating plans to mitigate against the impact of flood, overheating and water scarcity to meet the department's responsibilities under the Climate Change Act (2008) and five-yearly Climate Change Risk Assessments; and
- DfE's capital directorate is responsible for setting policy in relation to the condition and safety of the school estate. Its technical standards team sets building standards and runs post-occupancy evaluations to understand outcomes from and performance of new school buildings.

**3.6** SCCU and DfE's capital directorate plan to work together on an overarching estates risk and prioritisation strategy. In January 2023, DfE set up a new sustainability in education estates steering group (SEESG) to support collaboration on estates sustainability projects. This group is also responsible for taking learning from pilots to inform future investment.

## **Understanding the sustainability of the school estate**

**3.7** DfE is still developing its understanding of the sustainability position of the school estate. It does not yet have a clear picture as it lacks timely and comprehensive data at the school level. Existing environmental data are a mix of current and historical data sources covering aspects of energy use, climate risk, and condition data (for example, type of heating system). DfE identified that some risks to education services from flood, overheating and water scarcity are currently unknown and unquantified and there is no flood strategy for the whole education estate.

**3.8** DfE has detailed, up-to-date information on centrally built schools and major refits (including energy and water use, indoor environment and emissions) but much less on older schools. Even where it does have data, DfE told us that it is limited in its capacity to analyse and use that information due to resource constraints. DfE is therefore not able to use such data strategically to allocate funding or target sustainability interventions. DfE is working to improve data coverage to enable it to monitor and target its investment and interventions better (**Figure 7** on pages 28 and 29). In particular, it has work underway to standardise emissions reporting and is developing a climate risk framework, to assess the risks to schools from flooding, overheating and water scarcity (paragraph 3.31).

**Figure 7**

School-level environmental data and how they are being used by the Department for Education (DfE), up to May 2023

DfE is working to improve data coverage to enable it to monitor and target its investment and interventions better

Type of data	Current state	How DfE uses	Plans
Emissions data	<p>No consistent data available. Mixed technology and data sets</p> <p>Some small and discrete emissions reporting projects and systems</p>	<p>Inputs to University College London (UCL) model used to test scenarios of different interventions on decarbonisation<sup>1</sup></p>	<p>DfE commissioned a research project in early 2023 to set out a strategy to make data reporting consistent, identify gaps and make best use of technology</p> <p>It aims to improve the ability of education settings and DfE to monitor, compare and report emissions to meet net zero targets</p>
Biodiversity data	<p>Some school-level information available on vegetation present on school estate, eg playing fields or other green spaces (from Condition Data Collection (CDC) survey)<sup>2</sup></p>	<p>Using to develop a proxy baseline of the biodiversity of the estate as a stopgap until richer data are available</p>	<p>DfE plans to start baselining biodiversity in the education estate during 2023/24 and annually monitor progress in natural assets on its estate. It will do this via the National Education Nature Park where children will record biodiversity in their school using online geospatial mapping. This is launching in autumn 2023</p>
Climate risk	<p>Some school risk data:</p> <ul style="list-style-type: none"> <li>Flood exposure (coastal and river)</li> <li>CDC and UCL school building data<sup>1</sup></li> <li>Overheating exposure (Met Office modelling using UCL data and climate projections – early development)</li> <li>Water scarcity – very little data, risk not well understood</li> <li>Pilot studies on adaptation measures to reduce flooding and overheating risk</li> </ul>	<p>Used to:</p> <ul style="list-style-type: none"> <li>To support departmental Climate Change Risk Assessment, Framework and annual reports</li> <li>To identify settings at the highest risk</li> <li>To inform settings of their risk</li> <li>To match appropriate adaptation measures to specific risks</li> </ul>	<p>DfE will collate known flood, overheating and water scarcity risk on the school estate for its Climate Change Risk Assessment. It is creating an assessment framework and developing models to assess the vulnerability of the estate</p> <p>DfE received research funding from the Department for Environment, Food &amp; Rural Affairs (Defra) to improve the UCL model for use in the Met Office overheating risk assessment</p>

**Figure 7** *continued*

School-level environmental data and how they are being used by the Department for Education (DfE), up to May 2023

Type of data	Current state	How DfE uses	Plans
Building efficiency and energy use	<p>Data on building characteristics, eg glazing, heating systems, floor size, age of blocks and energy data (eg gas/electricity smart meters) from CDC survey data</p> <hr/> <p>Snapshots on annual energy use/efficiency from Display Energy Certificates<sup>3</sup></p> <hr/> <p>Some data on 'live' energy use depending on age of building, presence of smart meter or sensors</p>	<p>Used to:</p> <ul style="list-style-type: none"> <li>● Inform capital funding allocations</li> <li>● Identify school buildings in greatest need of investment and inform how funding is targeted</li> </ul>	DfE plans to use the data as inputs to develop UCL models <sup>1</sup>

**Notes**

- 1 DfE is working with University College London (UCL) to establish a digital model of the buildings in the school estate. This model simulates what impact interventions such as installing heat pumps could make on energy consumption and carbon emissions. See University College London, *Pathways to improving the school stock of England towards net zero*, Buildings and cities, 3(1), pp 959–963, November 2022.
- 2 Second round of CDC surveys are in progress (2021–2026), updating the first round from 2017–2019.
- 3 Display energy certificates are required for public buildings that meet certain conditions. Available at: [www.gov.uk/check-energy-performance-public-building](http://www.gov.uk/check-energy-performance-public-building)

Source: National Audit Office collation of the Department for Education's assessments of data and data use

## DfE's sustainability and climate change pilots

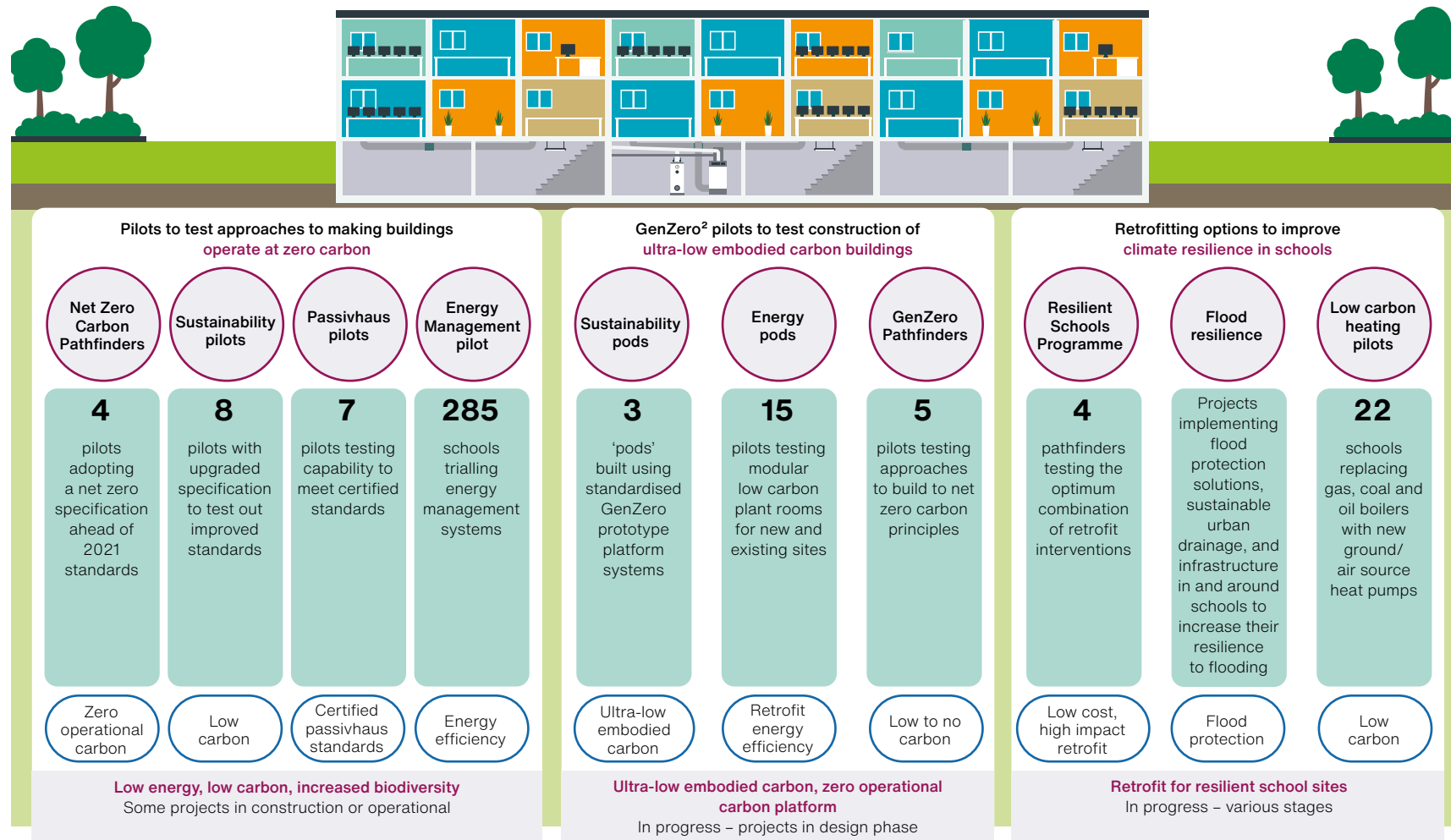
**3.9** DfE is improving its understanding of what green building initiatives could work most effectively in the school context. Its capital team is running a range of pilots and pathfinder projects as part of an 'innovate, test and invest' approach. This will identify which approaches to sustainable building design, retrofit, ICT and building management are effective, value for money, and could potentially be rolled out at scale. It sees this approach as enabling it to build an evidence base for investment beyond 2025. The three main pilot areas relate to:

- approaches to operate schools at zero carbon and improve energy efficiency;
- ways to build ultra-low embodied carbon buildings; and
- options to retrofit schools to improve climate resilience (**Figure 8** overleaf).

**Figure 8**

Range of pilots to test approaches to improve sustainability, climate resilience and decarbonisation

The Department for Education (DfE) is using a wide range of pilots to understand what approaches could work in the school estate



○ Pilot type    ● Number and nature of pilots    ○ Purpose

**Notes**

- 1 GenZero is a research project run by DfE, InnovateUK and construction partners to deliver a new ultra-low buildings standard for schools.
- 2 Buildings that meet passivhaus standards are designed to provide a high level of occupant comfort using very little energy for heating and cooling.
- 3 Pods are modular buildings that can be added to new or existing schools, for example energy pods are a way to replace carbon-intensive heating systems in schools in a modular way.

Source: National Audit Office collation of Department for Education information



**3.10 Figure 9** sets out funding for the pilots over the next three years.

### Figure 9

The Department for Education's (DfE's) current and planned funding for its sustainability and climate change pilots covering 2022–2025

**Funding for pilots is spread across the period with the largest proportion of funding supporting the low carbon heating pilots**

Programme/Project	Total funding 2022–2025	2022-23 funding	2023-24 funding	2024-25 funding
	(£mn)	(£mn)	(£mn)	(£mn)
<b>Sustainability in education estates</b>				
GenZero – 5 new net zero schools	12.0	–	2.0	10.0
Energy pods	2.6	1.7	0.9	TBC
Sustainability pods	11.4	2.1	9.3	TBC
Resilient schools programme	4.6	–	1.6	3.0
Low carbon heating pilots	65.0	5.7	36.0	23.3
Schools water strategy	39.3	9.3	14.0	16.0
Energy management systems	3.0	3.0	–	–
<b>Total</b>	<b>137.9</b>	<b>21.8</b>	<b>63.8</b>	<b>52.3</b>

#### Notes

- 1 Low carbon heating pilots involves 22 schools replacing existing heating systems to heat pumps and learning about alternative greener heating solutions. These are how these can be scaled up across the school estate in future.
- 2 Schools water strategy aims to mitigate and reduce flood risk to the school estate.
- 3 Resilient schools programme involves four pathfinders testing the optimum combination of retrofit interventions.
- 4 GenZero is a research project run by DfE, InnovateUK and construction partners to deliver a new ultra-low buildings standard for schools. By 2025, DfE expects at least four schools will have been built via a Gen Zero Platform. It will be delivered within Free Schools and the School Rebuilding Programme as an uplift to existing projects.
- 5 Energy pods represent 15 pilot projects to replace carbon-intensive heating systems in schools in a modular way.
- 6 Sustainability pods involve three pods built using a GenZero prototype platform system.
- 7 Funding can change over time as projects progress through business case and procurement stages.

Source: National Audit Office analysis of Department for Education financial data

## Funding improvements to the school estate

### DfE funding for sustainability improvements

**3.11** Most DfE funding for maintained schools (paragraph 3.2) is indirect, that is, DfE provides funding to the body responsible for the school, such as a local authority or an academy trust. It is up to the responsible body to decide, within the overall parameters around the funding, how the money will be spent. There are limited circumstances in which DfE can attach sustainability requirements to funding due to the devolved school estate.

**3.12** DfE provides 'general' condition funding to schools that it intends for schools to use to improve the condition and safety of buildings. It allocated £1.8 billion to responsible bodies and schools for capital investment to maintain and improve the condition of existing school buildings and keep them safe and operational (**Figure 10**). The funding can be used to improve environmental sustainability and there are often sustainability benefits to improving buildings but, for many schools, this is not the priority given the poor condition of their buildings. Improving condition can improve energy efficiency, for example, increased thermal efficiency from modern windows and roof replacements.

**3.13** In December 2022, DfE allocated £447 million of additional capital funding to state schools to help them to manage energy consumption. For example, funding could be used to install better heating controls, insulation to reduce heat loss from pipes or switching to energy efficient lighting such as LEDs. Recipients had discretion to invest in other capital projects but were required by DfE to prioritise projects that improve energy efficiency. DfE expects to collect information on the use of funds through declarations from state schools.<sup>8</sup> DfE has also uplifted Basic Need capital funding to help local authorities meet sustainable building standards for schools.<sup>9</sup> DfE does not monitor that the additional funding is spent on sustainability measures and it is not monitoring how local authorities use the uplift.

**3.14** In 2022-23, DfE introduced a requirement for schools bidding for its Condition Improvement Fund (CIF) to demonstrate consideration of a sustainable approach, for example, by submitting an environmental sustainability statement as part of their application. Where not possible or applicable to a project to include environmentally sustainable or energy efficient measures, applicants had to justify their approach. Of the 1,446 successful bids, 1,235 (85%) included an environmental sustainability statement. In 2023-24, DfE strengthened the criteria further, requiring schools to provide a statement and evidence to demonstrate that schools have performed, or will be performing, works that lead to greater environmental sustainability either within the CIF project or elsewhere across the school estate (for example, installing solar panels).

<sup>8</sup> A further £53 million was allocated to further education college groups.

<sup>9</sup> Basic Need funding is capital grant funding provided by DfE to local authorities so that they can meet their statutory responsibility to ensure there are enough mainstream school places available in their area for every child aged 5 to 16.

**Figure 10**

Department for Education (DfE) funding available for schools to spend on buildings where sustainability might be addressed in 2022-23

Condition funding is not ringfenced for sustainability improvements

Funding description	Main focus of funding	2022-23 funding (£mn)
<b>Funding to improve condition</b>		
<b>School condition allocations (SCA):</b> formula-based allocations to bodies responsible for managing capital funding including larger multi-academy trusts and voluntary aided (VA) bodies, all local authorities, and eligible non-maintained special schools and special post-16 institutions	To keep school buildings safe and in good working order by tackling poor building condition, building compliance, energy efficiency, and health and safety issues	1,097
<b>Devolved formula capital (DFC):</b> formula-based allocations for eligible individual institutions	To maintain buildings and fund small-scale capital projects that meet individual schools' and eligible institutions' priorities	215
<b>Condition improvement fund (CIF):</b> funding for single academy trusts, smaller multi-academy trusts, and small VA bodies not eligible for SCA. The CIF allocates funding to specific projects for successful bidders	To keep school buildings safe and in good working order. DfE expects applicants to consider energy efficiency and sustainability options but prioritises projects that address urgent issues such as structural safety	517
<b>Funding specific to sustainability</b>		
<b>Energy efficiency grant fund:</b> additional capital funding allocations in 2022-23 for schools that currently get DFC funding	To improve buildings, prioritising energy efficiency	447
<b>Basic need capital funding:</b> uplifted for local authorities to help them meet sustainable buildings standards for schools	To improve buildings, can be used to improve sustainability	34
<b>Total</b>		<b>2,310</b>

**Notes**

- 1 DFC – every eligible school gets a fixed sum plus a variable amount based on pupil numbers.
- 2 Energy efficiency grant split across 22,138 schools. This equates to a minimum of £10,000 per school.
- 3 Basic need funding uplift: when planning the use of basic need funding allocations, local authorities will consider environmental sustainability, carbon reduction and energy efficiency to develop solutions for projects that are in line with government targets and objectives.

Source: National Audit Office review of Department for Education published information on school capital funding allocation and condition improvement fund outcome and related guidance for 2022-23

**3.15** The cost of sustainable solutions can make projects more expensive in the short-term, which can restrict what it is possible for schools to do with funding. Some schools have told us that they find bidding for funding harder due to limited capacity or expertise while internal expertise on sustainability and data management varies widely. From December 2023, DfE expects to launch a network of free regional support to connect local climate change expertise to educational settings.

#### Other government funding for sustainability improvements

**3.16** Funding is also available through a government public sector decarbonisation scheme (PSDS). The former Department for Business, Energy & Industrial Strategy (BEIS) launched the scheme in September 2020, to provide grants to public sector bodies for heat decarbonisation and energy efficiency measures.<sup>10</sup> In early rounds of the scheme, education institutions secured proportionately less than other sectors (based on the proportion of public sector carbon emissions they produce). In 2022, DfE worked with the former BEIS to secure a share of the fund and set an intention to increase the share of grants going to the education sector, broadly in line with the education sector's emissions of 37%. In October 2022, the latest phase of the scheme opened for applications. Funding is allocated on a first come first served basis until the sector limit is reached.

**3.17** By 31 May 2023, the Department for Energy Security & Net Zero (DESNZ, formerly BEIS) had allocated £584 million (98%) of the latest funding phase to public sector projects, with £162 million (28%) going to education settings (schools, further and higher education establishments, local authority schools or wider local authority projects which included education settings). DESNZ expects to allocate the remaining funding during summer 2023. DESNZ told us that the education sector submitted sufficient funding bids to get at least 30% of the total £595 million potentially on offer, in line with their share of public sector emissions (subject to technical assessment).

**3.18** Government announced the latest scheme phase in August 2022, during the school summer holidays, and opened it to applications from mid-October. DfE highlighted to BEIS the timing as a possible barrier for schools to access the fund due to lack of resource over the summer and pressures in September. It raised further possible barriers to applicants:

- schools focusing more on energy efficiency measures, in response to rising energy costs, which are eligible under the scheme only when part of a heat decarbonisation package;
- prioritising condition improvements; and
- difficulties finding contractors, as commercial organisations favour higher-value contracts.

<sup>10</sup> Grant funding is to cover the costs of decarbonising the heat within a building, over and above the costs of replacing the existing fossil fuel heating system on a like for like basis. For funding allocation purposes organisations are grouped into three sectors: health, education and other.

**3.19 Figure 11** overleaf shows where the latest £153 million PSDS funding was allocated to education settings within local authorities, up to 31 May 2023.

## **Measures to control and influence schools' environmental sustainability**

### Specifying construction standards for new schools

**3.20** DfE can directly control the environmental sustainability of centrally funded new schools. In June 2020, DfE launched its 10-year School Rebuilding Programme to carry out major rebuilding and refurbishment projects at school buildings in England. To help meet the government's net zero target the rebuilding projects are expected to be greener and focus on modern construction methods. They must be net zero compliant when handed over to the managing authority. The first set of 50 schools, supported by more than £1 billion in funding, was announced in February 2021. At December 2022, DfE had selected 400 schools out of a planned 500 (2% of the total school estate), prioritised according to their need for rebuild or significant refurbishment. The first school was completed in February 2023 after starting construction in September 2021. As at June 2023, there were six net zero schools open, and 28 builds in progress as part of the School Rebuilding Programme. DfE told us that there are other schools capable of being net zero built by local authorities or academy trusts, for example, but it does not know how many there are.

**3.21** DfE has committed that all new school buildings that it delivers, not already contracted by April 2022, will be net zero in operation.<sup>11</sup> Since November 2021, DfE has had compulsory standardised net zero building specifications for construction in all centrally delivered schemes and requires that all its contractors adhere to the standards. Responsible bodies that rebuild schools are encouraged to use the DfE standards as they go beyond building regulations, which incorporate some measures of energy efficiency.

### Providing guidance to support the sustainability of existing school buildings

**3.22** DfE has limited direct control over improving the environmental sustainability of existing buildings due to the devolved nature of the sector. It is therefore important it uses opportunities to encourage, advise and support those who do make the decisions to select sustainable construction approaches. It provides some environmental sustainability guidance to schools, for example, its good estate management guide includes advice on understanding and reducing energy and water use. However, responsible bodies and schools are not required to follow this guidance. In December 2022, DfE issued energy efficiency guidance to schools to support them in managing their energy and reducing costs.

<sup>11</sup> The buildings will also be designed for a 2°C rise in average global temperatures and future-proofed for a 4°C rise.

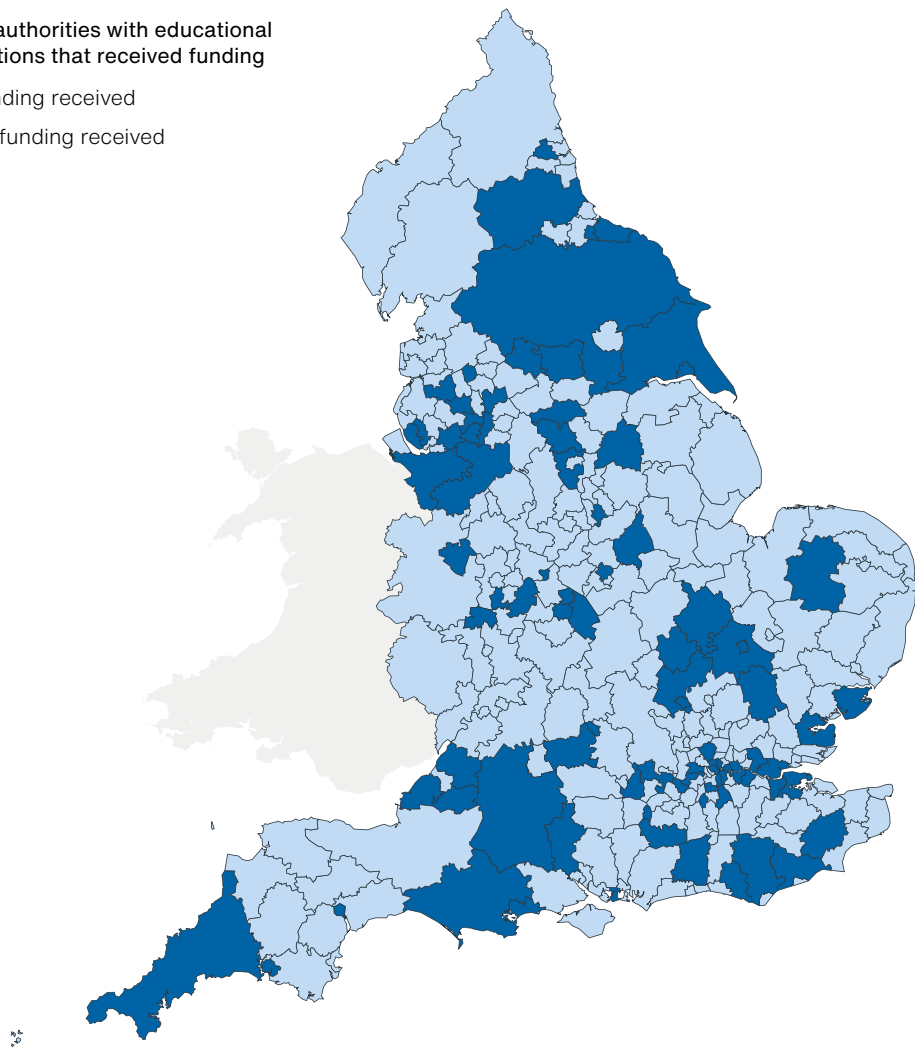
**Figure 11**

Map showing distribution of the public sector decarbonisation scheme funding going to education settings in local authorities, in England by 31 May 2023

**The Department for Energy Security & Net Zero (DESNZ) allocated funding to educational institutions across England**

Local authorities with educational institutions that received funding

- Funding received
- No funding received



**Notes**

- 1 This figure represents the £153 million allocated to schools, academies, further education, and higher education institutions for Phase 3b of the scheme by 31 May 2023. Some local authorities bid for funding on behalf of a number of schools/colleges. This map does not show the distribution of £5 million of funding given to local authorities and £4.1 million to one diocese to allocate to projects in local education settings.
- 2 We were not able to map allocations to the Diocese of Guildford due to lack of information on individual school locations and three local authorities as these were at a higher tier of local authority and we did not have the information to show this at a lower tier level. This relates to, Cambridgeshire County Council, Hampshire County Council and Surrey County Council.

Source: National Audit Office analysis of Phase 3b Public Sector Decarbonisation Scheme funding allocation data from the Department for Energy Security & Net Zero (formerly the Department for Business, Energy & Industrial Strategy) in June 2023. Office for National Statistics licensed under the Open Government Licence v.3.0. Contains OS data © Crown copyright and database right 2022

**3.23** Stakeholders we consulted were generally positive about the good estate management guide and found it useful. They thought that DfE could do more including sharing good practice on achieving net zero; providing practical advice on how to be more sustainable; better case studies; and guidance on how to plan and deliver low-value energy efficiency projects with limited professional consultancy. In autumn 2023, DfE plans to update its estate management guide to embed sustainability.

**3.24 Figure 12** overleaf shows examples of the changes schools can make to reduce carbon emissions and improve energy efficiency.

### Implementing measures to engage people within schools with sustainability

**3.25** DfE is planning a number of interventions to support schools in developing their approach to sustainability. This includes providing information on construction and facilities management, as well as school and individual behavioural change. The strategy includes a goal for all education settings to have a sustainability lead, who will own a Climate Action Plan (to include curricular and extra-curricular activity, procurement, adaptation and decarbonisation plans). SCCU has started to consult stakeholder groups and schools on these measures and published non-statutory guidance about what schools can include in May 2023. The strategy also committed to offer training to sustainability leads in education settings. However, SCCU determined that, given the diverse needs of the sector, providing training alongside other providers would not represent value for money. Therefore, in February 2023, it replaced the offer of training with a digital hub for climate action planning and a regionally based support network of climate experts who can engage directly with education settings. DfE expects to launch the network from December 2023, to be fully operational from December 2024. This will also include access to training providers as needed.

**3.26** SCCU communicates with the sector about sustainability through a monthly newsletter and forums such as teacher bulletins and social media. This engagement is at an early stage. SCCU raised engagement and communications to one of its priorities in February 2023. SCCU has developed a communications plan that focuses on low- or no-cost communications and media events.

### Risks to the school estate

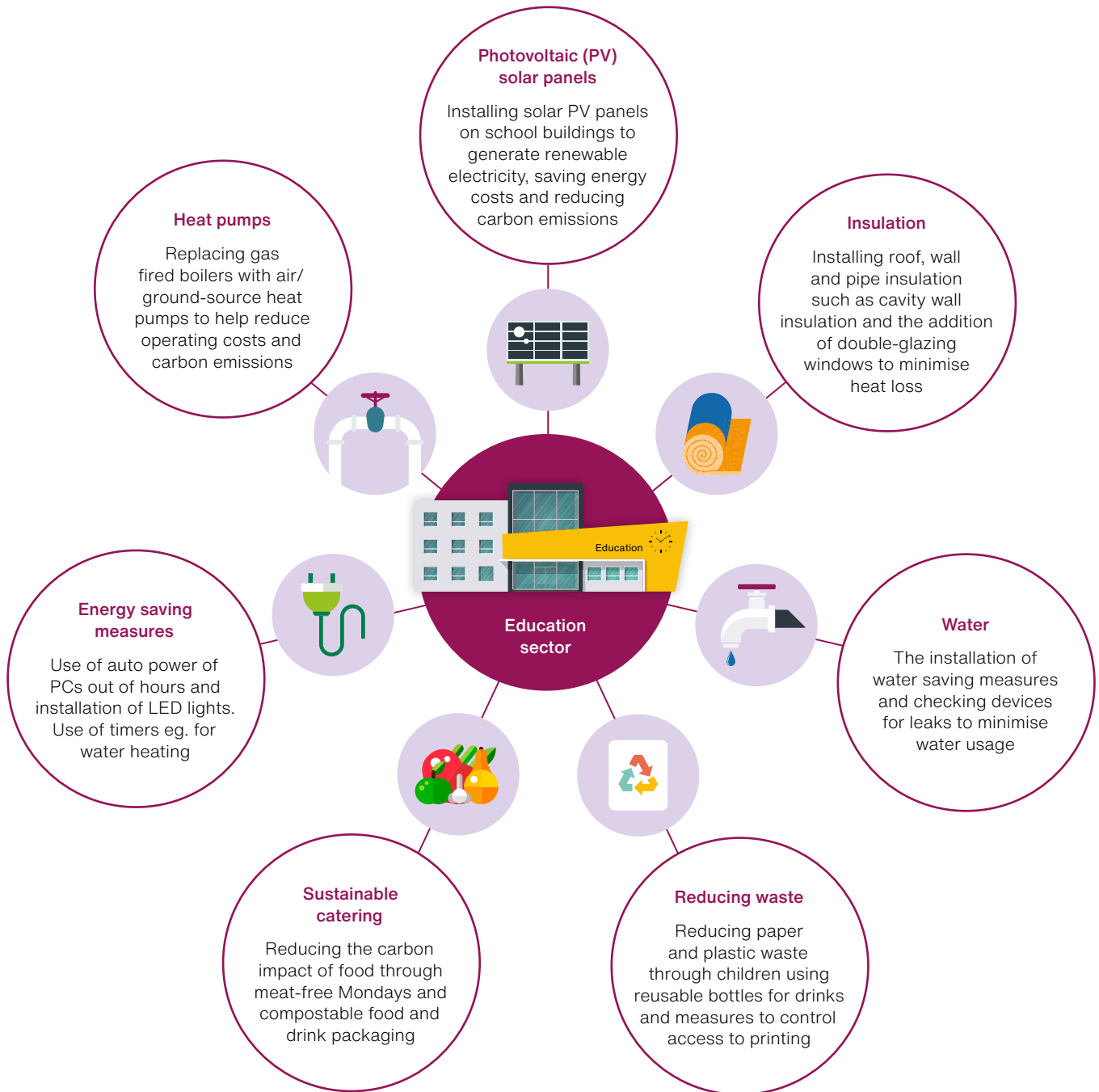
**3.27** DfE's strategy includes priorities to support the education sector, including schools, to respond to climate change and reduce emissions:

- Resilience to climate change: adapting education and care buildings and system to prepare for the effects of climate change.
- Net zero: reducing direct and indirect emissions from education and care buildings, driving innovation to meet legislative targets and providing opportunities for children and young people to engage practically in the transition to net zero.

**Figure 12**

Examples of changes schools have made to reduce carbon emissions and improve energy efficiency

Schools can change equipment, policies and practices to reduce their carbon footprint



Source: National Audit Office review of examples of measures that education settings have taken to improve energy efficiency and reduce carbon emissions, including energy audit reports



## DfE's response to the risks from climate change

**3.28** In June 2021 the Adaptation Committee of the Climate Change Committee (CCC) identified a new priority climate risk, to education and prison services. In its response, government acknowledge that “cold weather spells, heatwaves and incidents of flooding can all have a harmful impact and often on the most vulnerable groups”.

**3.29** DfE has recognised that it is operating outside its risk appetite for the education system, particularly the education estate. Its departmental risk appetite statement sets out a need for investment to match DfE's sustainability ambition, a need to limit financial risk by piloting new approaches, and an emerging risk of physical damage or school closure without investment to improve resilience of the education estate. It also acknowledges that DfE needs to act on legislative emissions, nature, and environmental obligations, to avoid potential legal and reputational risks to DfE if they are not met.

**3.30** The SCCU set out risks for education settings, including schools:

- Flood risk: 10,710 schools at significant chance of flooding which could be anything from a few inches to a few feet of water (where significant is defined as likelihood of flooding at least once in 75 years), which is expected to increase to at least 13,662 by the 2050s.
- Water scarcity: higher risk with water available in England estimated to reduce by 10%-15%.
- Overheating: some school buildings are unsuitable in hot weather, due to characteristics such as highly glazed facades. This risk will be exacerbated with predicted higher temperatures. Overheating has been shown to have an impact on academic attainment.

DfE believes that without sufficient investment in the resilience of the education system and particularly the estate, it cannot prevent costly damage and disruption to learning from the effects of climate change.

**3.31** In its strategy, DfE committed to publish a risk assessment of flood, overheating and water scarcity of the education estate, to be reviewed on an annual basis from 2023. SCCU plans to use the assessment to increase its understanding of climate risk and target its interventions. It expected to publish a draft climate risk framework first, in May 2023, and its first risk assessment using the framework by January 2024. In April 2023, SCCU considered successful delivery of the framework to be in doubt. This builds on DfE's submission to government's third National Adaptation Programme, a detailed assessment of how DfE plans to reduce risks to education services from flood, overheating and water scarcity. The Department for Environment, Food & Rural Affairs (Defra) rated DfE's submission as one of the top six of 76 submissions from across government.

## Progress towards net zero

**3.32** The Climate Change Act sets targets for the UK to reduce emissions of greenhouse gases to net zero by 2050. Government has not set sub-targets for sector contributions, however, the school estate is in scope of government’s supplementary target to reduce direct emissions from public sector buildings by 75% by 2037 (against a 2017 baseline). In addition, the Climate Change Committee has recommended that DfE ensure all policy, and procurement decisions, are consistent with the net zero goal and reflect the latest understanding of climate risks.

**3.33** In response, DfE has committed to:

- set science-based emissions targets for each sector by 2025, “ensuring we play our part in reducing public-sector emissions by 50% by the end of Carbon Budget 5 (2032) and by 75% by the end of Carbon Budget 6 (2037), against a 2017 baseline”.<sup>12</sup>
- standardise what emissions are reported: DfE funded the sector to publish a Standardised Carbon Emissions Framework (SCEF) for higher and further education, in January 2023.<sup>13</sup> It plans to support the equivalent for schools; and early-years settings.
- baseline emissions: SCCU has started identifying data and technology required to set baselines and targets, and to begin monitoring emissions across the education estate.

**3.34** In order to understand the impact of actions towards net zero, DfE is working with University College London (UCL) to establish a digital model of the school estate.<sup>14</sup> This model simulates what impact interventions such as installing heat pumps could make on energy consumption and carbon emissions. It shows the impact of different factors, such as rates of retrofitting schools against a net zero trajectory (**Figure 13**). However, DfE has not yet systematically used outputs from the model to inform possible funding or policy, due to its focus on targeting funding at improving schools’ building condition. It is doing further work with UCL to develop a more advanced model.

<sup>12</sup> Department for Education policy paper, *Sustainability and climate change: a strategy for the education and children’s services systems*, April 2022.

<sup>13</sup> The Standardised Carbon Emissions Framework for Further and Higher Education (SCEF).

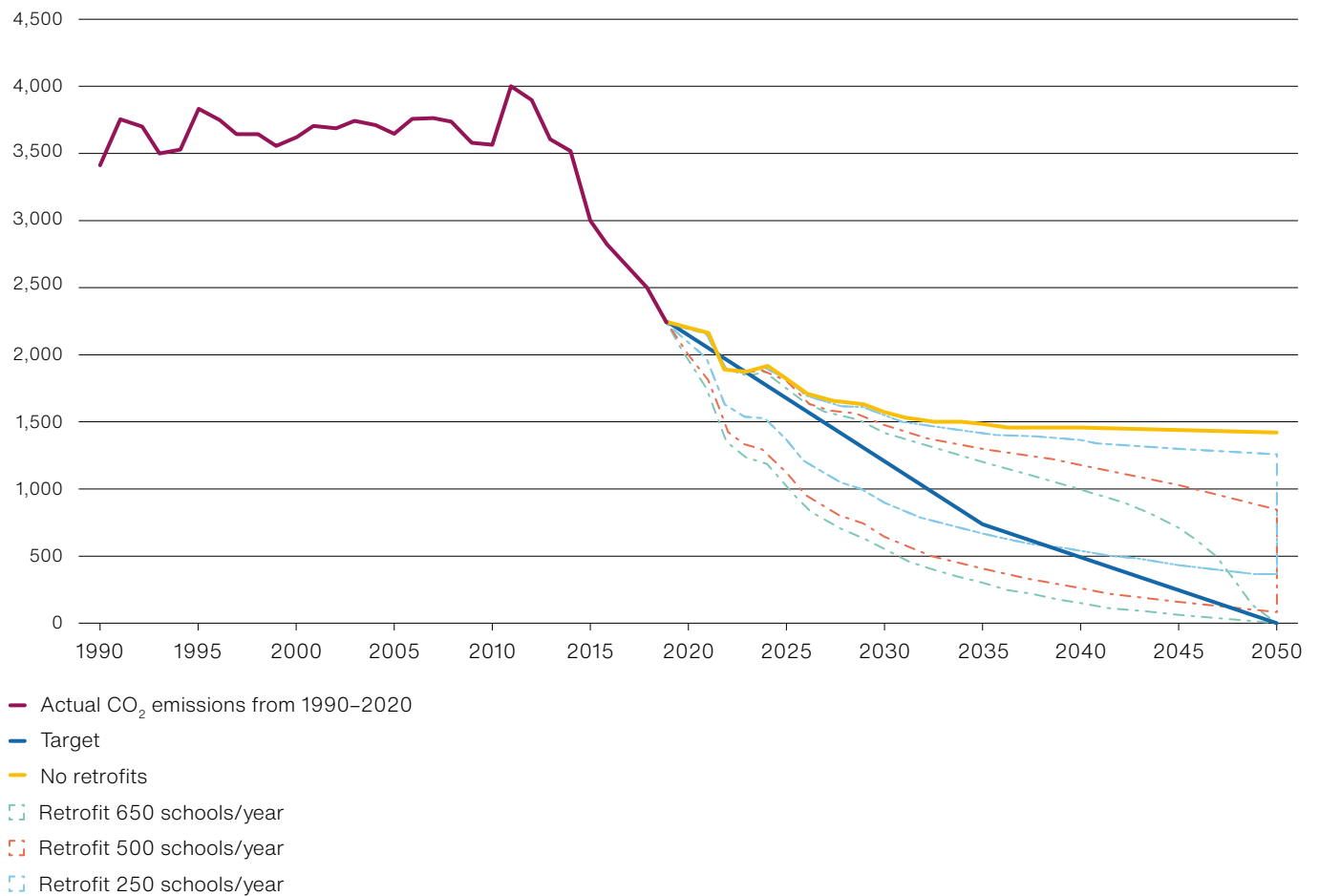
<sup>14</sup> The Modelling Platform for Schools is a digital model of the buildings in the school estate. This model tests decarbonisation scenarios, simulating the impact of various interventions, such as installing heat pumps, on energy consumption and carbon emissions.

**Figure 13**

Predicted reduction in annual CO<sub>2</sub> emissions from school estate 1990–2050 based on different rates of retrofitting schools

In order to have an impact on government’s 2050 emissions target, at least 650 schools a year need to change to a heat pump, solar photovoltaic panels and improved thermal efficiency

Total annual emissions (ktCO<sub>2</sub>)

**Notes**

- 1 The Climate Change Act sets targets for the UK to reduce emissions of greenhouse gases to net zero by 2050.
- 2 The long-term fall in emissions since the 2010s has resulted mainly from wider changes in the mix of fuels being used for electricity generation, including the decline of coal and growth of renewables; together with greater efficiency resulting from improvements in technology. This trend is not specific to education. Department for Business, Energy & Industrial Strategy, *2021 UK greenhouse gas emissions, final figures*, February 2023, p.18.
- 3 The non-solid coloured lines represent the predicted minimum and maximum range of emissions for that particular retrofit rate.

Source: Godoy-Shimizu et al, *Pathways to improving the school stock of England towards net zero*, Buildings and cities, 3(1), pp 959–963, November 2022

**3.35** DfE recognises that investment is necessary to make a significant impact on emissions. In the 2021 Spending Review, DfE requested but did not secure funding to retrofit the school estate in line with net zero. Stakeholders we consulted agreed that funding is not enough to enable significant improvement or replacement of school buildings, including sustainability measures. Schools and responsible bodies would like to include sustainability elements in building works but noted that the funding is not enough to make it a reality.

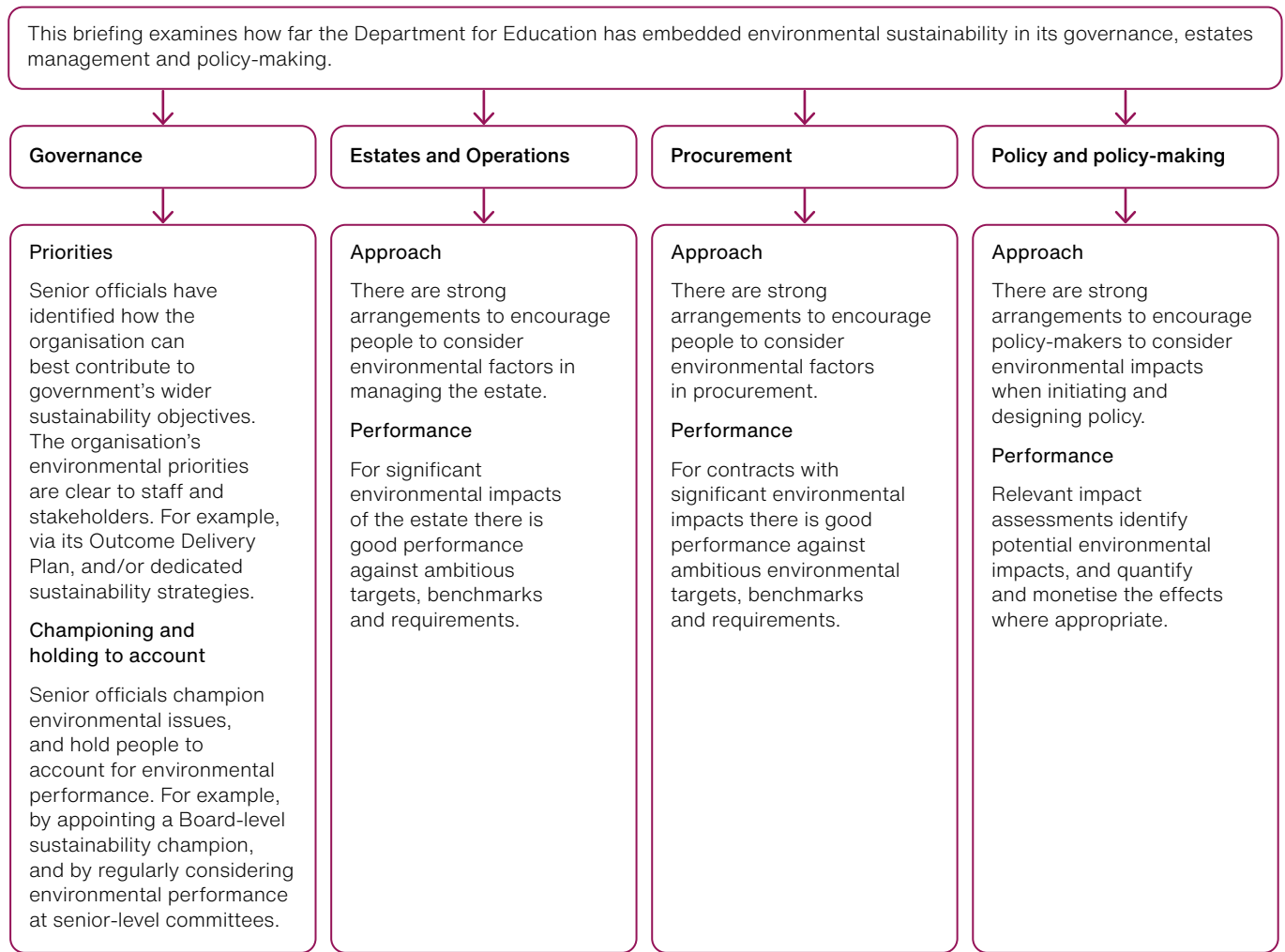
**3.36** DfE has not estimated the full cost of retrofitting the existing school estate to be net zero in operation. However, it is exploring innovative funding solutions such as private sector investment. It estimates that at its current rate of progress 80% of the existing estate will not be retrofitted by 2050. It is considering what market catalysts could accelerate change, for example by aggregating schools for funding for solar panels. DfE undertook some exploratory analysis in January 2023 to test the potential opportunity from investment in retrofitting solar panels and energy efficiency measures for all state schools. This suggested that the cost might be in the region of several billion pounds, many times its current annual dedicated funding on sustainability measures. This could result in potential savings and income net of maintenance costs slightly higher than costs but with significant variation between schools depending on factors such as size, building condition and location.

# Appendix One

## Our audit approach/Good practice criteria

**1** Our sustainability overviews are guided by good practice criteria developed by the National Audit Office through our review of environmental sustainability in other departments. In this report, we did not examine 'procurement'.

**Figure 14**  
National Audit Office (NAO) good practice criteria for environmental sustainability



**Note**

1 These criteria are adapted from the evaluative framework used for: Comptroller and Auditor General, *Ministry of Defence: Environmental Sustainability Overview*, NAO, Session 2019-2021, HC 318, National Audit Office, May 2020. The original framework was developed using previous sustainability overviews, and drawing on NAO analysis of good practice in programme management and performance measurement, see National Audit Office, Good practice guide, *Framework to review programmes*, April 2019, and Comptroller and Auditor General, *Environmental metrics: government's approach to monitoring the state of the natural environment*, Session 2017-19, HC 1866, National Audit Office, January 2019, Figure 3.

# Appendix Two

## Our evidence base

### **Qualitative analysis**

#### Document review

**1** Between December 2022 and May 2023, we reviewed published and unpublished departmental documents including:

- published documents relating to the Department for Education's (DfE's) Sustainability and Climate Change Strategy;
- published and draft strategies and reports;
- business cases;
- board meeting minutes and papers;
- climate adaptation; and
- benefits management.

**2** We used this information to understand: DfE's strategies and aims for enhancing biodiversity, tackling risks of climate change to the education estate, developing green skills and increasing student exposure to the environment; the supporting evidence for the programmes; the way DfE gathers data to support and understand their projects; and the oversight and reporting arrangements.

## Stakeholder consultation

**3** Between February and March 2023, we received responses to a consultation exercise from 14 out of 17 stakeholders including: teaching unions, representative bodies for schools and academy trusts; research organisations; and local government bodies. We used the exercise to gather and analyse responses to the following questions.

- How much of a factor are issues of environmental sustainability (for example energy efficiency, heating and cooling or resilience to extreme weather) in schools' or responsible bodies' decisions to either upgrade or replace school buildings?
- What are your views (if any) on the DfE's Sustainability and Climate Change Strategy?
- Does DfE provide good support and guidance to schools and responsible bodies with regard to: encouraging effective estates management; submitting accurate data on their buildings; sources of funding available to make improvements to school buildings; and investing in capital projects that are efficient and environmentally sustainable in the long term?

**4** Our analysis included collating responses into a spreadsheet and reviewing responses for points/issues raised. To identify key findings, we grouped the points/issues into common themes, such as funding, guidance and impact.

## Interviews

**5** Between January and March 2023, we held 20 online interviews with:

- DfE teams involved with the Sustainability and Climate Change Unit (SCCU);
- DfE teams involved in providing capital funding;
- Department for Energy Security & Net Zero (DESNZ) deputy director involved with the Public Sector Decarbonisation Scheme (PSDS); and
- Department for Environment, Food & Rural Affairs (Defra) teams involved with the reporting of Greening Government Commitments (GGCs).

**6** We used the interviews with DfE staff to understand their: overall aims regarding sustainability both internally and within the education estate; management of specific programmes; and engagement with the school sector. We used the DESNZ interview to understand how DfE and DESNZ are supporting schools to access the PSDS and any other relevant funding available to support decarbonisation. The Defra interview was used to understand how well DfE was performing against the GGCs and whether there were any problems around the reporting or performance of the department.



**7** The main topics and questions in the interviews covered SCCU governance structures, progress DfE is making against its sustainability strategy, and how it manages its sustainability projects and portfolio.

### **School visits**

**8** In May 2023, we conducted two visits to net zero schools. The purpose was to understand their experiences in making sustainability improvements and the benefits and challenges they have had.

### **Quantitative analysis**

#### Analysis of PSDS funding data

**9** We analysed PSDS funding data published by DESNZ. Our analysis examined the number, location and quantum of funding provided to schools in 2022-23 and what proportion it represented of the total £595 million available. Published data lists projects and awarded funding amounts of the PSDS by region and sector including school/academy, further/higher education institution, local authority, NHS, Emergency services, government department, and non-departmental public body. For funding allocated to local authorities, we reviewed published project summary data to understand what proportion was wholly or partially for schools. For some local authority funds that did not specify project details, we were unable to discern the value and location of the projects so excluded them from the map.

**10** We created a map based on the PSDS funding data. This map was GIS generated via the QGIS platform. This choropleth map demonstrates the local authorities within which there were education institutions that received PSDS funding either directly or via a local authority. This does not include nurseries.

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