Environment Agency

Annual report and accounts for the financial year 2022 to 2023

HC 1879

Environment Agency

Annual report and accounts 2022-23

For the period 1 April 2022 to 31 March 2023

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We are the Environment Agency. We create better places for people, wildlife and the environment.

The climate emergency is at the heart of everything we do to help society adapt to environmental challenges such as flooding, drought, sea level rise and coastal change. We improve and protect the quality of our air, land and water by tackling pollution.

We work with businesses to help them comply with environmental regulations and believe a healthy and diverse environment enhances people's lives and contributes to sustainable and resilient economic growth.

We know we cannot do this alone. We work together with local, national and global partners.

This includes Defra group (the Department for Environment, Food & Rural Affairs), wider government, businesses, local councils, charities, civil society groups, local communities and international bodies.

We strive to make the right decisions today, for the people, wildlife and environment of tomorrow.

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Chair's Foreword

This is my first annual report as the new Chair of the Environment Agency (EA). It is a great honour and privilege to have joined such a vital organisation full of excellent and committed people.

Over the last year we have seen a transition to new leadership at the EA. We have said goodbye to both Emma Howard Boyd and Sir James Bevan, our former Chair and Chief Executive. They were both exemplar leaders during their tenures and I want to thank them - for everything they have done - not only to serve the EA but also to create better places for the people, wildlife and environment of this country.

Philip Duffy joined us on 1 July 2023 as our new Chief Executive. I am very excited to be working with Philip and look forward to our leading the EA together in the years ahead. I would also like to thank John Curtin, our Executive Director for Local Operations, who stepped up as interim Chief Executive during the spring of 2023.

In my time so far as Chair, I have travelled much of the country to see our people working to deliver the long-term goals in our current strategy, EA2025. The work they do is inspiring. They are passionate about creating a nation resilient to climate change; clean air, water and land; and green growth and a sustainable future. Not only do they operate under high pressure with tight resources, but they also have a lot of competing calls on their time and work in difficult and sometimes dangerous circumstances.

2022-23 brought these issues to the fore as we navigated the pandemic, the war in Ukraine, the cost of living crisis and national and international uncertainty. But despite a challenging operating context, we delivered outcomes abroad and at home.

Many will have seen the footage from Eastern Ukraine following the explosion at the Nova Kakhovka Dam in June 2023. The incident caused a breach in the dam that drained a vast reservoir over the course of four to five days. I am extremely proud that the EA was able to play a part in the international humanitarian aid effort by donating pumps and temporary flood barriers. Our kit and the expertise of our teams helped save lives and helped communities to rebuild.

Domestically we played a crucial role in supporting the country's resilience to a changing climate. In January 2023 our people responded to a major flood incident in Somerset, and we continued to respond to and manage thousands of environmental incidents across the country. During the drought and heatwaves of 2022, we increased water abstraction checks, determined more than 30 water company drought permits and worked closely with farmers and other major abstractors to keep the taps on.

Delivering clean and plentiful water is the single most important thing there is, and it has been a huge area of focus this year. The public and the media are rightly focussed on the performance of the nine English water and sewerage companies. It has never been so prominent.

Trust in the water industry has deteriorated. If it is to be re-built, we need to see profound, long-term change across the sector. We must all play our respective roles to deliver the Government's Plan for Water and ensure we maximise the opportunities within the next 5-year price review. Together we can secure the greatest ever investment in our water environment. This will not fix all of the problems immediately, but it will enable significant long-term change and better environmental outcomes.

We will play our role by transforming the way we regulate the sector. We will invest in new specialist officers, data and tools which will significantly increase the time we are able to spend on regulating the water industry.

We have taken a similar approach to agriculture by increasing our ability to inspect farms. Our Agricultural Regulation Taskforce delivered over 4,000 farm inspections in 2022-23 which mandated farmers to take more than 8,000 improvement actions.

The new government's priorities have been firmly centred around growing the economy and the EA has played a role in creating resilience for economic activity. A good example is our work to fight waste crime. Whilst we know it is on the rise, we also know that for every £1 spent, it brings at least £4 of benefit to the economy.

The Green Finance Strategy and the Nature Markets Framework policy published in March 2023 will also help mobilise the billions of pounds of private investment needed to transition to a net zero, nature-positive and climate-resilient future. Both are welcomed and will create opportunities for investment in EA outcomes, especially managing flood risk, habitat creation and improving water quality.

This year we also marked the 70th anniversary of the East Coast Tidal Surge which devastated parts of the country in January 1953. This saw the coastline hit by the worst flooding in living memory which personally affected my family as my uncle, farming on Canvey Island at the time, lost half his livestock and all his equipment. The anniversary acts a sombre reminder that we need to continue to think and work in different ways to be better prepared for the inevitable consequences of a changing climate.

The EA will continue to do exactly that - by delivering outcomes that benefit the people and places we serve. We will also play a central part in delivering the government's Environmental Improvement Plan published in January 2023.

I want to conclude by saying thank you to all our people at the EA for such a warm welcome to the organisation. Their passion to help people at home and abroad is an inspiration. They have been, and continue to be, the most wonderful people to work with and lead.

Alan Lovell, Chair

23 October 2023

Performance Report

Chief Executive's statement

I joined the Environment Agency on 1 July 2023. Like so many EA staff, I did so because I believe passionately in its dual mission to enhance the environment whilst supporting sustainable development. I pay tribute to my predecessor, Sir James Bevan, for his stewardship of the Agency through some especially challenging times, particularly during the pandemic. I'd like to thank the many staff, businesses and stakeholders who have been so generous with their time and advice to me as I have taken up the post.

The 2022-23 year was, by any standards, one such challenging time. The EA, like other organisations, had to contend with the after effects of the pandemic, the war in Ukraine and the cost of living crisis. Inflation has had a marked impact on our ability to deliver our flood protection capital programmes, with some key materials increasing in cost by up to 40%. We are working through what this will mean for our programme with Defra and will need to reset the programme later in 2023.

Despite the challenges faced, it was another year when the organisation has again been able to create strikingly better places for people and for the environment, and this report details many of those successes.

The reality of climate change can be seen in this report. The drought and heatwaves of the summer of 2022 saw temperatures reaching 40°C for the first time in the UK and forced the Agency to significantly redirect resources to maintain water supplies to communities. Increased water abstraction checks, water company drought permits, incident response and working with farmers and other major abstractors became priorities for many of our water and ecology experts.

This required us to be at our agile best. Our fisheries officers were temporarily redirected from rod license checks and our catchment officers had to pause some of the work we are doing to drive improvements in chalk streams. Both these areas of work remain a priority for us going forward. We also looked at our existing processes to free up more capacity, including streamlining those required to review the water industry's next 5-year investment plan. The Environment Agency demonstrated how it can flex resource to needs whilst still maintaining momentum on its targets. This type of working may become increasingly standard.

The focus of the public on water quality, and the performance of water companies, has never been sharper. The EA is in no doubt that communities want cleaner water, better protected nature, and secure, clean water supplies for both new and future homes. And I know that the Environment Agency's staff want those things too. What this means for us is the concentration of existing and new resources on water quality and supply that will help us further improve water quality. Last year this resulted in 803 water company inspections, against a target of 500, helping us drive compliance and identify problems that are causing pollution. This continued focus will need to intensify in future years. But of course, water companies are not the only sources of pollution and last year we completed more than 4,000 farm visits to help address the equally important pressure of agricultural pollution on the water cycle and its impact on the health of our rivers. More recently, we welcomed the publication of the government's Plan for Water during the current financial year, and the Environment Agency is committed to working with Defra and others in helping to deliver its objectives.

Alongside this work, we have continued our vital fight against waste crime, shedding new light on the scale of the problem. We are conscious that efforts to reduce waste crime remains a high priority for government and we have used new tools, in partnership with the National Crime Agency, HMRC and other environmental regulators across the UK. We have successfully disrupted organised criminals, helped tackle tax evasion and borne down on the illegal export of waste to lower income countries. This is a set of issues that deeply concern communities and we are determined to increase our response to them.

Being the Chief Executive also means being the Accounting Officer for the Environment Agency. I have seen how the National Audit Office have raised qualifications on our accounts over certain accounting matters, and a new regularity of spend qualification. Whilst I am disappointed by this, I am pleased to note the considerable progress the EA has made this year, particularly on a more robust valuation of our 60,000 separate operational assets. I am personally committed to implementing the necessary actions to have these qualifications removed and am more widely committed to seeing the organisation reach the right balance between achieving operational delivery and compliance outcomes.

Philip Duffy, Chief Executive and Accounting Officer

23 October 2023

About the Environment Agency

The Environment Agency is the leading public body for protecting and improving the environment in England. We exist to create better places for people and wildlife and our current 5-year action plan, EA2025,[1] sets out how we will deliver this.

We have two main business areas which deliver EA2025:

- Flood and coastal erosion risk management (FCERM).
- Environment and business (E&B), which comprises of water, land, and biodiversity and the regulation of industry.

Our people are located across the country and work in partnership with organisations and communities to tackle the climate emergency. Appendix A provides more information about the history of the Environment Agency.

On the 31 March 2023, we had 11,844 full time equivalent employees. Our annual expenditure for the financial year ended 31 March 2023 was £1.9 billion. Defra is the government department responsible for our activities and provides most of our funding. However, approximately one third comes from other parties.

What we do

2022-23 marked the third year of delivery towards EA2025.

Since it was published, we have moved closer to achieving our long-term goals which remain at the heart of the plan: a nation resilient to climate change; healthy air, land, and water; green growth and a sustainable future. They continue to drive everything we do today, tomorrow and to 2025 and beyond.

But there is still much more to do. The scale and pace of the changing climate means we need to think and work in different ways, not only to minimise our own impact on the planet but also to be better prepared for the inevitable consequences.

We know the next few years are crucial if we are going to minimise wildlife loss, reduce emissions and prepare for impacts like more and increasingly severe floods and droughts.

EA2025 sets out what we are doing to face these challenges. Our philosophy is that we should do more than just survive a changing climate; our aspiration is to help the country thrive in it.

[1] Environment Agency: EA2025 creating a better place - GOV.UK (www.gov.uk)
https://www.gov.uk/government/publications/environment-agency-ea2025-creating-a-better-place

Performance measures

This performance report outlines our performance against our priorities for the financial year from 1 April 2022 to 31 March 2023 ('the financial year'). It follows the structure of our EA2025 Action Plan and corporate scorecard (reported quarterly) and includes examples of how we are meeting our objectives. A summary of the performance against these measures and their targets is shown in Appendix C. Our action plan[2] and corporate scorecard[3] are published online. Previous versions of the scorecard are available online for comparison.

The measures on our corporate scorecard, and this performance report, do not capture all that we do to protect and improve the environment.

Our 2022-23 Corporate Scorecard consists of 14 measures.

We use a red, amber, green system to see how we are performing. They are:

- Green which means we are performing at or above the target(s) set,
- Amber which means we are falling slightly short of the target,
- Red which means there are improvements to be made.

[2] https://www.gov.uk/government/publications/environment-agency-ea2025-creating-a-better-place
[3] https://www.gov.uk/government/collections/environment-agency-corporate-scorecard

A nation resilient to climate change

By 2025, we will have created more climate resilient places and infrastructure, by ensuring the nation is prepared for flooding, coastal change, and drought

EA2025
A NATION RESILIENT TO CLIMATE CHANGE

1. We reduce the risk of flooding for more properties

This measure contributes to the United Nations Sustainable Development Goal 13: Take urgent action to combat climate change and its impacts (target 13.1).

Primary **Secondary**

This measure identifies the total number of properties with a reduced probability of flooding or coastal erosion. It includes homes, but also non-residential properties, public services (such as schools, hospitals), industry and commerce (such as factories, shops) and utilities (such as sewage treatment works).

Number of properties better protected:

Target - 65,000
Actual - 59,351
Performance – 91% (Amber - Performance rating)

A total of 118 schemes have better protected 59,351 properties since the start of 2021. The biggest contributors included:

- Saltfleet to Gibraltar Point beach management, Lincolnshire and Northamptonshire Area: 2,338 properties.
- Wallasey embankment, Wirral (Greater Manchester Area): 1,735 properties.
- Burton upon Trent flood risk management scheme, phase 2 (West Midlands Area): 1,413 properties.

Several projects reported delays to delivery, and around 13,000 properties will have their improved protection delivered in a later year of the programme instead of 2022-23. Around three quarters of these delays are on projects led by local councils, with resourcing cited as a common issue, linked to recruitment and retention and in certain cases, supplier capacity. Additional reasons include supply chain disruption, cost pressures and inflation across the construction sector, and a more complex programme of projects with greater reliance on securing partnership funding. We are providing more support to local councils to help resolve these issues.

Case Study – Boosting action on surface water flood risk

There are over three million properties at risk of surface water flooding in England. Surface water flooding happens when rain from major storms overwhelms local drainage. It is a real and growing threat to life, property, infrastructure, and to the economy.

Our changing climate will bring more intense summer rainfall events, like those that caused so much disruption in London in 2021. The latest climate science predicts winter rainfall could increase by up to 59% by the end of the century. We must act now to manage the increasing risks of surface water flooding.

Lead local flood authorities are responsible for managing surface water flood risks on the ground, but we have a statutory supervisory role over all sources of flooding. This 'strategic overview' role is distinct from the day-to-day operational role we have for managing flood risk from rivers and the sea.

Local authorities are best placed to understand their surface water risk. However, we can play our part by assessing current and future risk, bringing partners together and allocating funding where it will have the greatest impact. Collectively all these activities allow the public, local authorities, and business, to better plan, protect, respond to, and recover quickly from its effects. Here are some examples that are making a real difference.

Using £2 million of government funding we supported 28 local authorities to produce detailed surface water models and maps that benefit 3.3 million people across the country. We're not stopping there, as we will also provide a further £1.5 million to support other local authorities to do the same, benefiting a further three million people. All this information will be freely available from our 'Check Your Long Term Flood Risk' webpage.

We'll also be overhauling our national flood risk mapping (National Assessment of Flood Risk) in 2024. The new mapping will be nationally consistent, use local information wherever possible and provide a much greater level of detail. It will show the impacts of a changing climate from increases in rainfall intensity, providing people and places with the information they need to plan and adapt.

Improving our understanding of risk is only part of the story. We also need tangible actions that make a difference. As part of the government's £5.2 billion programme for flood risk reduction, we have allocated funding for hundreds of projects up and down the country to better protect people and properties from surface water flooding. Through the £150 million Flood and Coastal Resilience Innovation Programme we are working with local authorities to develop practical and innovative actions to bolster the resilience of communities at risk of surface water flooding. The North East Lincolnshire project is using real-time data from an urban drainage sensor network to target the best places for fitting sustainable drainage systems that reduce surface water run-off.

It's also vital we recognise the role water company infrastructure plays in draining urban areas and reducing the likelihood and impact of sewer and surface water flooding. In partnership with Ofwat we recently published a joint approach for how water companies should consider flood and coastal resilience as part of their statutory roles and duties. In future water company business plans we expect to see an increased use of sustainable drainage systems and nature-based solutions that provide a cost-effective way of keeping surface water out of sewers, increasing the resilience of communities whilst also enhancing the natural environment.

Case Study – Publication of flood risk management plans

(Photo credit: Cumbria - Johnny Kidd, West Cumbria Rivers Trust)

Over the last 3 years we have worked in partnership with lead local flood authorities and other partners to develop Flood Risk Management Plans (FRMPs).

At least one in six people in England are at risk from flooding from rivers and the sea with many more at risk from surface water flooding. With a rapidly changing climate, adapting what we do and improving our overall resilience is more important than ever before.

We work with a wide range of partners to help deliver the ambitions of the Flood and Coastal Erosion Risk Management Strategy (FCERM strategy)[4] - ensuring that we are a nation that is ready for, and resilient to, flooding and coastal change. Collaboration is key and the more we work and plan together, the more we can put communities at the heart of what we do.

We listened to what people told us during a public consultation in October 2021 which indicated, a strong alignment of our priorities in the FRMPs: the importance of partnerships to deliver actions; the need to strengthen a catchment approach so we work with and better recognise the value of the natural environment and the places we live and work in. In addition, we need to rise to the challenge of making infrastructure resilient to flooding while reducing carbon use in the construction of that infrastructure.

These plans will help us to:

- Identify measures (actions) that will reduce the likelihood and consequences of flooding,
- Inform the delivery of existing flood programmes,

[4] https://www.gov.uk/government/publications/national-flood-and-coastal-erosion-risk-management-strategy-for-england--2

- Improve resilience of people and places to plan for, respond to, and recover from flooding and coastal change,
- Plan for and adapt to a changing climate through developing longer-term, adaptive approaches, and,
- Work in partnership to deliver wider resilience measures, such as nature-based solutions.

There are great examples of this throughout the 10 FRMPs. For example:

- We, in partnership with Warrington Borough Council and others, will engage local business and community groups to use property resilience and sustainable drainage to improve their resilience to flooding.
- The London Borough of Ealing will promote natural flood management techniques in Ealing to reduce risk of surface water flooding and improve the environment.

2. We maintain our flood and coastal risk management assets at or above the target condition

This measure contributes to the United Nations Sustainable Development Goal 13: Take urgent action to combat climate change and its impacts (target 13.1).

Primary **Secondary**

This measure is linked to our priority to 'Manage our flood and coastal risk management assets effectively and efficiently and encourage others to do the same'. We use our management information to target and allocate investment in our assets according to risk, to ensure that these assets operate effectively to protect people, properties, and businesses.

% of high-risk assets at target condition:

Target - 98%
Actual - 94.5% **(Red - performance rating)**

Asset condition is directly related to maintenance funding, which is currently lower than required: while it is sufficient to sustain asset condition between 94% and 95% (reflected by current performance) it is not currently enough to restore asset condition to our 98% target. This is compounded by an ageing asset stock, more frequent and extreme weather, and an increasing number of assets.

Where assets are below their required condition this identifies that work is required. This does not mean that they have structurally failed or that performance in a flood is compromised.

We have prioritised the maintenance and repair of the highest risk assets. Where needed, we have risk mitigation measures and contingency plans in place to manage risk until any necessary repairs and maintenance are complete.

We have therefore met our expected year-end forecast of 94.5%. This is because of continued asset repairs and asset data quality improvements undertaken by Area teams.

By 2025, we will be a stronger leader on climate adaptation and resilience, encouraging others to act now on the climate emergency

3. We deliver our Preparing for Climate Impacts Plan and Enabling UK Net Zero Plan to tackle the climate emergency

This measure contributes to the United Nations Sustainable Development Goal 13: Take urgent action to combat climate change and its impacts (target 13.1).

Primary **Secondary**

This measure tracks our action on reducing the risks we face from climate change. The end outcome is that our risks as an organisation are reduced as a result of our action and this measure tracks the actions that are completed within the Climate Impacts Action Plan (including the FCERM Strategy Action Plan). These actions are tackling the Environment Agency's risks from climate change and helping to improve our resilience.

% of adaptation actions on track:

Target - 90%
Actual - 96% (Green - performance rating)

Our end of year status is green with 96% of actions on track. This breaks down to 47 out of 49 adaptation actions on track.

The two missed adaptation actions are due to resourcing issues. The milestones are delayed rather than abandoned and are expected to be achieved in Q1 2023-24.

Highlights for 2022-23 include:

- Our flood and coastal erosion risk management strategy roadmap was published - which sets out the actions needed by 2026 to ensure we remain on track to implement the strategy.
- We provided adaptation advice externally to water companies on their drainage and wastewater management plans (DWMPs) and on the 2024 price review (PR24) and to our staff, for example to Area Sustainable Places teams on strategic engagement on adaptation.
- Made ‘keeping rivers cool’ maps available as open data.
- Water companies have been advised on a range of nature-based solutions, so they can build resilience and adaptation into their business plans.
- We have supported Government to include adaptation finance and Net Zero regulation in the updated Green Finance Strategy. This will increase public and private investment in climate resilient national infrastructure.

Two of the three 'red' Net Zero actions have been off track since Q2. Of these, one has not been deliverable due to insufficient funding to resource work on Hydrogen and Carbon Capture; the other on environmental planning will now be delivered through two organisational programmes known as 'Strength in Place' and 'One EA'.

The third action not on track has not been fully delivered as we were unable to secure timely tender bids from consultants for the ground source heating and cooling receptors project. This project will now deliver in Q3 2023-24.

Highlights for 2022-23 include:

- Submitting a final report to DESNZ for Phase 2 of the environmental constraints in industrial clusters work, including a review of the environmental challenges of deploying Net Zero technology in the Humber estuary and Teesside.
- Our contribution to a joint Office for Nuclear Regulation/EA assessment report in response to Phase A of the Advanced Modular Reactor (AMR) Research, Development and Demonstration programme, part of the £385 million Advanced Nuclear Fund, which allocates funding for organisations to develop feasibility studies for their designs of AMR.
- Our EA Methane Action Plan featuring as a case study in the UK Government COP27 communication on methane.

By 2025, we will be a recognised and trusted incident management organisation responding rapidly to environmental emergencies to protect people and the environment

4. We have a first-class incident response capability – proportion of trained staff used in core incident roles

This measure contributes to the United Nations Sustainable Development Goal 3: Ensure healthy lives and promote well-being for all at all ages (target 3.9).

Primary **Secondary**

This measures our use of trained staff from core incident rosters. It is intended to show that we are robustly able to respond to environmental incidents to protect life, property, the environment, and our reputation. We use pre-defined area and national incident management roles covering command and control, first and escalated response roles only.

% of trained staff used in core incident roles:

Target - 80%
Actual - 74% (Amber – performance rating)

Over the past 12 months there have been 3,308 trained staff who have responded to emergencies to reduce the impacts of environmental incidents. The number of staff recorded as trained and capable has increased in the last quarter, for the first time in 12 months.

We continue to ensure all staff on incident rosters can work flexibly and feel supported and confident to volunteer, particularly during escalated response periods. All new recruits are contractually obliged to perform incident management as part of their role.

We continue to ensure coverage of critical roles and essential services during industrial action.

This measure has been revised for the 2023-24 reporting period, which has been refined to be more meaningful, focusing on command and control first response roles, rather than all core roles.

Healthy air, land and water

By 2025, our air will be cleaner and healthier

5. Air quality is improving – Monitor the reductions across four priority pollutants: NOx (Oxides of Nitrogen), SOx (Oxides of Sulphur), PM2.5 (fine particulate matter) and NMVOCs (non-methane volatile organic compounds)

This measure contributes to the United Nations Sustainable Development Goal 13: Take urgent action to combat climate change and its impacts (target 13.1).

Primary **Secondary**

We have a role in reducing the priority pollutants from the refineries, metals, large combustion plant (LCP) and large volume organic chemicals (LVOC) sectors to support delivery of the national emissions ceilings regulations (NECR) target. During 2022-23 we undertook work to monitor emissions from a number of sites and industry, with a target to see a year-on-year reduction of these emissions. This year we have been able to report that we have seen a reduction in emissions in all four of our priority pollutant sectors.

Grams of pollutant per tonne:

Targets - 4 out of 4 pollutants showing a reduction on the previous year
Actual – 4 out of 4 pollutants showing a reduction (Green - performance rating)

The year-end measure is green, due to overall decreases in emissions for all four of the pollutants, for the four industry sectors, compared with the prior year.

The overall decrease in NOx (oxides of nitrogen) is due principally to significant decreases from the combustion sector. This is potentially a result of reduced combustion activities because of high gas prices and higher production of electricity from wind.

Expected reductions in SOx (oxides of sulphur) emissions resulted from the continued closure of coal powered stations, as well as from decreases from some of the larger refineries.

Overall decreases in PM2.5 (fine particulate matter) have stemmed largely from the metals sector, also due to changes in activities at some locations.

Finally, the decrease in NMVOCs (non-methane volatile organic compounds) stems from decreases from the large volume organic chemicals sub-sector, due principally to the closure of the two largest emitters for the sector. The decrease observed from the refineries sector was also expected, due to increased leak detection. There was a slight increase from the large combustion plant sector, but not significant enough to affect the overall picture.

Case Study – Medium Combustion Plant and Specified Generators

Medium Combustion Plant (MCP) and Specified Generators (SG) are a major source of air pollutants such as sulphur dioxide (SO_2), nitrogen oxides (NO_x) and dust ($PM_{2.5}$ and PM_{10}) that cause harm to human health, the environment, and the economy.

We are in the process of permitting and carrying out compliance activities for all new MCPs (installed after 2018) with an input capacity of between 1 and 50 and all existing MCPs (installed before 2018) between 5 and 50 megawatt thermal (MWth), and all SGs which are plant producing electricity. This intervention will limit emissions of key pollutants from this type of combustion plant and help us to meet national ceiling emissions targets as part of the national air strategy 2013.

The project is also contributing to the environment improvement plan and will allow us to make further improvements to air quality emissions, accelerate decarbonisation of the power sector and Net Zero in the future.




Some of the specific outcomes achieved were:

- Air emission from new MCP and SG units continue to be controlled by the regulations with limits on emissions and a requirement for regular reporting of emissions monitoring to a specific standard, giving government a data basis to drive future air quality improvement measures.
- Preparations to permit existing MCP 5-50MWth which will have a significant reduction in air emissions such as NOx, Sulphur dioxide SOx and dust from medium combustion plant and specified generators.
- Preparation of guidance and communication to external operators of existing MCPs 5-50MWth and SGs means they are more likely to refurbished, replace or have abatement fitted to plant thereby ensuring their future compliance with the regulations which will improve air quality.
- Preparing a risk-based approach to the assessment of MCPs and SGs and their potential impact to protected habitats to ensure there is no significant impact.
- SGs are assessed for their impact on human health of those people who spend time near the plant to ensure there will be no significant impacts.

By 2025, our rivers, lakes, groundwater, and coasts will have better water quality and will be better places for people and wildlife

6. Our rivers and coasts have better water quality and are better places for wildlife

This measure contributes to the United Nations Sustainable Development Goal 14: Conserve and sustainably use the oceans, seas, and marine resources for sustainable development (target 14.2).

Primary **Secondary**

This measure records the kilometres of waters (rivers, lakes, canals, groundwater, transitional and coastal waters) enhanced in England. The enhancements include work to improve ecological, chemical and / or physical quality, e.g. reducing pollution, restoring flows and improving habitat.

Kilometres (kms) of waterbodies enhanced:

Target – 2,058kms
Actual – 2,300kms
Performance – 112% (Green - performance rating)

We have achieved 112% of our 2022-23 target to enhance 2,058km of waterbodies, enhancing a total of 2,300kms across the year. Our target in 2023-24 is to enhance a further 2,130km.

Most of these enhancements have come from the Countryside Stewardship Programme, where 688km of rivers enhancements were reported. This programme offers financial incentives for farmers, foresters, and land managers to look after and improve the environment.

Whilst the individual enhancements are often small, together they make a real difference to the local environment including reducing flood risk and reducing diffuse pollution.

Highlights for 2022-23 include:

- Over 400km of enhancements such as tree planting and fencing to prevent cattle grazing, delivered through our Environment Programme. For example, tree planting and fencing along river corridors to prevent cattle grazing.
- Our flood and coastal risk management programme enhanced a further 120km, mainly by removing barriers to fish migration.
- The New Forest invasive non-native species project reduced the spread of Himalayan balsam, giant hogweed, Japanese knotweed, American skunk cabbage and parrot's feather, protecting 25km of local watercourses.
- As part of the water industry national environment programme (WINEP), the eel pass at Cloves Bridge, near Theddlethorpe in Lincolnshire, was refurbished to ensure endangered eel species can migrate upstream to access 40km of upstream habitat.
- Renovation and significant improvement to a fish pass and the installation of a new eel pass in the River Mersey near Warrington has contributed to almost 41km of improvements.

Case Study – River Nent - Water and Abandoned Metal Mines (WAMM)

The River Nent is the most metal-polluted river in Northern England. This project aims to clean up this river by stopping 3 tonnes of cadmium and zinc from polluting 60kms of river.

The project is part of the Water and Abandoned Metal Mines Programme which aims to address a historic mining legacy of metal polluted rivers in the UK, in support of the Government's Environment Improvement Plan and statutory River Basin Management Plans. The scheme, expected to be operating in 2023, will capture metal-polluted water from Nent Haggs adit (the entrance to the mine) and remove metals in treatment ponds before returning the clean water through reed beds back to the River Nent.

August 2022: Treatment ponds at Nent Haggs with the new lining in waiting for the addition of natural treatment media.

Additional work has also been carried out at the pumping station site to create a local nature reserve, in partnership with the Tyne Rivers Trust with a financial contribution from Northumbria Water Group. The newly created nature reserve will be open for use by the local community as well as provide space for the unique species and habitat found in the area. This work will further benefit people and the local environment and includes an innovative use of metal-contaminated sediments removed from local rivers that would normally be disposed of to landfill. Tyne Rivers Trust is using this material in a 'nursery' area on which to grow the unusual 'calaminarian' (metal-loving) plants that are distinctive to former metal mining areas such as the North Pennines, the Peak District and Cornwall.

Case Study – Snake Lane weir removal and fish pass project

While Atlantic salmon have been struggling in recent years in some English rivers, Derbyshire's River Derwent, which flows into the River Trent, has seen stock steadily improving. Snake Lane weir, standing at 2.6m tall with an almost vertical wall that was built in the 1970s on the site of an older structure at a former corn mill, stopped access up the river to all fish for centuries. It restricted the number of fish species above the weir to 8, while below the weir we had 16 fish species, so we knew that removing this huge obstacle would increase the migration of fish upstream.

Working with The Wild Trout Trust made the seemingly impossible become possible. They were able to understand the issues and constraints, and build a partnership of design consultants, structural engineers, archaeologists, ecologists and an excellent civil contractor, who could deliver while also securing the support of landowners and the local community.

After four years of hard work local contractors A&V Squires completed the project in October 2022.

Further upstream of the river Derwent, we have opened up the river Ecclesbourne for all fish, including Atlantic salmon, will transform the river and its ecosystem. Atlantic salmon are a “keystone” species, meaning they help to shape the environment for the benefit of themselves and other species. The presence of Atlantic salmon may also influence greater environmental protection to the river.

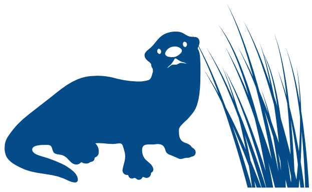
Before this weir removal and the creation of this fish pass, the Derbyshire Derwent only had 40km of available habitat to Atlantic salmon. This project has opened up a further 9km of habitat, so it will have an immediate and significant impact.

7. We increase biodiversity and promote an environmental net gain by creating more and better habitats for the benefit of people and wildlife

This measure contributes to the United Nations Sustainable Development Goal 15: Protect, restore, and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss (target 15.5).

Primary **Secondary**

This measure records the area of new priority habitat created and the existing areas of priority habitat restored back to their former condition. Along with planting more trees and carrying out remedial action to restore and maintain the condition of Site of Special Scientific Interest (SSSI) units this is our contribution to the goal of thriving plants and wildlife under the government's Environment Improvement Plan (EIP). In delivering this measure we follow the principle of 'environmental net gain' set out in the EIP. Priority habitats are defined as habitats of principal importance under the Natural Environment and Rural Communities Act.



Hectares (ha) created or restored

Target - 660 ha
Actual - 823 ha
Performance – 125% (Green - performance rating)

We created 405 hectares of new priority habitat and restored another 418 hectares, a total of 823 hectares. This is an area equivalent to 484 cricket pitches.

Even though our target for this year was a challenging 660 hectares, we have exceeded our expectations thanks to the work of our staff and our partners, including larger than expected areas of blanket bog restoration work in East Midlands and Greater Manchester, Merseyside, and Cheshire. This achievement is despite delivery restrictions due to incidents and incident recovery, high levels of staff turn-over, a reduced capital works pipeline, and reduced funding from the Water Environment Improvement Fund.

We also planted 122,352 trees in 2022-23.

Using natural capital approaches, we can estimate the value of the benefits provided by these habitats. The creation, restoration, and maintenance of peatland along with the creation of saltmarsh and broadleaved woodland will remove an additional 1,290 tonnes of carbon dioxide equivalent a year. This is valued at £6.7 million over 40 years at present value. With the creation of new footpaths an additional 4,000 visits per year are predicted. The estimated value of recreation from these visits over 40 years at present value is over £206k.

Case Study - Little Stour Chalk Stream Restoration

Eighty-five per cent of the world's chalk streams are found in England, mainly in the south and east of the country. However, they face unique challenges in the 21st century because of complex problems exacerbated by climate change and population growth. To help address some of these issues, the Little Stour at Seaton, near Canterbury, is now reaping the many environmental benefits of a partnership makeover project that has restored over 300 metres of this rare chalk stream habitat.

Our partnership project, with assistance from the three landowners, was originally completed in 2016 but a recent drone survey of the river has revealed how the scheme is benefitting the river following the restoration works.

The collaborative £28k scheme, funded by us, involved narrowing the over-widened river to restore this valuable stretch of chalk stream by changing the profile of the riverbed and banks. As a result of this enhancement work, fish life has now become more abundant, and a more varied habitat has developed for all aquatic and riverside wildlife to thrive. The riverbanks were also fenced, and trees were planted along the river and in the adjacent fields. Since the project was completed, fish recorded in the restored stretch include eels, bullheads and brook lamprey – all of which are rare and priority species. There have also been reports of kingfishers and otters, just upstream of the site.

The project also provided additional flood protection benefits with one riverbank being raised slightly with clay to further reduce flood risk to residents in Seaton.

This project contributes to the recent Chalk Stream Strategy,[5] published by Catchment Based Approach's (CaBA) Chalk Stream Restoration Group (CSRG), that sets the future direction needed to protect and enhance England's chalk streams. The Little Stour project takes us a step closer to meeting the government's Environmental Improvement Plan[6] to support the implementation of the Chalk Stream Strategy. We will develop plans to outline actions to improve each chalk catchment, including £1 million investment in partnership projects each year.

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[5] Chalk Stream Strategy - CaBA (catchmentbasedapproach.org)
[6] Environmental Improvement Plan 2023 - GOV.UK (www.gov.uk)

8. We protect people and the environment through effective regulation

This measure contributes to the United Nations Sustainable Development Goal 9: Build resilient infrastructure, promote inclusive and sustainable industrialisation and foster innovation (target 9.2).

Primary **Secondary**

This measure provides an indication of how well the environment and communities are protected from pollution caused by regulated sites. As an organisation we have reaffirmed our commitment to be a trusted and respected regulator and the priority given for our regulatory activity. This measure provides an indication of how well the environment and our communities are protected from pollution caused by regulated sites as it measures compliance with permit conditions.

% compliance of permitted sites:

Target - 97%
Actual - 98% (Green - performance rating)

In 2022 we assessed 97% (13,638) of the waste and installation permitted sites as good and 3% (332) as poor using the compliance rating guidance published on gov.uk. These sites include a range of sectors, such as chemicals, combustion, metals, biowaste, intensive farming, and incineration.

During Covid we adopted innovative ways to carry out regulatory work and continue to develop our ability to regulate remotely to ensure greater compliance in future.

For 2022-23, we set the priority to increase our regulatory compliance activities in line with risk and funding. We continue to operate in an open and transparent way so those we regulate understand what is expected of them and the public can see the results of our regulation, recognising those going beyond compliance.

Case Study - Taking the Rolls-Royce Small Modular Reactor to the next step

Our New Reactors Assessment Team is leading the assessment of the Rolls-Royce Small Modular Reactor (SMR) nuclear power station design.

New nuclear power stations are an important part of the government's plans for generating secure low carbon energy.

The government's 'Powering Up Britain'[7] plan and 'Great British Nuclear'[8] will start to deliver the ambition to build up to 24 Gigawatt-electric (GWe) of nuclear capacity by 2050.

[7] Powering up Britain - GOV.UK (www.gov.uk)
[8] https://www.gov.uk/government/organisations/great-british-nuclear

The work delivered by our nuclear regulators is about protecting communities and the environment. We've been looking at the Rolls-Royce SMR design to determine if it is environmentally acceptable for England and Natural Resources Wales (NRW). After a year of learning about this new design and reviewing information provided by Rolls-Royce SMR Ltd, we've completed the preparatory step of our Generic Design Assessment (GDA) and declared that the company is ready to start Step 2.

Step 2 involves our team of nuclear regulators and scientists scrutinising more information from Rolls-Royce SMR Ltd, identifying issues and highlighting any concerns we have. Step 2 is when the first technical assessment takes place, and we focus on what features and arrangements are in place to protect the environment. This includes looking at how the design can be optimised to reduce the amount of radioactive waste produced and how that waste is managed and disposed of. At regular meetings with the company, we talk through what we've found and make sure the Rolls-Royce engineers understand our expectations.

The UK's nuclear regulators work together, assessing designs at an early stage, before construction begins. Doing it early means we can spot any design issues that might impact on the environment and ask Rolls-Royce SMR Ltd's designers to address them. The Office for Nuclear Regulation (ONR) covers the safety and security whilst we and NRW focus on protection of the environment and radioactive waste.

The regulators have set up a joint programme office to help deliver the GDA and our teams work together in person and virtually as part of a single project. Our communications and engagement with stakeholders are also joined up and we've set up joint webpages to provide information about GDA.

Case Study - Working to reduce pollution from farming

Ensuring clean and plentiful water is one of the biggest challenges we face, and delivering it is one of the biggest gifts we can give to future generations. We are proud of the work we do, which is complex and challenging and requires investment from everyone. It's a priority for us and government - and needs to be for everyone else, too.

Pollution to water comes from many sources, with the main ones being water companies, urban run-off and agriculture. Farming is essential to this country for food production, the economy, and the livelihoods of thousands of people. But to ensure it is sustainable we need to ensure the land and water is protected. Agriculture is the biggest sector we regulate in terms of individual businesses, with around 100,000 businesses covering 70% of the land in England.

New post-Brexit farming policies will incentivise farmers to work with us to enhance watercourses on their land. With Natural England and Defra, we are providing free advice to farmers on how to manage sources of water pollution through the Catchment Sensitive Farming Programme.

In 2022-23, we received a share of national government funding to carry out advice-led regulation on farms to drive improved standards in agriculture and tackle pollution. So far, we've recruited and trained 84 new agricultural regulatory inspection officers to carry out advice-led regulation on farms. They complement our existing land and water officers who already regulate agriculture.

The new officers were recruited mainly from agricultural backgrounds, as the ability to communicate with farmers and an understanding of farm businesses is critical to the team's success in making a difference to the environment. We've seen this through the success of the River Axe project which has helped farmers to operate sustainably, protect and enhance the environment whilst increasing their profitability. The new officers work in assigned river catchments where they engage, inspect, advise and if necessary enforce the Silage, Slurry and Agricultural Fuel Oil regulations and Farming Rules for Water.

EA officers at the River Yarty in Devon

In 2022-23 we undertook 4,815 inspections and requested 6,169 improvement actions on farms, with 2,791 having already been completed. We aim to perform more than 4,000 site inspections per year, checking and advising on regulatory matters, including nutrient, slurry, and manure management; ammonia emission reduction; farm infrastructure and machinery set-up; and pesticide handling.

We focus on high-risk locations, previously non-compliant businesses, and those farming sectors of greatest concern; working with farmers to provide advice and guidance, reflecting individual circumstances, and taking a proportionate approach based on risk to the environment. If advice is not heeded, we will pursue whatever sanctions are necessary – including penalties, formal cautions or prosecutions. We are currently taking enforcement action against 140 farms.

We use farm inspections as part of a range of enforcement measures which can include regular audits, remote sensing, targeted campaigns and permitting approaches to ensure compliance with England's water regulations. The government has also almost doubled the funding available (to £15 million) to help farmers tackle water pollution via the Catchment Sensitive Farming programme – a partnership between Defra, Natural England and ourselves which provides free 1-2-1 advice to farmers to help them reduce pollution through management of farmyard manure and soils.

Green growth and a sustainable future

By 2025, we will achieve cleaner growth by supporting businesses and communities to make good choices, through our roles as a regulator, adviser, operator, and enabler

EA2025
GREEN GROWTH AND A SUSTAINABLE FUTURE

9. We successfully influence planning decisions made by local authorities

This measure contributes to the United Nations Sustainable Development Goal 11: Make cities and human settlements inclusive, safe, resilient, and sustainable (target 11.3).

Primary **Secondary**

11 SUSTAINABLE CITIES AND COMMUNITIES
9 INDUSTRY, INNOVATION AND INFRASTRUCTURE
12 RESPONSIBLE CONSUMPTION AND PRODUCTION
16 PEACE, JUSTICE AND STRONG INSTITUTIONS
17 PARTNERSHIPS FOR THE GOALS

This measure is an indicator of our performance as an influential consultee in the spatial planning system in England. Specifically, it reports on our ability to influence planning application decisions and thereby limit the impact of development and / or achieve environmental improvement.

% of planning decision notices successfully influenced:

Target - 97%
Actual - 96.5% (Amber - performance rating)

The overall performance for the year is slightly below the 97% target and therefore amber.

We raised initial objections to a total of 598 planning applications in 2022-23. In 2022-23 we recorded the decision of 598 planning applications where we'd initially raised an objection, but by engaging with developers, we managed to resolve most concerns facilitating the creation of 24,499 new residential units should all these planning permissions be implemented.

Most planning decisions are in line with our advice. Flood risk is the reason for most objections to planning applications. By working with developers and local planning authorities (LPAs) we resolve many of these objections, but occasionally the LPA doesn't follow our advice. Examination of planning committee reports show that in the decision-making process there is not only a lack of understanding of the mechanics of flooding (which is understandable given the complexities of flood modelling) but government flood risk policies are still on occasions being applied incorrectly. Provision of further advice and guidance and training for both our internal staff and LPA planning officers will help address these issues.

By 2025, we will have cut waste crime and helped develop a circular economy

10. We reduce the number of high-risk illegal waste sites

This measure contributes to the United Nations Sustainability Goal 16: Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable, and inclusive institutions at all levels (target 16.3).

Primary **Secondary**

This measure focuses on our work to reduce the number of active high risk illegal waste sites, thereby reducing the overall risk from these sites on the environment, people and legitimate business. We focus our efforts on the highest risk illegal wastes sites, and continue to use prevention, disruption and enforcement to achieve our outcomes.

Number of high-risk illegal waste sites:

Target – No more than 180
Actual – 175
Performance – 94% (Green - performance rating)

The number of active High Risk Illegal Waste Sites decreased to 175, meaning we ended the year with a 'green' status.

The reported figures are however likely to be an underestimate. Due to ongoing challenges with recruitment and on-boarding of local environmental crime officers, there remains a backlog of reports of illegal waste sites that have yet to be substantiated, therefore the number is likely to be higher than the total currently recorded.

Over recent months new officers have been successfully recruited and will focus on working through the assessments. This is likely to lead to an increase in the number of substantiated high risk illegal waste sites. Recruitment to fill our vacancies continues.

Case Study – Using a range of powers to tackle waste crime

Waste crime costs the economy in England an estimated £1 billion per year – that's the same as the combined starting salary of over 38,000 newly-qualified nurses. We are continuing to work with the police, HMRC and other environmental regulators to catch waste criminals. The amount of waste illegally managed at some point in the waste stream remains at 18% which equates to around 34 million tonnes of waste every year, enough to fill 4 million skips.

By the end of the financial year, we stopped a total of 458 illegal sites. In the same period, we also brought 94 prosecutions against companies and individuals for waste crime offences. This resulted in total fines exceeding £6 million. We want to support the best operators in the waste sector, who create jobs, pay taxes, manage waste in accordance with the rules and ensure the environment is protected from harm.

These are just a few of our successes during 2022-23:

- In January 2023, a prolific waste crime offender was ordered to pay more than £368k under the Proceeds of Crime Act after we pursued confiscation proceedings. This followed the offender being jailed for 3 years in 2021 for undertaking illegal waste activities at two sites in Colne without a permit. Hazardous, large scale, mixed household and commercial waste materials had been deposited at the sites without a permit, causing unacceptable risks to the environment following several significant fires at the site, and numerous complaints from the public.
- In November 2022, we withdrew the waste permit for a Lancashire skip company after evidence that the company was not complying with the set of permit rules that protect the environment and human health. This means that the company are no longer able to conduct any form of waste operations, including accepting or processing waste. Any form of further waste deposit or processing on the site is a criminal offence. As part of the withdrawal of the licence the operator was also required to clear the site of all waste.
- In January 2023, as part of Operations Lyceum and Iris, we linked up with the Joint Unit for Waste Crime and partners including the police, HM Revenue and Customs and the Driver and Vehicle Standards Agency to visit a number of sites across England, cracking down on waste criminals. The proactive operation checked lorries outside waste sites, aiming to stop the movement of misdescribed waste, and prevent it from being incorrectly and unsafely disposed of. Officers spoke with 30 lorry drivers regarding the cargoes they were transporting, and we tested nine lorries for hazardous waste. Police also seized a stolen generator worth £15,000 and flushed out lorry drivers who attempted to evade inspection.

By 2025, we will be on track to deliver our sustainable business commitments, including to be Net Zero carbon organisation by 2030

11. Net Zero carbon by 2030

This measure contributes to the United Nations Sustainable Development Goal 13: Take urgent action to combat climate change and its impacts (target 13.2).

Primary **Secondary**

This measure tracks our ambition to be Net Zero by 2030, by reducing our entire carbon footprint by at least 45% from our 2019-20 baseline and using offsetting to cover off the rest of our emissions. We did not increase our carbon baseline when the government announced a doubling of our flood risk management capital programme a year after we set our Net Zero ambition and target, despite this meaning our construction carbon emissions would be expected to increase substantially as a result in the short to medium term.

We will report on most of our emission sources: including all energy sources used within our occupied buildings and sites; our travel and commuting; and embodied carbon of our fleet, IT, construction, water, waste, hotel stays and other supply chains.

Tonnes of carbon dioxide:

Target – no more than 246,363
Actual – 295,832 (Red - performance rating)
Performance – 120%

At year-end 2022-23 we are at 120% of the annual target, which is as we forecast in Q3 and means our overall status remains red and over target, with our biggest Net Zero carbon footprint impact being the construction category. We are also red for the other indirect category which includes travel and the non-construction elements of our wider supply chain. The rest of the categories however are green and below target.

Construction impact has increased to over 200,000 tonnes and is now 70% of our total carbon footprint compared to the 2019 baseline of 54%. The increased levels of emissions reflect the increased capital programme.

Our cars category changed from red in Q3 to green in Q4. Overall, fleet-badged CO2 emissions have reduced by 1% through 2022-23 and over 200 fully electric vans are in the process of being commissioned.

We have seen a 42% travel increase compared to 2021-22 with each quarter in 2022-23 having an upward trend. There is a significant uptake in rail travel due to more teams meeting face to face again, post-pandemic restrictions, often with the objective of helping new joiners in their induction and training.

The computers category was green.

A new carbon data dashboard in 2023-24 will enable all EA teams (to deputy director level) to visualise their carbon impacts**.** This dashboard will give teams insight into their emissions performance and enable them to build carbon reduction and removal into their future decisions and actions.

Our other direct emissions are green, due to the closure of the Exeter laboratory, and the Covid project coming to an end.

Carbon literacy rates continue to grow in 2022-23. We achieved Gold Carbon Literacy Accreditation from the Carbon Literacy Trust in January 2023. We are the first government body to achieve external accreditation with a total of 6,161 EA colleagues now fully certified. We hope to become “platinum accredited” in 2023-24. Having a carbon literate workforce is helping us in our journey to Net Zero.

Life enhancing organisation

12. We manage our money effectively

This measure contributes to the United Nations Sustainable Development Goal 8: Promote sustained, inclusive, and sustainable economic growth, full and productive employment and decent work for all (target 8.2).

Primary **Secondary**

We manage our assets, including money, to the highest standard. We generate the maximum possible budget for achieving environmental outcomes and achieve best value use of the budget.

Spend to budget:

Target - £1,755m
Actual - £1,747m
Performance – 99.5% (Green - performance rating)

The actual spend reported against the target is our year-end "management accounting" spend figure within the control of budget holders reporting to the Executive Directors' Team. This is different from the gross expenditure reported in the financial statements as it does not include necessary post year-end financial accounting adjustments many of which do not have an impact on spend that is within the scope of the reported budget figure, such as the accrued Defra group corporate service charge.

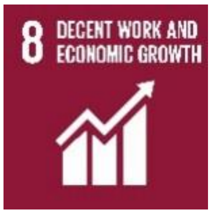
The Environment Agency has invested £1,747 million on the environment in 2022-23, which is around 7% higher than the amount invested in the previous financial year. Investment has accelerated on projects and programmes as planned in the final quarter of the year, with final spend very close to allocated funding in total across resource and capital budgets.

13. We have a diverse workforce

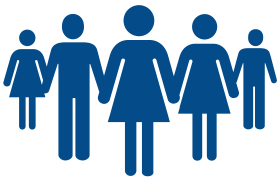
a) The proportion of our staff who are from a Black, Asian and Minority Ethnic (B.A.M.E.) background
b) The proportion of our executive managers who are female

This measure contributes to the United Nations Sustainable Development Goal 10: Reduce inequality within and among countries (target 10.2).

Primary **Secondary**



We have an ambition to be representative of the communities we serve. This measure tracks the diversity of our workforce – focussing on employees from a B.A.M.E background, and females in Executive roles.



% of workforce who are:
(a) from a B.A.M.E. background and
(b) Female Executives

Target - a) 14% b) 50%
Actual - a) 5% (Red - performance rating)
Actual - b) 48% (Amber - performance rating)

In quarter four the proportion of B.A.M.E. employees was 5.3%. This increased from quarter three when it was 5.1%. In quarter four, 7.9% of new recruits were from B.A.M.E backgrounds compared to 6.7% in quarter four 2021-22.

In quarter four, 6% (13) of our 226 leavers were from B.A.M.E backgrounds. This increased from 5% (10) of our 196 leavers in quarter four 2021-22. Half of our B.A.M.E. leavers (54%) completed an exit questionnaire. The main reasons reported for leaving were the same across leavers from B.A.M.E. and white backgrounds: insufficient salary (34%), job dissatisfaction (28%) and desire for a career change (25%).

In quarter four the percentage of Executive Managers (EMs) who are female was 48% (50). The proportion of female EMs has remained static over the past 2 years. The percentage of grade 7 managers who are female was 39% (231), a small increase from 38% (212) from quarter four 2021-22 and so an increase in the internal talent pipeline for women into Executive Manager roles.

Case Study – Summer Diversity Internship Programme

Recognising the business risks of an ageing workforce and the potential loss of critical skills and knowledge through retirement, but also the need for that workforce to represent the communities it serves, the Environment and Business (E&B) Directorate chose to participate in a corporately run Summer Diversity Internship Programme. This was a 12-week paid placement scheme that welcomed 25 students from ethnic minority backgrounds, interested in environment and science, business and communication, or engineering, into the organisation.

The scheme gave the interns an opportunity to find out about the organisation, to help with projects and experience what it feels like to work at our organisation. Their development was supported by subject experts from within the organisation through weekly learning sessions. The scheme also gave our organisation experience of some of the talent, perspectives, and energy we are looking for.

To the benefit of the organisation, many of the interns have secured longer-term or permanent roles at our organisation. Alongside efforts to make E&B's recruitment more inclusive, this scheme helped it to move its ethnic minority representation in the workforce – from 3% to 5% - a small, but important step in the right direction. At the same time, the percentage of E&B's workforce under-30 moved from under 4% to just over 10%.

The focus has now shifted to how we retain and further develop the excellent talent we have attracted from a more diverse pool, and how we build on initial successes with an even bigger and better programme in 2023-24.

Case Study – Celebrating Environment Agency Science

The launch of the Chief Scientist's annual review of 2022, celebrates the great work of scientists across our organisation.

There are over 1,200 members of the science profession in our organisation, with the numbers still rising. Their passion and professionalism ensures we have access to the highest levels of science, evidence and analysis to underpin so much of what we do. Science enables us to deliver effectively and evaluate that delivery. Science also enables us to look ahead at how we might address our longer-term ambitions set out in our five-year action plan (EA2025), and the government's Environmental Improvement Plan.

This annual review is structured around a series of case studies that showcase the role of science and evaluation across our remit.

Among the case studies highlighted in the review are:

- A tool that assesses the risk of radioactive waste disposal on the environment.
- Research to understand the role of the environment in antimicrobial resistance.
- The use of innovative imaging technologies to improve how farmers can reduce their environmental impact.
- Research on flood risk, coastal erosion and impacts of future storm surges.
- An interactive tool to predict future flood risk.
- Developing new datasets to help protect and improve England's rivers.
- Understanding how certain rivers will respond to climate change, including chalk streams.
- Developing new insights to stop waste crime.
- Exploring how England can achieve a clean energy future in a way that maintains a healthy environment and thriving communities.

The review also has a strong people focus, highlighting the work we're doing to attract and develop the current and next generation of scientists. This includes working closely with UK Research Councils to shape and deliver research fellowships, as well as growing our summer work placements for academic interns. We also have an active PhD programme, with students working on a wide range of research areas, from studying antibiotic resistance and persistent chemicals in the environment to analysing satellite data and future rainfall patterns.

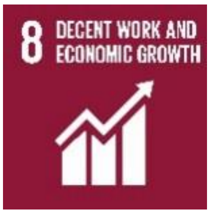
Whilst this annual review focusses on what we've done over the last 12 months, we're always looking to the future to ensure that we have the right people, skills, and knowledge in order to rise to the challenge of meeting our ambitious agenda in the face of continuing environmental change. We recognise that we cannot provide all of this evidence alone, so later this year we will be publishing our longer-term strategic approach to science. This will set out the broad areas of scientific interest to us and highlight our unique scientific capabilities.

14. We have the lowest possible lost time incident frequency rate

This measure contributes to the United Nations Sustainable Development Goal 3: Ensure healthy lives and promote well-being for all at all ages (target 3.4).

Primary

Secondary



Keeping our workforce safe is of paramount importance to us. Tracking lost time incidents' is an effective measure of whether we are achieving this aim. Lost time incident frequency rate (LTIFR) is a universally accepted indicator of health and safety performance. We define lost time incidents as work related injuries resulting in a day or more lost time.

Lost Time Incident Frequency Rates (LTIFR) per 100,000 hours worked:
Target – No more than 0.11
Actual – 0.10
Performance – 91% (Green - performance rating)

Lost Time Incident Frequency Rate (LTIFR) is a universally accepted indicator of health and safety performance. This conservative definition, plus a very low ceiling of 0.11 injuries per 100,000 hours worked, sets a challenging ambition.

Whilst the lost time injury frequency rate remains below our ceiling, it has increased in the last two quarters. It is not unusual to see a slight increase in seasonal injuries (such as slips in icy conditions). However, beyond this there are no causal trends in the data. We continue to monitor the measure to check that our risk controls remain effective.

The Government Strategic Framework and Defra Outcome Delivery Plan

Our vision is set by EA2025, the Defra group outcome framework and the government's Environmental Improvement Plan (EIP). We are here to make our air purer, our land greener, our water cleaner and our food more sustainable. Our mission is to restore and enhance the environment for the next generation, leaving it in a better state than we found it.

We will pursue delivery of the Environment Act (November 2021) which provides a post EU exit framework to improve and protect the environment. It includes new statutory environmental targets (set out in December 2022) and a range of planning provisions, including notably the mandatory requirement for new developments to provide a 10% biodiversity net gain and statutory environmental targets. Going forward, this work will be guided by the new targets and the Environment Improvement Plan that was launched in January 2023.

We will continue to seek to work effectively and efficiently, ensuring that we have the right people, skills, and structures in place to deliver our new and existing priorities with the best value for money for the public.

Outcome Delivery Plan

All government departments are asked by the Cabinet Office and HM Treasury to produce two versions of their Outcome Delivery Plan (ODP); an internal facing ODP and a public ODP. These plans are refreshed annually and cover the duration of the current spending review period. However, on 17 November 2022, the Chancellor of the Exchequer delivered the Autumn Statement and the Government agreed that departments would not be required to publish ODPs for 2022-23 but to concentrate on the production of ODPs for 2023-24. As a consequence, this section is structured around the four priority outcomes and associated key performance indicators that were agreed with HM Treasury in the Defra group Spending Review 2021 (SR21) settlement.

These priority outcomes are underpinned by sub-outcomes which defined what success would look like. We have a crucial role to play in helping to deliver priority outcomes as set out in the Defra group ODP. Key metrics have been agreed with Defra to show our contribution to the delivery of this plan. The priorities and sub priorities that we support and associated ODP metrics are set out below. The performance measures tracking delivery of these priorities are set out in the performance measures section of this report and in Appendix C.

Priority outcome 1: Environment

Improve the environment through cleaner air and water, minimised waste, and thriving plants and terrestrial and marine wildlife.

Sub-outcomes supported by EA

1.1 Clean air.
1.2 Clean and plentiful water ODP METRIC: Number of kilometres of enhanced and protected water environment.
1.3 Minimised waste ODP METRIC: Number of high-risk illegal waste sites.
1.4 Reversed biodiversity loss.
1.5 Improved access to nature.
1.6 Healthy and sustainable oceans and seas.
1.7 Managed exposure to chemicals.
1.8 Thriving rural economies and communities.
1.9 Strengthened environmental leadership and governance.

Priority outcome 2: Net Zero for natural resources sectors

Reduce greenhouse gas emissions and increase carbon storage in the agricultural, waste, peat and tree planting sectors to help deliver Net Zero.

Sub-outcomes supported by EA

2.1 Restored peatland and wetland habitats.

Priority outcome 3: Flood risk management, resilience and climate adaptation

Reduce the likelihood and impact of flooding and coastal erosion on people, businesses, communities and the environment.

Sub-outcomes supported by EA

3.1 Reduced likelihood and impact of flooding and coastal erosion ODP metrics: Number of properties better protected from flooding in England and percentage of high consequence flood defence assets at required condition.
3.2 Improved preparedness for the risk and opportunities from a changing climate.
3.3 Rapid response to flooding, drought and other water supply incidents and a safe recovery from Chemical, Biological, Radiological and Nuclear (CBRN) incidents ODP metrics: Proportion of incident staff utilised in core incident roles.

Sustainability in the Environment Agency

Sustainability lies at the heart of our work. We aim to carry out our own activities as sustainably as possible and encourage our partners to do the same. We aspire to operate in a low carbon, nature rich, circular and equitable way, as a credible and trusted employer, operator and regulator. We do our best to collaborate and share sustainability learning regularly with our suppliers and partners.

In 2015 the EA adopted the United Nations Sustainable Development Goals. In 2018 we committed to helping to deliver sustainable development across the country, under the Government's 25-year environment plan, which now forms the Environmental Improvement Plan.[9] The EA's sustainability ambitions form a key goal (Aim 9) of our current business plan.

Our sustainability data is included in Appendix B. This Appendix gives an overview of our key sustainability measures: including greenhouse gas emissions, water and waste. This reporting is required to be 'fair, balanced and understandable' therefore it includes data for the past three years, to give a transparent view of our performance.

Our sustainability reporting and governance arrangements continue to mature. In 2022-23 we started to produce bi-annual sustainability reports for the EA Board's Audit and Risk Assurance Committee (ARAC). We also established a new, cross-cutting, pan-organisational sustainability portfolio group, to oversight the development and delivery of the EA's sustainability plan, including our organisational environmental compliance obligations.

In 2021 we developed a comprehensive roadmap to enable the EA to deliver a 45% reduction in our emissions by 2030.[10] This roadmap includes approximately 90 actions, assigned at Director level. We have been assessing our supply chain impacts since 2015 and in 2022-23 we expanded the carbon reduction reporting on our corporate scorecard to include these 'scope 3' emissions. In 2023-24 we will set a total organisational carbon budget (including scopes 1, 2 and 3 emissions) for the first time.

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[9] Environmental Improvement Plan 2023 - GOV.UK (www.gov.uk)
[10] Environment Agency: reaching net zero by 2030 - GOV.UK (www.gov.uk)

We have been working with the Carbon Literacy Trust for several years, to develop and rollout our own carbon literacy training modules. In 2022-23 we became the first government organisation to become a gold accredited, carbon literate organisation. Nearly 7,000 members of EA staff voluntarily completed training to help them to understand their own carbon footprints at work and home, as well as the footprint of the wider organisation. A similar nature literacy learning package is now in development, for launch in 2023-24.

As part of our ambition to move towards a fully circular approach, in 2022-23 we commissioned an innovative project to establish our organisational resource footprint. This study will report back in 2023-24 and will baseline the whole life impacts of the purchases which we make and help us to identify the materials which carry the highest economic, environmental, social and business risk, including scarcity and supply chain resilience.

UN Sustainable Development Goals

The UN has developed 17 goals 'to transform our world, end poverty, protect the planet and ensure prosperity for all'. The UN Sustainable Development Goals (SDGs) align with the Environment Agency's core aims 'to create better places for people and wildlife and to support sustainable development'.

Our approach to benefits management integrates SDG targets of most relevance to our work, enabling us to take advantage of the common language between us and potential partners, to maximise the value of our investments. By adopting a target-level SDG framework, we are building up quantitative and qualitative evidence on the contribution of our investment programme to wider environmental and social value.

All projects are required to report on the 'given' aim of reducing risk to life, plus targets to address resources, nature, climate, health and wellbeing. The framework recognises the interconnectivity of the targets and the importance of our efforts in addressing community and environmental needs. For flood risk management, for example, we have developed a set of mandatory and optional targets, which project teams can use to support wider stakeholder engagement. We also recognise that one action can (and should) contribute to several targets.

The SDGs are a tool and an opportunity to help us to reframe our thinking at the earliest stages of a potential project. Engaging partners can help us to do more whilst addressing a primary issue for us such as flood risk. Having credible evidence helps us to improve our choices and tell a better story to help deliver future investments.

For more information on the SDGs please see the United Nations website giving more details on the 17 goals.[11]

In our performance report, we link the SDGs to each of our reported performance measures. For each of our performance measures, we have presented the most significant SDG applicable (primary) alongside other goals that it also meets (secondary).

Net Zero by 2030

Delivery against our organisational Net Zero roadmap the plan has been integrated into organisational governance and progress against roadmap actions is tracked quarterly. The effect of the actions has been tracked publicly by moving total carbon all of what are known as Scope 1, 2 and 3 emissions onto the Environment Agency's public facing corporate scorecard.

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[11] https://www.un.org/sustainabledevelopment

Our primary focus is on focusing our reducing our carbon emissions, but we need to progress the "net" part of the Net Zero equation to look at how we will deliver the necessary carbon absorption to balance our remaining emissions. We are pursuing a UK, nature-based approach. We want to use our existing estate wherever we can and make the most of existing habitat creation projects and flood risk management schemes by enhancing them to deliver carbon absorbing habitat. We have a pipeline of potential projects which have been assessed for deliverability and cost. We have been working through the detail of how we will unlock the necessary investment to deliver these nature-based projects. We know the investment requirements will be significant, but we also know that these projects will deliver multiple benefits over and above carbon absorption, such as improved water quality and reduced flood risk.

Linked to our organisational Net Zero goal we have established our organisational resource consumption footprint. Understanding our footprint and hot spots has allowed us to target over-consumption or particularly impactful consumption that links into our Net Zero delivery ambition.

Finally, we have developed carbon budgets for our teams such that we begin to treat carbon like money. We will use these budgets to make carbon an integral part of our decision-making process with our carbon budgets aligned to our science-based Net Zero target. To assess carbon "spend" against the carbon budgets we have developed a digital carbon dashboard to show spend on carbon down to departmental level.

Sustainable construction

Most of our carbon emissions come from our construction of flood defences. Reducing these emissions will pose a huge challenge. It does not mean we will stop building flood defences to help protect homes and businesses. It does mean we will need to do things differently.

Since 2021, we have been using the lowest carbon concrete in our flood defences that meets our performance requirements, as well as piloting other low-carbon approaches. The carbon in our construction activities is assessed and reported in line with the industry best practice as defined by the Infrastructure and Projects Authority. We work with partners, suppliers, stakeholders, the wider construction industry, and other sectors to encourage others to do the same. Further information can be found in our Net Zero plan.[12]

Consumer Single Use Plastics

The Environment Agency has a 10 point plan to reduce single use plastics. A particular focus has been to address operational issues such as sampling and laboratory equipment. In 2020, we banned the use of catering single use plastic and plastic catering equipment across all Environment Agency sites provided by Defra group. We do not have a further update on this work since 2020.

Natural capital

'Natural capital' refers to the elements of the natural environment that directly or indirectly produce value for society. For example, water, air, soil, habitats and species. A natural capital approach gives us a way of identifying and valuing the benefits we gain from nature (such as food, clean water, recreation, flood mitigation and carbon sequestration) allowing us to better take the natural environment into account during decision making.

We use the natural capital approach, recognising that nature is an asset that we should invest in and manage, to enhance the environment. This approach is helping us to deliver our wider goals and provide more benefits for people and the environment – creating climate resilient places, thriving wildlife, improving people's health and wellbeing, and supporting a sustainable and resilient economy.

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[12] Environment Agency: reaching net zero by 2030.

We are fortunate to have a large stock of natural capital assets across our estate which comprises 17,910 hectares of coastal plains, river corridors, farmland, woodlands and wetlands. These habitats provide a range of benefits: as well as mitigating flood risk they also regulate the climate by sequestering carbon, removing air pollutants, purifying water, and providing opportunities for recreation which supports the physical and mental health of local communities.

We are at the forefront of developing evidence, tools and metrics that enable us and our partners to take a natural capital approach. Valuing the benefits and identifying beneficiaries promotes better stewardship, prompts nature-based solutions and leverages investment in the environment. By using a natural capital approach, the Environment Agency can deliver more benefits for people and the environment, in turn creating climate resilient places, thriving wildlife, improving people’s health and wellbeing, and supporting a sustainable and resilient economy.

We have developed a Natural Capital Register and Account Tool which we have used to quantify the flows of services from the environment and estimate an economic value for the benefits derived from its estate. This value represents the longer-term benefits for people from protecting and improving the environment. Using the Natural Capital Register and Account Tool we can estimate that the ecosystem services provided by our estate’s natural capital are worth £15.7 million to society each year. The analysis focuses on seven services and benefits: agricultural production, timber, air quality, climate regulation, flood mitigation, recreation and physical health. The natural capital within our estate makes a vital contribution to the delivery of our eMission Nature Positive commitments by sequestering over 14,000 tonnes of carbon each year.

Building capacity to take a natural capital approach

We are developing evidence, tools and metrics that enable us and our partners to take a natural capital approach.

We are investing in improving the natural capital evidence base through the Natural Capital and Ecosystem Assessment Programme. NCEA is a comprehensive and long-term Defra evidence programme designed to collect data on the extent, condition and change over time of England’s natural capital assets, the benefits they provide society and the pressures acting on them. We are leading on the water elements of the terrestrial NCEA programme to support landscape-scale decision and policy-making to support the government’s ambition to improve the environment, benefit people’s health and wellbeing and support a sustainable economy.

We have developed new guidance to help colleagues assess the impacts of FCERM projects on the natural and historic environment for use in economic appraisal. The Environment and Historic Environment Outcomes Valuation Guidance (EHOV) describes, quantifies and values the impacts of FCERM projects on sites of historic interest and the natural environment enabling the wider benefits of natural flood management options (such as contribution to Net Zero, access and amenity) to be valued in options appraisal.

Working with Ofwat, we have for the first time issued guidance to water companies to use a natural capital approach in how they assess investment options through the Water Industry National Environment Programme (WINEP). WINEP is the most important and substantial programme of environmental investment in England; for 2020 to 2025 it consisted of £5.2 billion of asset investigations, improvements and catchment interventions. By providing tailored natural capital evidence, metrics and capacity building we are supporting water companies to adopt this innovative approach in their options appraisals.

Taking a natural capital approach enables the value of the services and benefits nature provides to be more clearly taken into account in decision-making. By recognising the value of natural assets, water companies can identify investment options to better protect their own assets whilst effectively delivering against Net Zero emission targets, reducing flood risk, enhancing nature and providing access for recreation, delivering more for people.

Embedding a natural capital approach in national policy and guidance is a new way of working – it's one that is starting to transform how we invest to protect and enhance the natural environment that we all rely on.

Agriculture and the rural environment

Through regulation of agriculture, managing and improving habitats and biodiversity and creating and maintaining flood defences and alleviation schemes, much of our work affects the rural environment.

With a funding settlement of £11.2 million for work on agriculture for 2022-23, we have been able to increase our regulation of the sector whilst making a growing contribution to policy planning and the development of new ways of working.

Regulation

We have met our government target of carrying out 4,000 farm inspections in the 2022-23 year.

The new funding for this in SR21 has enabled a ten-fold increase in inspections over the past three years. We target inspections in areas where evidence shows that water quality in our rivers needs to improve.

- We found 1,536 farms to be non-compliant with agriculture regulations.
- We issued 5,402 improvement actions to bring farms into compliance, with 2,863 complete by the end of the financial year.
- The most common areas where we identified improvement actions included: silage clamps; slurry storage; soil testing; clean and dirty water separation.
- We started enforcement action against 144 farms in 2022-23 and we take enforcement action where a farm has caused significant pollution or is refusing to comply with legislation.
- Our agriculture regulation inspection officers are supported by a remote sensing team who use a range of digital techniques to carry out virtual inspections of agricultural land and river catchments.
- In April 2023 following a joint investigation with Natural England our first prosecution under the Farming Rules for Water led to the imposition of a 12-month prison sentence and restoration order requiring damage done to a Site of Special Scientific Interest on the river Lugg to be repaired by the guilty party.

We regulate intensive farms using environmental permits. This year we:

- Completed a ground-breaking review of pig and poultry permits to ensure farms are using the latest techniques, saving farmers significant time and costs.
- Reduced our inspections at good performing sites, saving the pig and poultry sector more than £1 million per annum in subsistence fees through our Pig and Poultry Assurance Scheme.
- Maintained oversight of supply chain issues and animal diseases to help farmers deal with the associated environmental risks, taking a flexible regulatory approach where necessary.
- Worked closely with dairy and intensive beef trade bodies to collate evidence to support Defra's policy proposal to extend environmental permitting.

Our regulation creates a level playing field for all farm businesses to compete on and over time this will see our rivers and waterways improve as habitats.

Policy and future planning

Whilst regulation is a core element of our business, we are also increasingly involved in planning for the future and how we can better manage and maintain our rural environment. We do this in a number of ways:

- Firstly, engagement with local stakeholders, action groups and industry and business. We have a team working on engagement with agri-businesses to improve environmental performance in the sector through market-led approaches and assurance schemes.

- Secondly, working with and advising Defra and other arms-length bodies on the development of new policy and plans. For example, to create and administer environmental land management schemes replacing subsidy schemes from the EU. These
    - Aim to provide public money for public goods, requiring farmers to take actions that enhance the environment on their land.
    - Range from creating buffer strips around field margins to reduce farmed soil run-off into the watercourse and provide habitat, through to plans for river and flood plain enhancement and peatland restoration.
- We are the delivery body for Defra's Landscape Recovery scheme, currently supporting 11 river and steam restoration projects in round 1 of a pilot study.

Green Information and Communications Technology (ICT)

As a part of the Defra group, we have adopted the Greening Government Information Communication Technology (ICT) and Digital Services Strategy (2020-2025). Under the strategy Defra reports the greenhouse gas (GHG) and power consumption for the Defra group ICT, a full breakdown of waste, using the waste hierarchy, including value retained and charitable donations, strategy statements and results. More information can be found in the Greening Government ICT and Digital Services annual reports.[13]

The Sustainable Technology Advice and Reporting team for government is led by Defra.

Regulating for People, Environment and Growth (RPEG) 2021

RPEG is an annual report on the environmental performance of regulated businesses in England and the work we do to regulate them. It provides information about emissions from the businesses we regulate; the number of serious pollution incidents and sectors responsible; compliance with environmental permits; how we support the businesses we regulate and the enforcement action we take when a business does not comply.

The main points that go beyond the corporate scorecard measure recording are:

Our approach to regulation
Most of the industrial sites we regulate continue to be well run. Based on a five-year moving average, the percentage of permits in the top compliance bands, A, B and C, has remained at 97% since 2013

A nation resilient to climate change
Since 2017, through reviewing, changing, and revoking abstraction licences, we have removed the risk of the potential abstraction of 1.7 trillion litres of water from the environment. This is equivalent to supplying a city the size of London with water for 2 years.

Healthy air, land, and water
In 2021, a record 99% of bathing waters in England met or exceeded the minimum quality standard. Over 70% achieved an excellent standard. This compares with 98% passing the required standards in 2019 and is the highest number since new standards were introduced in 2015.

Green growth and a sustainable future
In 2021, we inspected 1,390 containers of waste which, combined with our regulatory intervention at waste sites, prevented the illegal export of more than 19,000 tonnes of waste.

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[13] https://www.gov.uk/government/collections/ict-strategy-resources#greening-government-ict

Review of Financial Performance and Funding

Our audited financial statements show total gross expenditure for the year ended 31 March 2023 was £1,897 million, slightly lower than the £1,910 million in the previous year. Of our total funding, 72% (2021-22 – 71%) came in the form of funding from Defra. The other 28% (prior year 29%) largely came from fees and charges. Figures 1 and 2 provide more information on the make-up of total gross expenditure.

Net expenditure for the year after deducting income was £1,402 million (2021-22 - £1,444 million).

Income

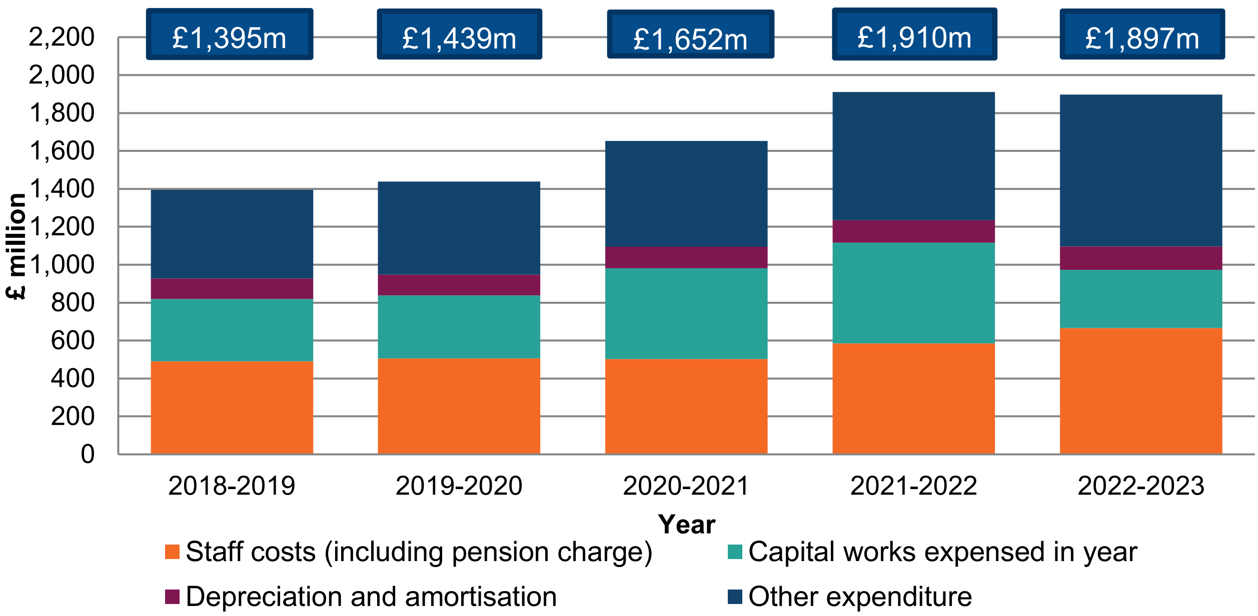
As detailed in Note 6 of the financial statements, our water resources income increased substantially (40%) following a revision to our abstraction subsistence charges. We also had a 6% decrease in flood risk management revenue from contracts with customers mainly due to reductions in recognised flood risk levies and a 5% decrease in our waste income which is mainly related to reductions in application type income.

In 2022-23, we continued our good income collection performance with 97% of billed income collected within the financial year, and 99% of the income billed during the prior year being collected. We managed this even with £163 million of Water Resources Abstraction income only being billed in November 2022 due to charge updates and new billing systems.

Expenditure

Our expenditure decreased slightly from the prior year, slightly dipping below the multi-year trend that we expect to return to driven mainly by capital investment. As detailed in note 10 of the financial statements our asset impairment expenditure reduced substantially.

Figure 1: Five-year summary of our expenditure as reported in the financial statements



More detail on staff costs, capital works expensed in year (CWEIY) and other expenditure is provided in the financial statements in notes 3, 4 and 5 respectively.

Expenditure classified as CWEIY has decreased this year to £306.5 million (2021-22 - £531.1 million) whereas other expenditure has increased to £800.0 million (2021-22 - £676.3 million), reflecting a change made in 2022-23 in how we are required to classify our FCERM programme spend, as directed by HM Treasury. The review of CWEIY expenditure as part of this change also identified some spend that should have been treated as assets under construction.

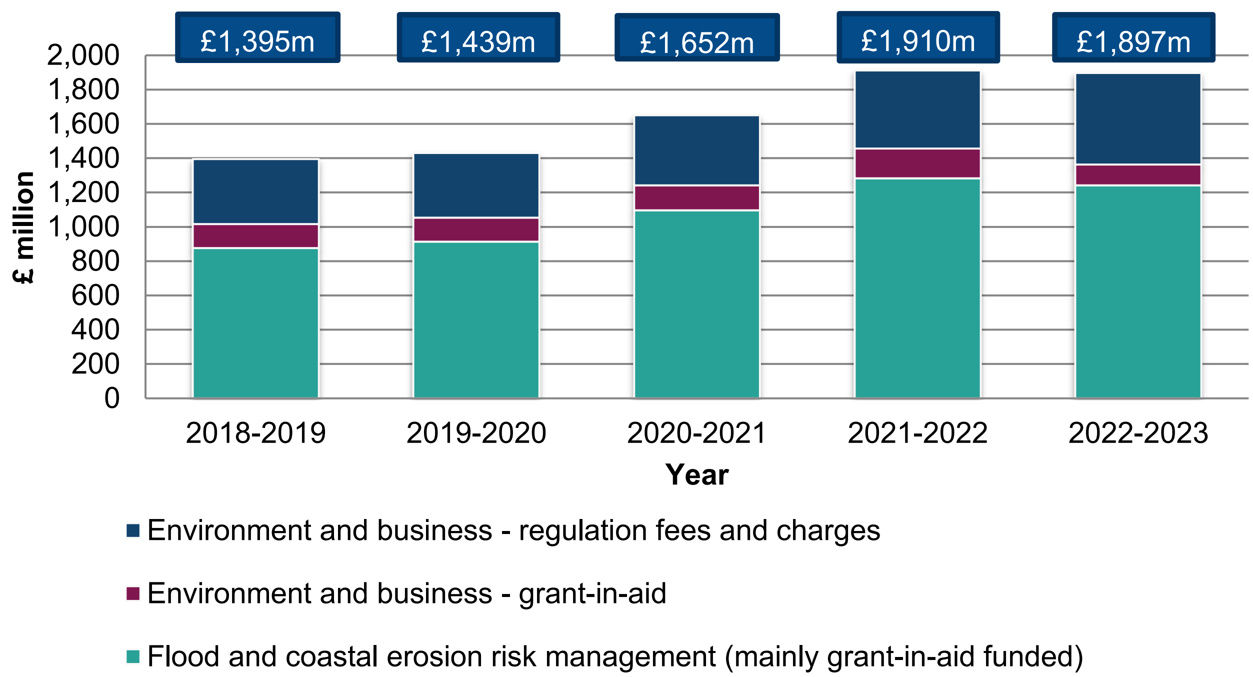
Our expenditure by funding stream is shown in Figure 2, which represents total resource and capital funded CWEIY expenditure. Resource funding pays for recurring operating expenditure and capital funding pays for expenditure from which longer-term benefits are expected to accrue. Capital funding covers our CWEIY expenditure, asset purchases and additions to assets under construction (AUC). This accounting distinction matters greatly for us, and we face challenges to our funding model as a result of recent developments in how we are required to account for project spend and the degree to which grant-in-aid funding has been amended as a result of these developments.

We spent £234 million on asset purchases and additions to assets under construction in 2022-23. The breakdown can be seen in note 7 of the accounts. Assets under construction is where we hold construction costs of assets which take longer than 1 year to construct and so will include major flood alleviation schemes and other specialist asset complexes. The main AUC projects this year were on works to the Boston barrier flood gate and works as part of the Thames Estuary 2100 plan to manage the risk of increasing flooding on the Thames.

Environment and Business comprises water, land and biodiversity, and regulated industry business areas and is split between fees and charges and grant-in-aid funded work. Further details on fees and charges can be found in table 22 in the Parliamentary Accountability and Audit report.

The government makes decisions about Defra funding through HM Treasury's Spending Review process and a proportion of this funding is then allocated to us by Defra each year. The 2021 Spending Review set resource and capital budgets for three financial years from 2022-23. We receive adjustments to our grant-in-aid funding each year as part of the Defra group planning process.

Figure 2: Expenditure by funding stream



Grant-in-aid has increased for environment and business and flood and coastal erosion risk management (FCERM) over the past five years. There were significant reductions in the previous six-year period, however, particularly in un-ringfenced environment and business resource funding, and overall environment and business grant-in-aid has only increased back up to a comparable figure to 2016-17 funding.

The Parliamentary Accountability and Audit report details the activities funded by fees and charges and grant-in-aid.

Balance sheet overview

The Statement of Financial Position has significantly strengthened compared to the prior year, as a result of the implementation of a depreciated replacement cost valuation for operational assets at 31 March 2023. The net book value of operational assets increased by £6.6 billion compared to 31 March 2022. The impact of the change in valuation approach will be a permanent increase.

In addition, the Environment Agency Pension Fund's reported position, which is consolidated in our financial statements, has improved with an approximately £1 billion swing from a net liability to a net asset. This is expected to be a temporary position, reflecting movements in the discount rate used to value liabilities, based on bond yields.

The pension fund is in a strong position, with assets representing 103% of liabilities, which reflects the benefit of many years of a prudent and stable long-term approach to employer contribution rates, as well as excellent investment returns. The fund is in a stronger balance sheet position than many peer local government pension scheme funds, which means the Agency's contribution rate is lower than many peer organisations.

Non-current assets

Non-current assets, excluding operational assets, increased in value by £308 million compared to 31 March 2022. With the implementation of the Depreciated Replacement Cost (DRC) valuation as at 31 March 2023, the net book value of operational assets increased from £2,876.8 million to £9,545.1 million.

The increase includes investment in capital assets, such as major flood risk alleviation schemes and revaluation, both net of disposals, depreciation, and impairment. Revaluation and indexation has been relatively large this year at £0.4 billion due to a significant rise in the indices used to revalue structures included in operational assets which are linked to market prices of construction materials such as metal and concrete. The reported value of our non-current asset base as at 31 March 2023 was £4.3 billion before the application of DRC and £10.9 billion after.

This is also because the pension fund was in surplus as at 31 March 2023, with a value of £503.4 million (2021-22 – £654.7 million liability).

We are required to carry out an independent five-yearly revaluation of our freehold land and buildings, including dwellings. A full revaluation was carried out by RICS qualified external chartered surveyors in March 2021. We are moving to a rolling programme for the revaluation with the intention that 20% of the number of assets is revalued each year. As we did not begin the rolling programme last year, slightly more have been revalued by 31 March 2023, and we have used indices to revalue remaining assets to 31 March 2023 values.

Project accounting

Capital works expensed in year (CWEIY)

Capital works expensed in year (CWEIY) is a long-standing accounting concept, whereby expenditure of a capital nature which cannot be directly attributed to an Environment Agency controlled fixed asset, is treated as an annual expenditure item in the accounts but is funded from our capital budget (whereas assets under construction reflects expenditure that can be directly attributed to an Environment Agency controlled asset).

As part of our ongoing work to improve our project accounting, we engaged an accounting firm to review a material portion of our 2022-23 CWEIY expenditure to ensure that it complies with both the budgetary agreement we have with HM Treasury and with financial accounting standards. This work has confirmed, as reflected in the audit opinion, that expenditure recognised in CWEIY and in year expenditure in AUC is regular capital expenditure.

Assets under construction

There was a management-imposed limitation on the 2021-22 asset under construction balance and this is also the case in 2022-23, resulting in a qualified audit opinion on the asset value.

We recognised during the 2021-22 audit that in the context of having c2,000 projects it would be logistically impossible in the time available to rework the project accounting on all projects in a manner to enable the NAO to successfully complete all their testing on sampled projects. The results of internal reviews in preparation for the 2022-23 audit indicated a very high likelihood remained of the NAO raising a qualification over the reported amounts for assets under construction and costs capitalised in year. Therefore, we deemed it would be extremely poor use of taxpayers' money to invest time seeking to enable the NAO to complete testing in this area. We therefore reluctantly chose to limit the scope of the NAO's audit in this area for practical and value for money reasons. However, during 2023-24 we have engaged with an audit firm to assist with reviewing the historic balance and put in place improved controls and review processes for new expenditure. This work is expected to be completed ahead of the 2023-24 audit. As noted above, positive progress was made during 2022-23, with in year capital expenditure of £234m being audited by the NAO and confirmed as regular capital expenditure. The scope of the NAO's qualification has therefore reduced.

Going concern

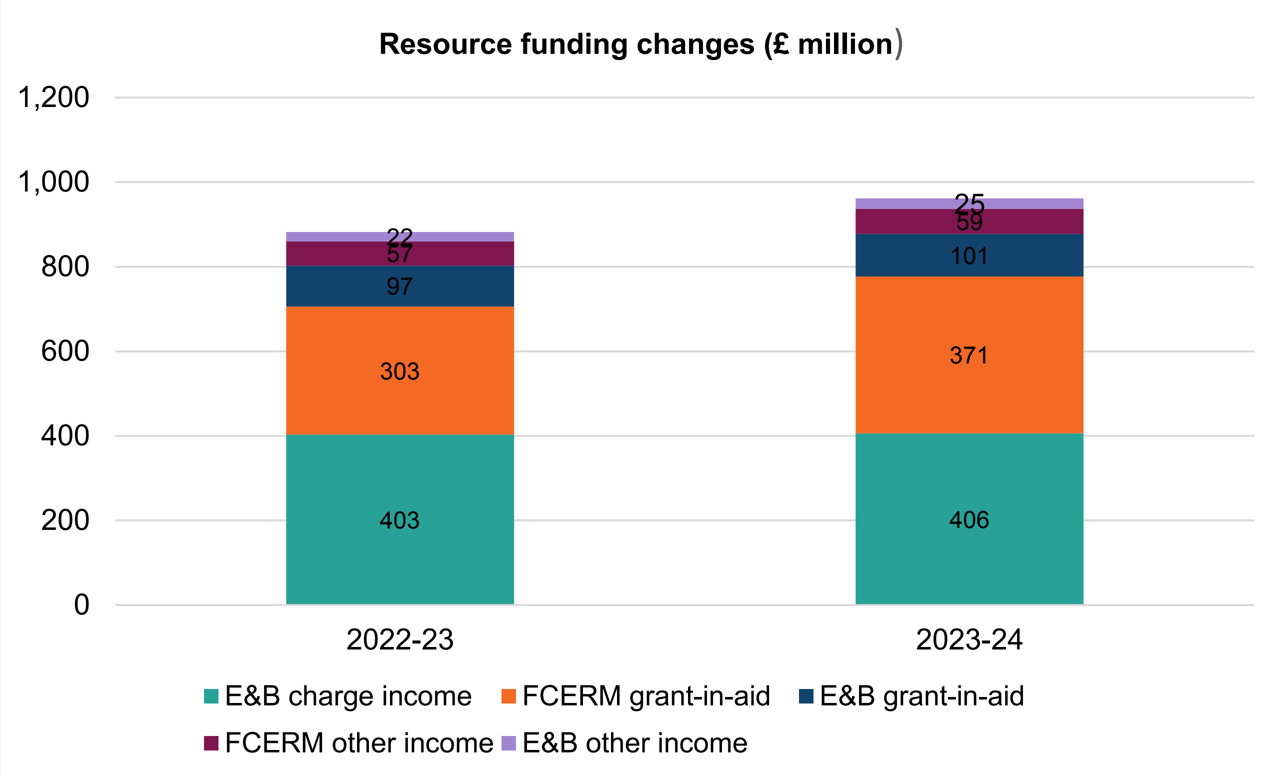
The Environment Agency is a going concern under the continued provision of service basis from the government's Financial Reporting Manual. That is there is no change to the service the Environment Agency is expected to deliver under relevant legislation and no expected changes to that legislation.

The statement of financial position as at 31 March 2023 shows taxpayers' equity of £10.5 billion (31 March 2022, £2.5 billion). The increase is largely due to a decrease in our pension fund liability and the effect of the implementation of DRC.

The future funding for our liabilities will be primarily grant-in-aid from Defra and other income, mainly from fees and charges. Parliament approves the grant-in-aid funding annually. The fees and charges are statutory and recurring, with the risk of reduced income arising if there is a substantial reduction in economic activity in sectors we regulate.

In 2023-24, 73% of overall funding is from grant-in-aid and 27% is from other income, based on our opening budgets. Resource funding and changes therein are the most pertinent in a going concern review and so this is presented below, in a manner to enable a meaningful consideration of segmental going concern.

Figure 3: Changes in expected funding



We have received approval for our grant-in-aid resource funding for 2023-24. Our funding for the following year has been agreed as part of the government's comprehensive 2021 Spending Review.

The Chancellor of the Exchequer on 11 March 2020 announced a government long term commitment to our flood and coastal erosion risk management capital expenditure budget for the six years commencing 2021-22, amounting to £5.2 billion.

We expect billed income collection to remain strong with in the region of 97% of the income billed in 2023-24 expected to be collected during that year. While remaining prudent with our assumptions on levels of bad debt, we do not currently have concerns that any increases to bad debt will have a material impact on our status as a going concern.

We have the same prudent view on bad debt within our budget allocations and will manage our spend through 2023-24 based on our income collection and bad debt experience. We have therefore, based on all these considerations, prepared the financial statements on a going concern basis.

Climate-related Financial Disclosures

Climate change is fundamental to what we do, our staff play a pivotal role in preparing communities and the environment for a changing climate. The risks climate poses to our delivery and the changes we need to make to transition to a Net Zero organisation mean that we must think differently – 'business as usual' is not an option. The maturity of our approach means that information relating to climate change can be found throughout our Corporate Reporting.

The Environment Agency is England's statutory environmental regulator and has vital roles on climate change in both statutory and corporate contexts.

In a statutory context, we:

- Integrate climate adaptation into the delivery of our wider statutory and non-statutory duties, for example to ensure that flood risk management and water management activities account for the effect of climate change. This means that we play an important role in delivering national climate resilience through our work on flood and coastal risks, water and nature.
- Have a regulatory role in reducing greenhouse gas emissions and improving energy efficiency through the industries we regulate, including as the administrator of the UK Emissions Trading System and of the quota system for fluorinated gases and ozone depleting substances. We regulate many producers of renewable energy through our environmental protection duties (e.g. hydropower plants).

In a corporate context, relating to our institutional functions:

- We ensure that our corporate operations adapt to climate impacts (for example, our estates and supply chains) in line with Greening Government Commitments[14] and Defra's Sustainability Strategy.
- We have committed to reducing our own carbon footprint to Net Zero by 2030.[15]

Adoption of climate-related financial disclosures

Companies and limited liability partnerships (LLPs) are required to make climate-related financial disclosures under the Companies (Strategic Report) (Climate-related Financial Disclosure) Regulations 2022 and the Limited Liability Partnerships (Climate-related Financial Disclosure) Regulations 2022. Climate-related Financial Disclosures originate from the Taskforce for Climate-related Financial Disclosure (TCFD). We are not yet required to follow the TCFD by law, although there are plans for public sector implementation in the next couple of years. Choosing to have Climate-related Financial Disclosures will help our own governance, risk management and decision-making activity and builds on our culture as a learning organisation.

TCFD is important for the Environment Agency as it is an opportunity to examine our climate risks, transitional and physical, and to test out response to those risks. We fully support TCFD and are committed to ensuring that our climate change disclosures align with TCFD recommendations.

Our approach to TCFD is developing each year and although we believe that our approach is consistent with 10 of the 11 TCFD recommendations and we will continue to work on the strategy element - the impact of climate-related risks and opportunities on the organisation's businesses, strategy, and financial planning. This is specifically around our work transitioning to Net Zero and the quantification of future financial impacts.

Governance

A: Describe the board's oversight of climate-related risks and opportunities

The Environment Agency Board is directly accountable to ministers for all aspects of the organisation and its performance. This includes the approval of short and long-term strategy, and the key strategies are mentioned throughout this climate-related disclosure section.

The Board has oversight of our climate related-risks and opportunities through:

Corporate risk register (Quarterly)

The climate emergency is in our corporate risk register with separate lines on:

- Physical risks to delivering our corporate objectives and statutory duties.
- Risks to delivering our net-zero roadmap.

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[14] Greening Government Commitments 2021 to 2025 - GOV.UK (www.gov.uk)

[15] Environment Agency: reaching net zero by 2030 - GOV.UK (www.gov.uk)

Corporate scorecard (Quarterly)
Separate measures on:

- Progress on delivering our Net Zero Roadmap.
- Progress on delivering of our Climate Impact Plan.

Section 6 of the Governance Statement sets out the consideration of material issues. Climate change is considered a key material issue and was a prominent theme of the January 2023 Audit and Risk Assurance Committee annual material issues review. Of the 11 highest scoring material issues climate change (Net Zero and adaptation) remains in the top three. The Committee will be using the material issues to inform their oversight of the organisation's corporate risks as part of a programme of deep-dive sessions in late 2023. The material issues are reviewed and tracked on an annual basis.

B: Describe management's role in assessing and managing risks and opportunities
The Environment Agency incorporates climate risk management into its governance arrangements, so that individual Directors are accountable for managing their own adaptation and mitigation risks.

Where our statutory duties require us to assess and manage climate risks (for example, in delivering our flood and coastal risk management duties), then management responsibilities are discharged in accordance with the Environment Agency's Financial and Non-financial Schemes of Delegation.

The Environment Agency is periodically directed to report to ministers on its adaptation risks and plans under the Climate Change Act. Our most recent report[16] contains a comprehensive analysis of our climate risks and our adaptation strategy to manage them, drawing on assessments and plans developed under our statutory duties where relevant. The report and its constituent risk assessment and adaptation strategy were approved by the Executive Directors' Team (EDT). We anticipate that ministers will ask us to update our report in 2024.

All Executive Directors are responsible for effective management of their relevant components of climate risks and opportunities and full integration with strategy and performance, however the Chief Operating Officer (COO) is the accountable lead on the EDT.

Currently, several Directors have accountability for different aspects of climate change, reflecting the nature of our organisation. Our Climate Ambition is to create a Net Zero nation, resilient to climate change. This is illustrated in Figure 4, below: the Chief Operating Officer (COO) is accountable for the 'walking the walk' segment and the Environment and Business Executive Director is accountable for two external facing segments. The Executive Director of Flood and Coastal Risk Management also has a significant accountability in mitigation, adaptation, and resilience.

[16] Climate adaptation reporting third round: Environment Agency - GOV.UK (www.gov.uk)

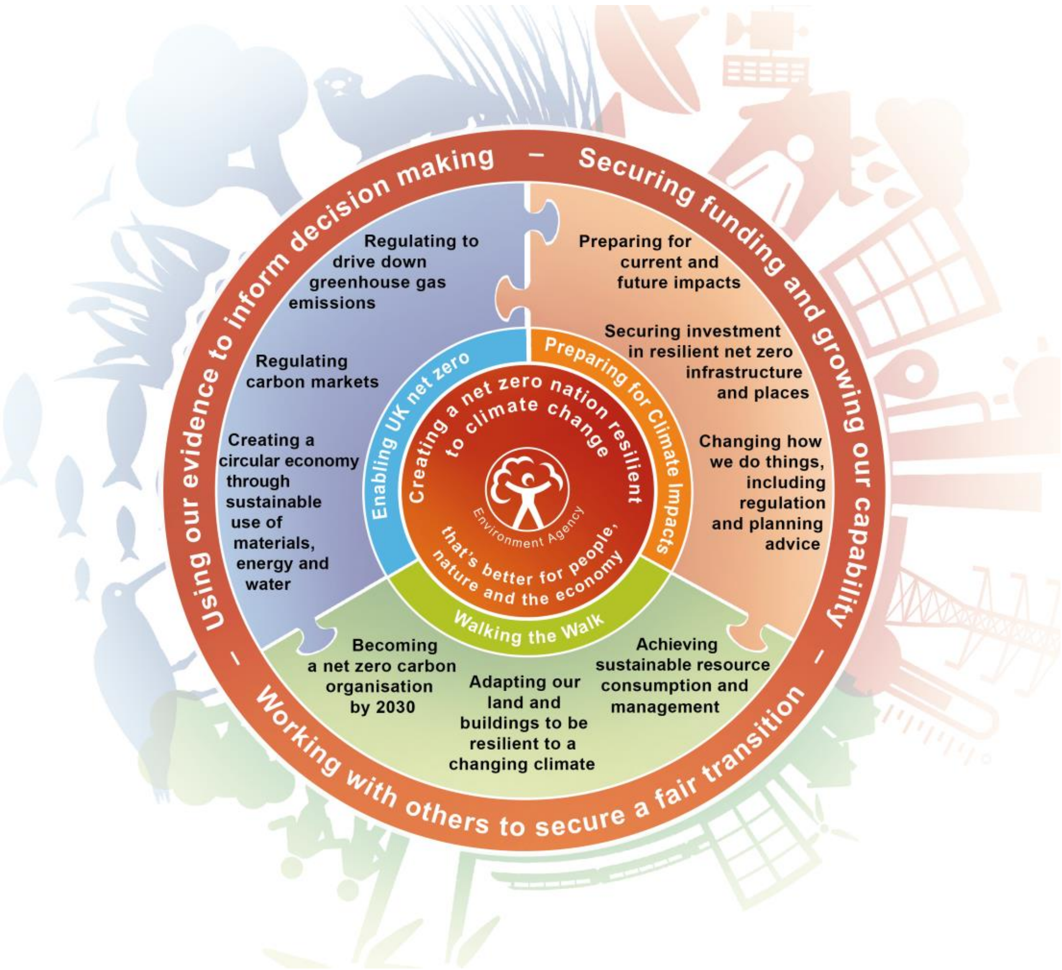

Figure 4: Our Climate Ambition

Nine of the fourteen Corporate Scorecard measures are linked to the climate crisis (see the Metrics and Targets section of the Climate-related Financial Disclosures). This is reviewed by EDT every quarter alongside the risk register, which includes two prominent corporate risks arising from the climate emergency within it.

Each of the Business Boards (see Governance Statement) are required to consider climate risks and opportunities that are relevant to their business area. Any paper that comes to EDT is required to describe how it contributes to addressing the climate emergency. In 2023-24 there have been improvements to governance through the implementation of Internal Audit recommended actions. This demonstrates how we are open to challenge in order to continuously improve.

The Preparing for Climate Impacts Plan is the action plan agreed as part of our third adaptation report living better with a changing climate published in October 2021, which is a comprehensive quinquennial assessment of the risks and opportunities for the us in delivering its strategy and functions from the impacts of climate change. We produce this as a reporting authority under the Climate Change Act 2008.

Many different strategies are reviewed and approved by EDT, for example the Flood and Coastal Erosion Risk Management Strategy, the EA Net Zero Roadmap and the Adaptation Report. These all address the current situation, future risks and opportunities and set out how the organisation is going to address these, with costed plans where feasible.

Each action on the e:Mission 2030 EA Net Zero Strategy Action Plan (signed off by EDT and monitored by the Sustainable Business Team) is given a red, amber or green status each quarter. This is reviewed by the Operational Business Board and exceptions are raised up to EDT to progress.

Strategy

A: Describe the climate-related risks and opportunities the organisation has identified over the short, medium, and long term

Our third Adaptation Report[17] under the Climate Change Act describes our adaptation risks in detail (see summary Table 1).

The impacts of climate change fundamentally affect the majority of the Environment Agency's duties and especially our work on flood and coastal management, water management, nature and environmental regulation. These risks will make it more difficult to deliver our corporate plan by reducing our performance and / or increasing operating costs.

Climate impacts also present a risk to the Environment Agency's own Net Zero targets:

- Flood and incident response are energy intensive activities (e.g. operating diesel pumps), and so an increase in these due to climate change will affect our carbon footprint.
- Our carbon sinks (e.g. trees) may operate less effectively under future climates.

B: Describe the impact of climate-related risks and opportunities on the organisation's businesses, strategy, and financial planning

We have a deep understanding of how physical and transitional risk may impact our organisation and our strategic objectives and duties, but have identified the need to do more work to assess how these risks will affect the current financial position and may potentially affect the future financial positions in terms of:

- Revenue and capital expenditure,
- Expenditures,
- Assets and liabilities,
- And ultimately our productivity.

After assessing exposure to climate-related risks and opportunities, the organisation will assess financial implications of mitigating risks and maximising opportunities and undertake a scenario analysis for strategic planning and a broader range of uncertainties. Over time, this will help us assess and review how effective our management measures are in realising opportunities and mitigating or managing climate risks. We will seek to develop this in a more quantitative way over 2024.

Adaptation

As outlined in the Environment Agency's third adaptation report under the Climate Change Act, we are adapting our own work and partnership work in the face of climate change. The risks from climate impacts are recognised in all the Environment Agency's major strategies, including for flooding, coasts, water and catchment management, and industrial regulation. Despite more than a decade of concerted effort to reduce these risks, the speed and scale of climate change means that many are either increasing or remain significant. Almost every aspect of the Environment Agency's work will become more difficult due to climate risks. Many of these (58%) are rated as both Severe and Urgent, meaning there is a very high chance of impacting our (statutory or non-statutory) duties and that we are running out of time to implement effective adaptation measures. These themes shape our detailed 5-year adaptation plan.

Mitigation

We know it will not be possible to completely eradicate our carbon footprint by 2030 because of the scale of the vital work we do in protecting people from flooding, regulating businesses to protect the environment, and physically improving the natural habitat. Our strategic focus is on firstly reducing our emissions and then working to absorb or offset our remaining emissions through projects that achieve multiple wide-ranging, long-lasting benefits for people and nature – the concept known as environmental net gain. We are considering the best framework for offsetting our emissions but are clear that any offsets need to be UK based.

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[17] Climate adaptation reporting third round: Environment Agency - GOV.UK (www.gov.uk)

C: Describe the resilience of the organisation's strategy, taking into consideration different climate-related scenarios, including a 2 degrees C or lower scenario

Adaptation

Table 1 summarises climate risks to our ability to deliver our EA2025 corporate plan against climate scenarios used in our Adaptation Report [18] (i.e. how the environmental variables that are most important for the Environment Agency's work are expected to change under two scenarios representing the path that meets or exceeds a +2°C and +4°C change in global mean temperature by the end of the century).

The Environment Agency aims to embed climate resilience into all major environmental strategies including:

- The National Flood and Coastal Erosion Risk Management Strategy for England and Flood and Coastal Erosion Risk Management Strategy Roadmap to 2026.[19]
- Our Regulatory Statement which sets out our strategic regulatory goals.[20]
- River Basin Management Plans.[21]
- Our National Framework for Water Resources.[22]

But despite having comprehensive adaptation plans in place, the speed and scale of climate risks means that we face significant strategic adaptation limits:

- The Environment Agency alone cannot protect everyone from increasing flood and coastal risks.
- Climate change makes it harder to ensure clean and plentiful water.
- Environmental regulation is not yet ready for a changing climate.
- Ecosystems cannot adapt as fast as the climate is changing.
- There will be more and worse environmental incidents.

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[18] Climate adaptation reporting third round: Environment Agency - GOV.UK (www.gov.uk)
[19] Flood and Coastal Erosion Risk Management Strategy Roadmap to 2026 - GOV.UK (www.gov.uk)
[20] Environment Agency regulatory statement - GOV.UK (www.gov.uk)
[21] River basin management plans: updated 2022 - GOV.UK (www.gov.uk)
[22] Meeting our future water needs: a national framework for water resources - GOV.UK (www.gov.uk)

Table 1 – Summary of EA physical climate risks

EA2025 aim	Strategic climate risk	Example impacts
By 2025 we will have created more climate resilient places and infrastructure, by ensuring the nation is prepared for flooding, coastal change and drought	More frequent flooding and drought and increased coastal change reduce our ability to create climate resilient places and infrastructure	Intense rainfall, coastal change and sea level rise will cause more frequent and worse flooding from rivers, surface water, coastal and groundwater Accelerating sea level rise and coastal erosion threaten coastal wildlife habitats, communities and infrastructure It will cost more money to build and maintain flood and coastal defences
By 2025 we will be a stronger leader on climate adaptation and resilience, encouraging others to act now on the climate emergency and invest in adaptation	Climate impacts compromise our ability to influence others to act on the climate emergency Climate change provides an opportunity to make the most of our knowledge, experience and data	Adaptation shortfall (perceived or real) affects our ability to influence Unable to meet increasing demands for our data and advice Opportunity for green finance and to be a credible climate advisor
By 2025 we will be ready for bigger, more frequent incidents and will support those at risk to be more resilient	The frequency and extent of environmental incidents exceeds our ability to respond	More extreme weather causes larger and more complex floods and environmental incidents The increasing burden of incident response means that we have to stop or slow other work
By 2025 air will be cleaner and healthier	Pressures on air quality make it a greater challenge to clean it and protect health	Increased air pollution and effects on health and ecosystems
By 2025 rivers, lakes, groundwater and coasts will have better water quality and will be better places for people and wildlife	Pressures on the water environment make it a greater challenge to clean and protect it	Hotter weather increases water demand from the public, farmers, industry and nature Changing rainfall patterns may make droughts worse or more common Water quality decreases due to more pollution incidents and less water in the rivers to dilute them
By 2025 nature and land is better protected and enhanced	Pressures on land and nature make it a greater challenge to enhance and protect it	Climate change could permanently alter our wildlife composition A changing climate helps invasive species to colonise and spread
By 2025 we will achieve cleaner, greener growth by supporting businesses and communities to make good choices, through our roles as a regulator, adviser and operator	Climate change will exacerbate risks from (and to) regulated industries	More extreme weather leads to increased industrial pollution We need to change our environmental regulation approaches to reflect the rapidly changing environment

EA2025 aim	Strategic climate risk	Example impacts
By 2025 we will have cut waste crime and helped develop a circular economy	Climate related pressures resources (their production, use, reuse, reprocessing) make it harder to use them sustainably	Stockpiling of waste due to bad weather More waste generated by flooding
By 2025 we will be on track to deliver our sustainable business commitments, including to be Net Zero by 2030	The impacts of climate change on activities and behaviour reduces our ability to meet Net Zero and other sustainable business commitments Business disruption due to the impacts of climate change on our people, assets or processes	Energy use to manage environmental change impacts our carbon targets Reduced capacity of carbon sinks that contribute to EA Net Zero target Extreme weather disrupts our own supply chains, offices, depots and staff

A) Describe the organisation's processes for identifying and assessing climate-related risks

The Environment Agency identifies and assesses its strategic adaptation risks in its reports to ministers under the Climate Change Act 2008. Whilst ministers can give direction on the nature of these reports and assessments, our general approach is to identify the risks that climate impacts present to our delivery of the corporate plan (EA2025). Our most recent report sets out the technical details and climate scenarios of our risk assessment.

We also identify and assess risks under our statutory role in accordance with enabling legislation and Government policy. For example, the Flood and Water Management Act 2010 requires that we publish a strategy for managing flood and coastal risks in England.

B) Describe the organisation's processes for managing climate-related risks

Whilst individual statutory frameworks may have their own requirements for identifying and managing climate risks, the Environment Agency operates three internal strategies to coordinate these and enable management oversight.

These are:

- A Climate Impact Plan – which implements commitments to manage our physical climate risks, as set out in our adaptation reports to ministers under the Climate Change Act 2008.[23]
- A Net Zero Roadmap - to reduce the Environment Agency's carbon footprint to Net Zero by 2030.[24]
- A UK Net Zero Plan – to coordinate the Environment Agency's activities that support a national mitigation targets and policies under the Climate Change Act 2008 (i.e. this is distinct to corporate commitments to reduce the Environment Agency's own carbon footprint).

Delivery of these plans is monitored through a corporate scorecard.

C) Describe how processes for identifying, assessing, and managing climate-related risks are integrated into the organisation's overall risk management

The Climate Emergency is in our corporate risk register with separate lines on:

- Physical risks to delivering our corporate objectives and statutory duties.
- Risks to delivering our net-zero roadmap.
- These risks are reviewed quarterly by EDT and ARAC.
- Individual departments maintain their own risk registers that include climate-related risks.

[23] Climate adaptation reporting third round: Environment Agency - GOV.UK (www.gov.uk)
[24] Environment Agency: reaching net zero by 2030 - GOV.UK (www.gov.uk)

Metrics and targets

Disclosure the metrics used by the organisation to assess and manage climate-related risks and opportunities in line with its strategy and risk management process

The Environment Agency's Corporate Scorecard includes metrics clearly linked to climate. Nine of the fourteen Corporate Scorecard Measures as presented in the Performance Report are directly related to the climate emergency through increasing the nation's resilience to climate change, being a strong leader on climate adaptation and resilience, incident management, contributing to healthier air, land and water, and a commitment to Net Zero.

1. We reduce the risk of flooding for more properties – Number of properties better protected.
2. We maintain our flood and coastal risk management assets at or above the target condition - % of high-risk assets at target condition.
3. We will deliver our Preparing for Climate Impacts Plan and Enabling UK Net Zero Plan to tackle the climate emergency – % of adaptation actions on track.
4. We have a first-class incident response capability – proportion of trained staff utilised in core incident roles.
5. Air quality is improving – monitor the reductions across five priority pollutants.
6. Our rivers and coasts have better water quality and are better places for wildlife – kilometres of waterbodies enhanced.
7. We increase biodiversity and promote an environmental net gain by creating more and better habitats for the benefit of people and wildlife – hectares created or restored.
8. We protect people and the environment through effective regulation - % compliance of permitted sites.
9. By 2025, we will be on track to deliver our sustainable business commitments, including to be Net Zero carbon organisation by 2030.

This reflects the importance given to this area within the organisation's performance management.

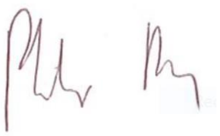
Disclosure Scope 1, Scope 2, and, if appropriate, Scope 3 greenhouse gas (GHG) emissions, and the related risks

Appendix B of this annual report details emissions totals within each scope category

Conclusions

The climate emergency has profound implications for all we do as an organisation; and to respond to this climate-related risks and opportunities have been integrated into the governance, strategy, risk management and performance metrics.

There is always room for continuous improvement and working toward a systematic TCFD disclosure has benefits for business planning and will improve our approach to tackling climate change. It will inform improved internal conversations about the implications, as well as informing our case for future spending reviews.



Philip Duffy, Chief Executive and Accounting Officer

23 October 2023

Accountability Report

The Accountability report consists of the:

- Corporate Governance report – this sets out our governance arrangements and risk management approach.
- Directors' report – this mainly sets out certain required financial reporting disclosures.
- Remuneration and staff report – this reports on the role of the Board's People and Pay Committee, executive remuneration and the staff composition of our organisation.
- Parliamentary Accountability and Audit report – this covers the main activities of our organisation, information on fees and charges raised, losses and special payments and any contingent liabilities.

These sections provide key accountability information to Parliament and show how we follows corporate governance best practice and norms.

Corporate Governance report

Statement of Accounting Officer's responsibilities

Under section 45 of the Environment Act 1995, the Secretary of State for Environment, Food and Rural Affairs has directed the Environment Agency to prepare for each financial year a statement of accounts in the form and on the basis set out in the Accounts Direction. The accounts are prepared on an accruals basis and must give a true and fair view of the state of affairs of the Environment Agency and of its income and expenditure, statement of financial position, changes in taxpayers' equity and cash flows for the financial year.

In preparing the accounts, the Accounting Officer is required to comply with the requirements of the Government Financial Reporting Manual and in particular to:

- Observe the Accounts Direction issued by the Secretary of State and HM Treasury, including the relevant accounting and disclosure requirements, and apply suitable accounting policies on a consistent basis.
- Make judgements and estimates on a reasonable basis.
- State whether applicable accounting standards as set out in the Government Financial Reporting Manual have been followed and disclose and explain any material departures in the financial statements.
- Prepare the financial statements on a going concern basis.
- Confirm that the annual report and accounts as a whole is fair, balanced, and understandable.

The Accounting Officer of Defra has designated the Chief Executive as Accounting Officer of the Environment Agency. The responsibilities of an Accounting Officer are set out in 'Managing Public Money' published by HM Treasury. These include responsibility for the propriety and regularity of the public finances for which the Accounting Officer is answerable, for keeping proper records and for safeguarding the Environment Agency's assets.

The Comptroller and Auditor General, Head of the National Audit Office (NAO), is the statutory external auditor of the Environment Agency. The NAO received no remuneration for non-audit services in the year to 31 March 2023, the same as in the previous year. The fee for the statutory audit is £545,000.

As far as the Accounting Officer is aware, there is no relevant audit information of which the external auditor is unaware. Supported by the Finance Director and the Finance function, the Accounting Officer has taken all steps to make himself aware of any relevant audit information and to establish that the external auditor is aware of that information. The Accounting Officer also takes personal responsibility for the annual report and accounts and the judgments required for determining that it is fair, balanced, and understandable.

Governance statement

1. Introduction

The Chief Executive is responsible for maintaining a good system of internal control that supports our aims and objectives, and prevents attempted fraud, corruption, or bribery, and relies on his Executive Directors to support him in delivering his responsibilities. The Chief Executive is the Accounting officer (AO) for the EA. There has been changes in AO post year-end, there was appropriate handover and each new AO was comfortable around the controls operating in year

This governance statement sets out how we have managed and controlled our resources during the year. It provides assurance on how we have carried out our corporate governance, how we have managed significant organisational risks and how we have addressed control issues.

2. Effectiveness of governance arrangements

2.1 The governance framework

The Environment Agency is led by a non-executive Board appointed by the Secretary of State for Defra.

The Board ensures that:

- We fulfil our statutory duties.
- We follow the directions provided by the Secretary of State.
- We operate with propriety and regularity.
- We are an efficient and effective organisation.

As at 31 March 2023, the Chief Executive and ten independent non-executive Board members, including the Chair, sit on the Board. The Board, Executive Directors' team and senior managers review our performance across all our activities and discuss it with Defra. The Chair and Chief Executive meet with the Secretary of State twice yearly in Ministerial Performance Meetings, and other Defra ministers regularly on various subjects.

The topics discussed during ministerial meetings in the financial year included:

- Water management, including the government's integrated plan for water and water quality.
- Flood risk management, including asset maintenance, the flood investment programme, and the frequently flooded allowance.
- Climate change.
- Agriculture, including the Environment Agency's farm inspections.
- Air quality.
- Regulating industry and waste management, including waste crime and Environment Agency permitting.
- The Environment Agency's funding.
- Industrial action, pay and staffing levels.
- Recruitment of the Chair and Chief Executive.

2.2 Board duties and responsibilities

The Board are responsible for:

- Developing and approving the short and long-term strategy, and the means for its implementation, for the Environment Agency to meet its responsibilities and duties under the Environment Act 1995 and all other relevant legislation and directions, having regard to the Management Statement, the Framework Document, the guidance on sustainable development and other guidance from Ministers.
- Approving the allocation of resources.
- Approving the Corporate Plan and the Annual Report (including the Accounts).
- Approving proposed charging schemes.
- Approving various capital works programmes.
- Approving projects, contracts and consultancies etc. as required by the Framework Document and the Financial and non-Financial Schemes of Delegation.
- Approving the Schemes of Delegation.
- Monitoring the performance, finances, conduct and propriety of affairs of the Environment Agency to ensure that it is an inclusive, efficient and effective, healthy and safe organisation with effective internal environmental management.
- Providing scrutiny of specific topics relevant to the Environment Agency’s role as might be expected in the oversight of a non-departmental public body.
- Managing the Environment Agency’s Pension Fund to safeguard the interests of pensioners and employees.
- Establishing and maintaining regional flood and coastal committees for England as required by law and consulting them as appropriate.

2.3 Committee structure, including Regional Flood and Coastal Committees

The Board has established five committees to help shape and steer our operational duties and functions. Our committee structure is included in Figure 6. The Chair of each committee gives an update at Board meetings and raises specific issues to the Board as necessary. The remuneration report lists the members of each committee and Appendix D shows Board members' attendance at meetings, which remains high.

The Flood and Water Management Act 2010 required us to establish Regional Flood and Coastal Committees (RFCCs). RFCCs raise levies to fund local priority projects. They also work with coastal groups and lead local flood authorities to advise on activities within their catchments and along the coast and to share good practice. We must consult with RFCCs and agree our flood and coastal risk management investment programmes and budgets with them. All RFCC meetings are advertised on gov.uk and members of the public are welcome to attend.

2.4 Executive Directors’ Team (EDT)

The Chief Executive manages a team of four Executive Directors who provide leadership and strategic direction to the organisation. The four Executive Directors are responsible for four main directorates:

- Flood and Coastal Risk Management
- Environment and Business
- Local Operations
- Chief Operating Officer

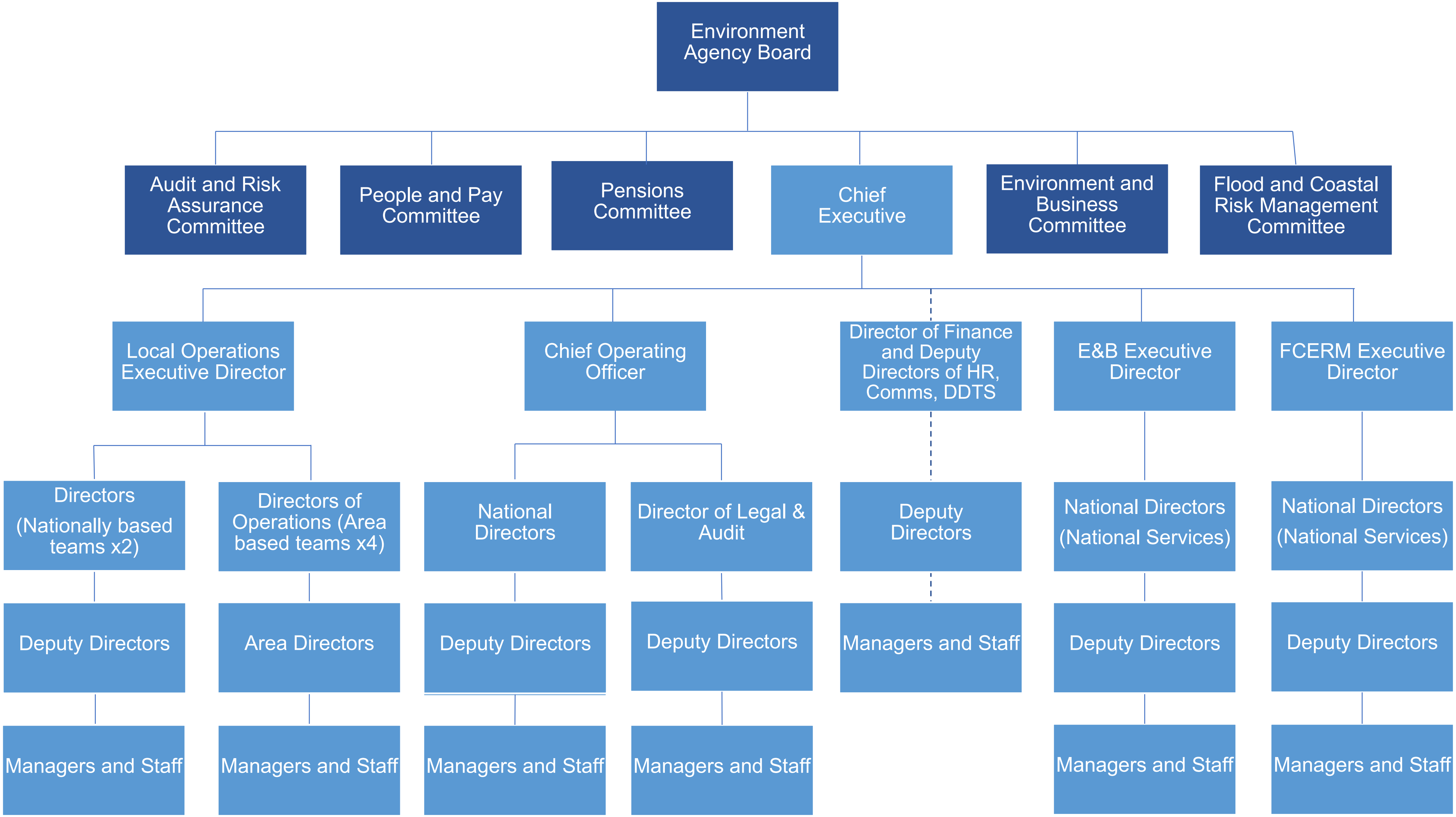
The Chief Operating Officer directorate is responsible for operational activity that is delivered nationally once, and provision of internal services that support the whole organisation. This includes leading on the relationships with Defra group Corporate Services.

Typically, the Chief Executive and his team meet weekly for operational updates and decisions and monthly for a full day to consider and make strategic decisions on managing the organisation. During incidents they meet more frequently, as required. They are responsible to the Board for all aspects of performance and risk management. EDT supports the Chief Executive in establishing and maintaining an effective system of internal control within the organisation.

EDT meetings include the Director of Legal and Audit Services, Deputy Director of Governance and Engagement, as well as the lead business partners of Defra group Corporate Services, which includes the Director of Finance, and Deputy Directors of Communications and Human Resources. In addition, an Equality, Diversity, and Inclusion co-ordinator joins EDT meetings. The team can be seen in Figure 6 below (Defra group Corporate Services colleagues are represented by a dotted line).

Deputy directors are the primary senior budget managers in the Environment Agency, responsible to their directors and Executive Directors for the ongoing management of the majority of spend.

Figure 6: Organisational reporting lines, including board committee structure



2.5 Structures and governance

The Environment Agency has three business boards which provide 'one-team' leadership, bringing together director representatives from all four executive directorates to ensure that national and operational teams work together effectively:

- Flood and Coastal Risk Management
- Environment and Business
- Organisational Business Board

This is a key part of the organisation's internal oversight processes, with the first two boards providing oversight and strategic direction on specific activity relating to that business area, and the Organisational Business Board focusing on cross-cutting topics and enabling services.

Each Business Board has a Strategic Outcome Plan which considers what is required to achieve our five-year goals.

Area, national operations, and national directorate business units use these documents as a framework for their own Local Outcome Plans where they also have the freedom to include priorities which are unique to their geography or function.

2.6 Defra group Corporate Services

Governance of the partnership with Defra group Corporate Services in the Environment Agency sits with the Environment Agency Corporate Services Portfolio (CSP) group which reports into the Organisational Business Board. The CSP brings together senior Environment Agency representatives and the senior corporate services business partners supporting the organisation. The CSP meets every two months and oversees corporate and cross-cutting matters, including the management of risks that require substantial activity or co-ordination by Defra group Corporate Services. The Partnership Agreement of 2017 between Defra and the Environment Agency remains at the heart of the relationship.

Defra group Corporate Services and the Environment Agency are committed to working together in partnership to understand areas of challenge and address problems, including strengthening communications to end users through the most effective channels.

The Environment Agency receives corporate services from the Core department in a number of areas. As part of the services delivery model, Core Department Heads of Function ensure compliance assessments are in place for these Functional Standards which are used to assess future development areas. Assessments have shown that for services received, over half of Functional Standards are rated in the "Good" of "Better" rating category. The focus in 2023-24 will remain on improving compliance levels.

2.7 Shared Services

The Cabinet Office manages the shared services contract for transactional Finance, Commercial and HR processes with an external provider, Shared Services Connected Limited (SSCL), on behalf of the Environment Agency.

We have gained assurance from the Cabinet Office's 2022-23 Framework Authority Annual Audit Plan and the Audit report received from SSCL's auditors (Pricewaterhouse Coopers LLP [PwC]) combined with the assurance gained from audits undertaken in relation to the 2022-23 Audit Plan together with their knowledge of the business from the Government Internal Audit Agency (GIAA).

The assurance opinion provided by PwC for the 2022-23 audit year relating to SSCL's system of internal control was 'generally satisfactory with some improvements required'. There were no significant impacts identified in relation to the Environment Agency. This is an improvement from last year where PwC's assessment was 'Major improvement required'. The assurance opinion provided by GIAA for 2022-23 was 'Moderate'.

2.8 Compliance with the corporate governance code

We follow best practice for corporate governance and have complied with HM Treasury's corporate governance code. Our handbook for board members reflects this guide, and Board members are required to make a bi-annual declaration of memberships of other organisations' boards and any conflicts of interest. We also ask Executive Directors to make annual declarations of interest for further transparency. All managers and staff are asked to complete an annual disclosure of interests and discuss any disclosures and potential conflicts of interest with their line manager.

The Environment Agency takes the management of interests and conflicts very seriously. There are robust processes and guidance for managing potential and actual conflicts for our Board members, senior executives, and staff. The requirements for Board members are set out in law - specifically the Environment Act 1995. Board members provide updates on declarations at each meeting as a standing item, recorded in the minutes. Board members are required (by the Environment Act 1995) to declare any potential conflicts of interest and to not take part in any deliberation or decision where they have such a conflict, including declaring any conflicts of interest in relation to specific items on the agenda before every meeting that they attend (see note 19 of the financial statements).

Our procedures and expectations are covered during new Board members' inductions supported by specific guidance which is issued to all members of the Board. We hold a register of board member and Executive Director declarations, which is available to view on gov.uk. The Board's Audit and Risk Assurance Committee (ARAC) review the details of Board member and Executive Director declarations annually.

3. Effectiveness of EDT and the Board

EDT held their annual evaluation exercise in January 2023 to review their effectiveness over the year and agree focus areas and ways of working for the year ahead, in line with recognised good governance principles.

Based on this evaluation discussion, EDT agreed:

- To continue to focus on prioritising strategic items and those that are substantive to our core business, reviewing regularly to ensure EDT remains agile and agrees oversight of any emerging cross-cutting or transformational issues in how the organisation operates.
- To focus further still on the core purpose: creating a better place for people and wildlife
- To prioritise discussions on risk and quarterly performance.
- To continue to review the frequency of weekly and monthly EDT meetings to ensure they are happening at the right times to enable effective and timely decision making.
- For the secretariat team, Business Boards, and paper authors to further engage to increase meeting efficiency and quality assurance.
- To continue to follow best legal and governance practices to ensure robust decision making and give assurance that decisions are being implemented into the organisation.

The Board opted to delay its full effectiveness review in 2022, in order to focus on and support the transition of the new Chair. The Board will undertake this exercise in 2023 and meet to review and agree the outcomes.

3.1 Data quality

The Board acknowledges that good quality data is fundamental for effective strategic and operational decision making. It recognises the opportunities and risks data quality brings to the efficient and effective use of Environment Agency resources. Our approach is aligned to the Government Data Quality Framework.[25]

Assurance is provided from internal audits and through the conclusions of the NAO, published in the year-end audit completion report, around the data supporting the financial statements. However, it should be noted that some data quality issues have been identified in recent years which the business is working to improve upon.

In addition, our organisation has externally audited certification to the ISO9001 (quality management) standard and ISO140001 (environmental quality) standard.

Our accreditation under ISO55001 (asset management) standard requires that we have a data management system suitable for our asset management strategy, plan, and outcomes, which enables efficient and effective asset management and risk-based decision making.

4. Effectiveness of risk management

4.1 Risk Management Framework

Our approach to risk management is approved by the Board and Executive Directors. EDT assesses, prioritises, and manages risks throughout the year and individual directors are responsible for the risks within their business area. However, strategic risks or other risks with the potential to disrupt the organisation are managed by EDT. Executive Directors own the corporate risk register. They are responsible for developing, formally reviewing, and updating their risk assessments every quarter. Risk management forms a regular agenda item at quarterly meetings during the year. The Board’s Audit and Risk Assurance Committee has an important role in identifying, advising on, and monitoring the management of these significant organisational risks.

The ARAC Chair is a member of the Defra Audit and Risk Assurance Committee, which supports and advises the Defra Board and the Defra Principal Accounting Officer on issues of risk, control and governance.

In addition, weekly EDT meetings provide a mechanism to ensure all senior managers are briefed on emerging issues and can respond promptly, including reprioritising and redeploying resources as needed. For example, the risks resulting from industrial action. Where the demands of managing a risk are high or impacts are expected to be significant, the organisation can be moved into incident mode and initiatives such as “stop and slow” can be implemented swiftly to ensure resources are directed to immediate priorities.

Local risk and assurance leads help individual directorates and leadership teams develop their risk and assurance capability. There are processes for two-way communication of new risks, changed circumstances or when action is required.

[25] https://www.gov.uk/government/publications/the-government-data-quality-framework/the-government-data-quality-framework

Many risks, generally those relating to operational activities and that are immediate to short-term in nature, require dynamic assessment. These are managed as part of day-to-day work by team leaders and all employees, who can “red flag” specific jobs. “Red flags” may be raised on any work activity recognised as posing a danger until proper safety measures can be taken. The learning and development programme provides us with well trained and experienced people with a high degree of corporate discipline, good understanding of our corporate risk appetite, who are well able to exercise their own judgement.

As well as reviewing risks, we also consider future opportunities.

1. The Board
(Ultimate accountability)

2. Delivery teams
(Conduct dynamic assessment of immediate task-related

3. Audit and Risk Assurance Committee
(Oversight role to ensure effectiveness)

4. Executive director teams
(Manage strategic and corporate risks)

5. Business boards
(Manage cross-cutting and emerging environmental risks)

6. National and area leadership teams
(Manage operational delivery – often site-specific risks)

4.2 Risk appetite

As an organisation we want to strengthen our innovative culture. There is no innovation without experimentation, no experiment without failure, and no chance of ambitious outcomes without at least some risk. So, we want to embrace and manage risk not avoid it. For our people to manage risk effectively, it is essential that they understand what our appetite for different sorts of risks is. We have zero appetite for taking risks with the safety of our staff and the public.

But we are keen to encourage greater risk-taking in other areas such as experimenting with new ways of working or giving staff greater freedom to make choices. It is impossible to spell out how much risk we accept in every circumstance: each situation is different. We ask leaders at every level across the organisation to articulate for their own teams where there is scope for more ambition and so risk and where there is not. We want leaders and teams across the country to keep talking to each other, so we collectively manage major risks; and we ask all our staff to use their own good judgement in making decisions.

We believe our staff are confident that we will back them if things go wrong, provided they have followed these principles and actively sought to manage the risks and maximise the benefits. We recognise and reward leaders, teams and individuals who seek ambitious outcomes, and who innovate and manage risk to achieve them. We celebrate achievements and ensure lessons are shared right across the organisation.

4.3 Effectiveness of risk management

The Environment Agency's risk management approach is dynamic and can flex according to changes in circumstances. Risk registers and maps are in place for business boards and area leadership teams, which include risk assessments, mitigating measures and an identified person who is accountable for managing each risk. We also have a link into the Defra risk management process via the Environment Agency Director of Finance.

We are currently monitoring corporate risks which relate to the resilience, morale and wellbeing of our staff and challenges to the regulatory environment.

Other changes to the corporate risk register in the 2022-23 year resulted in the inclusion of the Flood Capital Programme Delivery risk. The flood capital programme is the single largest programme the organisation delivers with a government investment of £5.2 billion over 6 years (2021-2027.) Delivery is largely undertaken through contractors and more than 50% of schemes in the current programme will be delivered by local authorities. The impacts of high levels of inflation, and skills shortages in infrastructure as well as ongoing delays caused by the pandemic make meeting the original target of 336,000 properties better protected by April 2027 unlikely.

Risks that currently feature on the corporate risk register are detailed in section 6.

5. Effectiveness of the internal control system

5.1 Overview of the internal control system

We follow HM Treasury guidance on internal control, intended to provide reasonable assurance and maintain propriety and regularity of expenditure. This is a proportionate approach and not intended to eliminate all risk of failure, so the Accounting Officer can only provide reasonable, not absolute, assurance.

Our internal control processes are designed to:
- Identify and prioritise the risks affecting our business aims and objectives.
- Evaluate the likelihood of those risks happening and their likely impact.
- Manage those risks efficiently and effectively.

Our resource allocation is published in our corporate plan, and we report on our in-year progress against objectives, performance targets and budget in our corporate scorecard. The performance report section of this annual report summarises our performance in delivering environmental outcomes and provides assurance on how we have used our resources this financial year. We hold ourselves to high standards and have a policy of compliance with the law.

The following elements of the Environment Agency's internal control environment helps to ensure we deliver value for money:
- The Board has delegated its powers of control over income and expenditure through a financial scheme of delegation (FSoD), which establishes the limits within which individual officers are allowed to approve spending. The FSoD requires consultation with senior business partners from Finance, Commercial and HR. Larger items of expenditure must be referred to and approved by external parties such as the Defra Permanent Secretary, HM Treasury or Cabinet Office.

- All projects over £100,000 go through an assurance process with review by qualified persons from the appropriate area of expertise using clear investment and appraisal criteria. These individuals are independent of both the proposer and the approver of the expenditure.
- Further external scrutiny of substantial levels of capital expenditure is provided via:
  - Regional flood coastal committees on local investment plans,
  - Reviews by the Infrastructure and Projects Authority of our largest projects.
- Approximately 85% of procured expenditure goes through our Commercial teams or the frameworks they have provided. Of the other 15%, approximately half is made up of fixed items like rent, service charges and reservoir operating agreements. The other half is made up of some central contract expenditure vetted by a finance compliance team and items procured via government procurement cards subject to line manager approval and sample testing by the compliance team. Elements of this control relating to frameworks are being strengthened for 2023-24 following the lessons learned described in section 16.4.

A positive and well embedded compliance culture is fundamental to the success of our internal control environment. This is a culture of respecting rules and policies, feeling empowered to challenge more senior people if required, and doing the right thing.

5.2 Internal Audit assurance

Each year, EDT and the ARAC agree a risk-based internal audit plan, following reference to relevant resources such as the risk registers and consultation with key stakeholders. The plan is dynamic and responds in year to emerging risks. Any changes are agreed with EDT and the ARAC.

The Accounting Officer is advised on internal control matters through a monthly summary with full engagement reports attached, quarterly progress reports and presentations at EDT meetings. Similarly, the ARAC also receives monthly summaries and progress reports with a presentation at every meeting. A year end opinion is provided to both parties giving an overall opinion on the control environment. This highlights themes from our audit work and other assurance providers. It also reviews how effectively actions from our audits have been implemented.

Based on the evidence obtained during the period 1 April 2022 to 31 March 2023, an overall moderate assurance rating was given on the adequacy and effectiveness of the Environment Agency’s arrangements for corporate governance, risk management and internal control. Improvements are needed in some areas, but these do not represent an unacceptable level of risk. Whilst the overall assurance of a moderate opinion is consistent with prior years, there has been a significant strengthening of the control environment in 2022-23, with many more substantial opinions given and much fewer limited opinions. This is in part a reflection of the progress that the organisation has made in returning to a more robust control framework following Covid, which had a significant impact on the Environment Agency’s deployment of resources.

Internal audit issued a substantial audit opinion for the Depreciated Replacement Cost project which is a key corporate priority to remove an associated accounting qualification from the National Audit Office in its opinion on the Agency’s accounts. Audits also identified excellent compliance controls in respect of the regulation of large raised reservoirs, surface water and pensions disclosures. Good progress has been made during the year to progress the permitting systems improvement programme.

Key themes emerging from internal audit work are ensuring a balance between the focus on outcomes and process, data quality and completeness and ensuring robust oversight at the second line of defence of all assurance processes. Additional focus is also needed this coming year to ensure agreed management actions are implemented promptly.

5.3 National Audit Office value for money reviews

We contributed to one NAO value for money review in 2022-23. An overview of the recommendations made by the NAO and Public Accounts Committee (PAC) are summarised below. We will be considering and implementing the recommendations where applicable.

Report title	Publication date	Recommendations	Planned implementation date
Government actions to combat waste crime	19-10-2022 (PAC)	8	All accepted: 6 implemented quarter 2 2022-23 and quarter 4 2023-24 2 are works in progress with implementation dates quarter 3 2023-24

The NAO are currently conducting a review of flood resilience which is expected to be published in November 2023.

5.4 External accreditation

Recommendations are also made by accredited bodies, who review our environmental performance and quality standards.

We were recertified to the international standard for quality management (ISO9001) and environmental management (ISO14001) on 23 March 2023. This followed a 34-day audit of our quality and environment management system. The auditors looked at all elements of the standards and followed themes related to water quality, flooding, regulated industry, community and customer engagement and conservation and biodiversity. The audit identified seven minor non-conformities which have now been resolved and closed by the auditors.

We were also audited against both standards in September 2022, no non-conformities were found during this audit.

As noted above the organisation is also certified under ISO55001 (asset management). We were certified in 2018, with surveillance audits carried out in 2019 and 2020. In November 2020, SGS carried out a surveillance audit for the ISO55001 standard covering the management of our flood risk assets. The audit team confirmed our certification and concluded that our management system conformed to the requirements of the standard and was fit for purpose in terms of delivering our asset management policy and objectives. The audit covered several functional processes, including organisation and people, strategy and planning, allocation of resources, risk management, stakeholder engagement and asset information. This focused on making sure that the management of assets was underpinned by asset management data and information. The audit identified two minor non-conformities against the standard, on planning and resources, which have been the subject of an action plan.

In June 2022, all elements of the ISO standard were audited with the conclusion that the management system for flood risk assets continues to conform with the ISO standard. The action plan for improving planning continues, and progress was shown on resource management, however these minor non-conformities continue. Two additional minor non-conformities were identified, regarding document management and internal audit processes. These four non-conformities are now part of an improvement plan.

5.5 Information security

In March 2023 Capita experienced a cyber incident and have been working closely and at speed with specialist advisers and forensic experts in investigating the incident to provide assurance around any customer, supplier or colleague data impacted.

From the investigations to date, it appears that the incident arose following initial unauthorised access on 22 March and was interrupted by Capita plc on 31 March. As a result of the interruption by Capita the impact of the attack being significantly restricted. Capita understands now, based on its own forensic work and that of its third-party providers, that some data was exfiltrated from less than 0.1% of its server estate. Capita has taken extensive steps to recover and secure the customer, supplier and colleague data contained within the impacted server estate, and to remediate any issues arising from the incident. Capita is working closely with all appropriate regulatory authorities and with customers, suppliers and colleagues to notify those affected and take any remaining necessary steps to address the incident.

We were informed on Friday 19 May that Capita's investigations have identified that some personal data held on Capita computer servers has been accessed by the hackers. At this point, we know that the data held on these servers is mainly in relation to our pensioner members. However, we are aware that a small amount of other member data has also been affected. We're continuing to work closely with Capita to understand the full impact. For the majority of our contributing and deferred members, at this point in time, there is no evidence that the data held on the servers was impacted.

We have reported this incident to the ICO and also informed the Pensions Regulator. Capita are also in regular contact with all regulators, and we've reviewed our own systems and controls to ensure they remain robust. 99.19% of affected EAPF pensioner members were contacted on 2 June to offer full support and to reassure them that we're confident that their pensions remain secure. The remaining pensioner members were then contacted on 7 June. A webinar was also held for pensioners on 15 June as an opportunity to voice concerns and for questions to be answered.

6. Material issues, significant risks, and mitigation actions

6.1 Material issues

In 2022, we recognised that focussing only on today's issues makes it more difficult to anticipate and be responsive to longer term risks and opportunities. The natural environment can no longer be seen only as a local concern, it is integral to and can be influenced by global trends in society, the economy and technology. Embedding this wider perspective into our organisational strategies will help us build a more forward-looking and flexible organisation ready to embrace and respond to future risks and opportunities. The climate and biodiversity emergencies continue to show how global environmental issues will affect every aspect of our lives.

Material issues are now an established part of how the Environment Agency considers long-term risks and opportunities. We have reassessed how the big, global issues of the day such as climate change, global pressures on natural resources and changing public attitudes and social inequalities could affect our mission to protect and enhance the environment. Following consultation with the Audit and Risk Assurance Committee (ARAC), this year we have included a new material issue focussing on biodiversity. We now have 12 big, global issues that are relevant to the Environment Agency.

These are:
- Climate change
- Long-term planning
- Government approaches to sustainable development

- Demand for water
- Changing public attitudes
- Urbanisation
- 4th (and 5th) industrial revolution
- Social inequality
- Disease
- Changing food systems
- Changing coastlines
- Biodiversity

In 2022-23 we enhanced our analysis by including a more diverse group of external stakeholders and, engaging the members of our Executive Directors' Team on the issues that they think will be driving environmental change out to 2050.

We will continue to review our twelve global issues each year to track any changes to the internal and external context that could affect their impact and importance. In 2023-24 we will identify any new issues and retire those that are no longer relevant or are being addressed through our normal approaches to risk management. Over time these evidence-led assessments will shape the organisation's forward-looking agendas and support a more transparent and open approach to identifying and managing longer-term risks to the organisation and its objectives.

We below consider four of the most pressing material issues for the organisation.

Climate Change (Net Zero and Adaptation)

Global emissions of carbon-dioxide from the energy sector continue to rise, increasing by six per cent in 2021 as the world economy recovered from the Covid-19 pandemic.
The UK is committed to moving towards a circular economy through the Circular Economy Package (CEP). This will support delivery of Net Zero. Reduced consumption of raw materials, streamlined manufacturing processes and reduced waste production will all contribute to a reduction in greenhouse gases.

Net Zero will require decarbonisation of energy supplies, transport and building infrastructure. Low carbon energy technologies are still unproven at scale and their carbon benefits will need to be balanced against the potential for local environmental impacts. Decarbonising industry, water demand and water treatment is of particular interest to our regulatory role. A lack of innovation within sectors may hinder progress towards resource efficiency and Net Zero.

There is clear scientific consensus that the climate is changing because of human activity. However, there is less clarity around the scale and timing of any changes, and the ways to avoid significant societal impacts. This can be challenging for decision-makers and can be used as a reason to delay action. Tools to make decisions in the face of uncertainty can be used, including adopting flexible adaptation approaches.

The Intergovernmental Panel on Climate Change's sixth Assessment Report (2022) notes that adaptation planning and implementation is improving globally. However, progress is not evenly distributed, and many initiatives are prioritising immediate and near-term projects, reducing the opportunity for transformational change.

Our capacity to tackle climate change is being undermined by biodiversity loss. Globally, we are not on track to meet the Paris climate targets, the Aichi biodiversity targets or, 80 per cent of the UN's Sustainable Development Goals.

Key messages:
- Organisations can use flexible decision-making to manage the risks of future uncertainty to avoid delaying action.
- The UK has strong Net Zero targets but there are policy and science gaps.
- The need to balance benefits of Net Zero against local environmental impacts.
- There are conflicting land-use priorities and trade-offs between the objectives of food production, carbon offsetting, and managing the risk of flooding.

Long-term planning

The UK has ambitious environmental goals (EIP, Net Zero etc.) which require practical plans and actions to deliver them. Most environmental planning frameworks and processes make it difficult to transparently incorporate uncertainty, consider cross-cutting risks and drive adaptation.

Defra is proposing three new environmental land management schemes: the Sustainable Farming Incentive (SFI), the Local Nature Recovery scheme and the Landscape Recovery scheme. There are uncertainties in how these and many other future issues will develop. These uncertainties can be due to insufficient scientific understanding or the unpredictability in how socio-economic systems respond. Uncertainty can result in decisions being avoided or delayed unless decision-making approaches and tools that incorporate uncertainties are adopted.

Even when long-term risks are well understood it can be difficult to make decisions where the costs and benefits are too far into the future. Asking industry to adopt higher standards to offset future risks can be difficult to quantify and justify under current decision-making models. This restricts investment and innovation to tackle long-term risks and opportunities.

Key messages:
- Current political and corporate planning horizons do not match long-term risks such as climate change.
- Increased frequency and severity of environmental hazards (e.g., flood and drought, storm, and forest fires) causing investor uncertainty.
- Legal frameworks may not be robust to future environmental and technological innovation.
- Long-term natural resource conflicts, e.g., land-use for energy and food production.

Government approaches to sustainable development

The UN Sustainable Development Goals, adopted by the UK Government, are a call to action to end poverty, protect the planet and improve the lives and prospects of everyone, everywhere. The Covid-19 pandemic started a global conversation on “building back better” aimed at reducing the risk of future disasters and shocks. It also reinvigorated the levelling up agenda in the UK of providing equal opportunity to people and communities that feel they have been left behind.

Recent measures to boost the economy could either support or undermine sustainable development. The UK's Energy Security Bill aims to increase investment in green energy, energy storage and security supporting 480,000 new jobs. However, the Government signalling a reduction in regulation and reigniting interest in fracking and North Sea gas and oil exploitation has the potential to undermine this.

Net Zero is dominating the environmental agenda at present, but this may change as other issues such as flooding, and biodiversity loss get greater political and media attention. We are likely to fundamentally change how we use land for food production, energy crops, carbon storage and to support biodiversity. Transformations towards a circular economy could influence where industry is located, how it works and, the resources required to sustain it.

The challenge is achieving sustainable transitions, balancing social, economic and environmental factors. The ability to navigate existing and future barriers successfully (e.g., technology, public acceptance, conflicts between different users) will determine the extent of success. This will have implications for future environment and its regulation.

Key messages:
- Uncertainty in the scale and impact of levelling up at local, regional and national level.
- Economic growth zones may fundamentally change land use and how it is valued.
- Good regulation necessary to achieve the right balance between supporting excellent business practice and protecting the environment.
- Increased opportunity to invest in green infrastructure and green technology to meet Net Zero.
- Environmental economics becoming more widely recognised and the value of ecosystems better quantified.

Biodiversity

Global biodiversity is in decline with the UK's international footprint contributing to the drivers behind this trend. The UK has lost almost 50% of its domestic biodiversity and has some of the most depleted habitats in Europe.

The five main drivers of biodiversity loss are land use change, over exploitation, climate change, pollution and invasive species.

The long-term societal impact of biodiversity loss is as significant as climate change. The biggest potential consequences include:
- pollinator loss impacting agriculture and so food supply,
- greater pathogen transmission and the emergence of new diseases (e.g., Covid-19 and avian influenza) due to increased species mixing and lowered disease buffering capacity because of habitat and diversity loss,
- reductions and disruptions in ecosystem function/services, including species loss during acute events.

Biodiversity contributes to regulating the planet's climate and vice versa. The loss of habitats and biodiversity is reducing the planet's capacity to regulate the climate and manage the impacts.

There are complex interlinkages between nature, climate and economics. The UK's recent policy focus on climate change and energy makes it plausible that Net Zero can be achieved by 2050. International analysis suggests that, although the implementation of policies for conserving and sustainably managing biodiversity have progressed, there remain risks that the current global response is insufficient to meet targets for halting or reversing its decline.

Measures to halt and reverse biodiversity loss include reducing consumption, ensuring sustainable production, reducing pollution, and controlling invasive species. However, the exploitation of natural resources (for rare minerals, tech industry and renewables) is growing and these are mostly sourced from areas with the greatest biodiversity loss.

Key messages:

- Biodiversity is declining globally and across the UK.
- Potential policy lag or gap to halt and reverse biodiversity loss.
- Interlinkages with other pressures (e.g., climate change, industrial growth).
- Loss of biodiversity combined with other global changes elevates the risk of future pandemics.
- A declining ability of the planet to reduce and manage climate change impacts.

Risk management

During 2022-23, EDT have managed a number of corporate risks. The following risks and concerns were identified through the processes explained above and are currently being actively managed through detailed action plans, each of which is sponsored by an Executive Director. Each separate risk is introduced with a summary of how these risks are being managed and whether the situation is improving.

6.1a Climate emergency: Adaptation

Risk: The Environment Agency does not manage the impact of climate change on our corporate objectives and statutory duties

No change to residual risk from 2021-22.

Key mitigations

- 93% (47/49) of the 2022-23 actions in our 'Preparing for Climate Impacts Plan' are either complete or on track, meeting our 90% corporate scorecard target. This is a marked improvement on previous years and reflects strengthened delivery arrangements, including director-level Senior Responsible Officers for each action.
- We have provided water companies with advice on a range of nature-based solutions. This will help build resilience and adaptation into their business plans while providing multiple benefits for people and wildlife.
- We have also supported government to include adaptation finance (and Net Zero regulation) in the updated Green Finance Strategy. This will help to increase public and private investment in climate resilient national infrastructure.

In October 2021, the Environment Agency published its third Adaptation Report as a reporting body under the Climate Change Act 2008, Living better with a changing climate. The report included a comprehensive assessment of the risks from the impacts of climate change on the delivery of our corporate objectives and statutory duties and commits actions to address those risks.

The report set out 54 actions, the Preparing for Climate Impacts Plan, to be delivered over the next five years and sets out five "reality checks" against which we will review the plan as our evidence and experience develops:

- The Environment Agency alone cannot protect everyone from increasing flood and coastal risks.
- Climate change makes it harder to ensure clean and plentiful water.
- Environmental regulation is not yet ready for a changing climate.
- Ecosystems cannot adapt as fast as the climate is changing.
- There will be more and worse environmental incidents.

Due to the high baseline vulnerability of society and the environment to climate change, the risk remains high despite our 'Preparing for Climate Impacts Plan' being on track.

6.1b Climate emergency: Environment Agency Net Zero

Risk: The Environment Agency fails to achieve organisational Net Zero by 2030 and therefore fails to enable essential, national, carbon reduction activity.

The residual risk score has increased from 2021-22.

Key mitigations

- We have now developed long-term corporate carbon budgets to achieve organisational Net Zero. These budgets were launched in April 2023 and have been complemented with a new carbon data dashboard to enable colleagues to review carbon budgets.

- We have developed opportunities that can be delivered within our local Area teams. This will require significant investment and we are working across the business to agree future delivery and funding mechanics.
- We have concluded new, long-term, emissions reduction and sequestration modelling (based on business unit projections from our roadmap actions)
- We have improved our formal governance arrangements for achieving EA Net Zero and our wider organisational sustainability commitments through reporting bi-annually and establishing a new pan-organisational Sustainability Portfolio Group.
- Our Estates team have started to explore how to adapt our land and buildings to be resilient to the changing climate. We have commissioned a resources baseline, to help us to develop a plan to transition to a circular economy approach across our operations and we have attained gold level carbon literacy accreditation as an employer.

Achieving organisational Net Zero will enable the Environment Agency to play a leading role and proactive part in tackling the climate emergency. Mitigating this risk will involve carbon emission reduction and carbon removal at scale, and will require significant investment, reporting, governance, and business transformation activity.

In 2021 we developed our new organisational Net Zero roadmap: Environment Agency: reaching Net Zero by 2030 - GOV.UK (www.gov.uk)

Progress against the roadmap is reported to the Organisation Business Board quarterly, with exceptions escalated to Executive Directors Team (EDT) and the Audit and Risk Assurance Committee (ARAC).

Despite good progress on 'greening' our fleet and wider estate, construction emissions (now approximately 75% of the Environment Agency's emissions) are increasing as we deliver more capital works. Progress against the roadmap has also slipped as some projects have been delayed due to business prioritisation issues and / or significant investment gaps.

6.2 Staff health, safety and wellbeing

Risk: The Environment Agency does not manage the health, safety and wellbeing risks to our staff. This leads to injury, failure to meet our statutory duties, and negatively impacts staff wellbeing and morale.

No change to residual risk from 2021-22.

Key mitigations

- We maintain a baseline of routine risk management activities to reduce the range of high hazard activities that we undertake and ensure that the risks of activities are suitably managed. The impact of our highest hazard activities will always be significant, should the risks be poorly controlled.
- Our increased focus on health and safety standards saw us maintain a significant drop in the Lost Time Injury Frequency Rate (LTIFR), to approximately the lowest level ever achieved in the organisation over consecutive periods. We are monitoring the data carefully, but the overall numbers of incidents are very low, and we have not identified any trends.
- We are focussing on the development of ISO45001 certification for our health and safety management system and the efficiency and effectiveness opportunities being realised by aligning with asset management; our management of health, safety and wellbeing during organisational change; and the introduction of some new controls on how asset maintenance is planned and delivered.
- We are exploring the impacts that the current challenges facing our staff inside (workload and vacancies) and outside (cost of living and anxiety linked to the pandemic) of work may have on their mental health and wellbeing. Our wellbeing plan has been shaped to reflect these challenges.

The latest staff survey indicated some recovery of mental health and resilience across the organisation, but we will continue to monitor this.

The action plan arising from the review into a colleague's death two years ago, identified some key actions and enabled a further step change in our ability to manage the hazardous activities that we undertake. Our improved safe systems of work are now in place.

The additional focus on health and safety standards, culture and behaviour has seen a significant drop in the Lost Time Injury Frequency Rate, to the lowest level ever achieved in the organisation. The absolute number of lost time injuries has also dropped markedly in the last year. The recent employee survey has also demonstrated that our employees overwhelmingly continue to feel safe doing their jobs.

The focus is now on three key strands of work to further improve performance: the ongoing risk review of more hazardous activities; the development of ISO45001 certification for our health and safety management system; and improvements to how the health and safety of activities involving asset maintenance are planned and delivered. All three strands will support further improvements to our culture and behaviours, as well as technical improvements.

Against this background, the Health Safety & Wellbeing Service continues to undertake significant work to support the rest of the business to be safe and well. For example, our health surveillance and associated programmes have continued to make demonstrable improvements to the health of our workforce. We work closely with Defra group Corporate Services to ensure that our staff are provided with safe workplaces and the right equipment to undertake their roles safely and effectively, whilst our assurance programme ensures the appropriate application of our health and safety risk control measures by those supervising and delivering work.

6.3 Pay

Risk: The limited flexibility we have in terms of pay, coupled with the impacts of the cost of living rises are having a negative impact on employee relations. This has resulted in us facing a prolonged period of industrial action.

A new risk for 2022-23.

Key mitigations

- We have a planning cell actively working across the business to plan and co-ordinate mitigation actions due to industrial action.
- We have negotiated life and limb exclusion clauses with the trade unions to help protect our ability to respond to the most severe incidents that pose a threat to life.
- We continue to maintain regular and frequent engagement with our trade unions and dialogue between our Chief Operating Officer and HR Director continues to feed into cross-government discussions relating to pay.
- We are maintaining frequent engagement with all Environment Agency line managers, including the provision of guidance and Frequently Asked Questions (FAQs) material for industrial action, and have introduced a reporting process for line managers on strike days.
- We are advancing work on a Transformational Pay Flexibility Business Case for 2023. It is aligned to the Environment Agency's Strategic Workforce Plan and we are managing dependencies with other change programmes within the business.
- We have maintained communications to ensure that the benefits of our holistic employee are visible to all staff.
- We will in 2023-24 increase pay for our staff within the allowances set by the government, representing a 4.5% increase and a further 0.5% for lower paid colleagues. In addition, we will pay a one-off £1,500 payment to all staff.

Mitigation measures continue to evolve to reflect changing knowledge and risk.

The limited flexibility we have in terms of pay, coupled with the impacts of inflation driven cost of living increases are having a negative impact on employee relations. We continue to maintain good Trade Union relationships with regards to usual business activity. However, we are in a trade dispute with two of our unions related to pay. Both trade unions have re-balloted members and gained support for continued industrial action in the form of action short of strike (including withdrawing from incident rosters on specified dates) and full strike action.

A quarter of our employees are trade union members, meaning any action can have a significant impact on our ability to deliver our core business, future aims and to respond to incidents. We also rely on over 6,000 trained volunteers for incident response, most of whom have no contractual obligation to undertake incident work. Unions have been using different types of action since December 2022.

Withdrawal of staff goodwill presents a number of significant risks, including:
- Negative impact on staff wellbeing, morale and retention,
- A prolonged period of industrial action that impacts on our business-critical activities,
- The potential for incident response times to be longer,
- The potential for Flood warning messages to be delayed and include less detail,
- We may not be able to operate our assets, such as flood barriers, pumps, and flood gates (the exception being where there is risk to life),
- Our situational awareness during incidents may be decreased, resulting in a reduced level of timeliness and accuracy of information.

Over the past quarter we have seen some of these risks being realised with the Environment Agency's response to a number of incidents being impacted.

6.4 Asset failure

Risk: If Environment Agency assets fail, we will not be able to fulfil these objectives, potentially resulting in harm to people, the environment, and critical infrastructure plus the loss of services.

The residual risk score has increased from 2021-22

Key mitigations
- A new resilience metric is in development to reflect inherent stability of our embankments (our most prevalent asset, with 7,243km total). Early indications are this information will bring about a predictive asset management approach minimising the likelihood of asset failure. Further developments into other asset classes will follow.
- Our ISO accreditation provides independent assurance of our asset management capabilities and supports our world class asset management ambition. We are currently managing 4 non-conformities through our improvement plan (decommissioning of assets, resource management, document management and storage, and our audit programme). An external surveillance audit for our ISO55001 certification in June 2023 has maintained the accreditation.
- Internal audits ensure that there is a risk-based approach to asset management for all types of assets, including inspections, maintenance, remedial work, and the collection, recording and sharing of associated management information.
- We recently introduced a new asset information management system for asset operation and maintenance (AIMS OM). The system has combined data from multiple historic systems. It was initially implemented in 2021 for Flood and Coastal Erosion Risk Management assets and has been adopted for other types and functions of infrastructure assets during 2022-23.

- All the asset portfolios have programmes and plans in place that ensure assets are regularly inspected, maintained on a risk priority basis, and will reliably provide the function they have been designed for. This forms part of the risk-based asset management assurance plan which includes, particularly in the case of strategically important assets, the implementation and review of asset contingency plans, in the event an asset is overwhelmed or not able to operate as expected. This ensures the asset's function can still be delivered after the flood or other incident has ended. If such an asset and its relevant contingency plan both fail this could have a significant impact on the lives and livelihoods of the local community. This is one of the reasons that the Flood and Coastal Erosion Risk Management strategy has climate resilient places, infrastructure resilient in tomorrow's climate and climate champions as part of its objectives.

Following a whole life asset management strategy, we aim to deliver the maximum asset availability for the optimum lifecycle investment.

The Environment Agency owns, operates, and maintains many thousands of assets including the well-known Thames Barrier and other flood risk management assets, air quality and water resources monitoring stations and various temporary flood defence assets such as barriers and pumps. Our assets allow us to control water levels, facilitate navigation and monitor water quality and levels, together with air quality. To ensure these asset portfolios have effective asset management we have established appropriate governance and created systems including asset registers to identify and prioritise the assets' critical role in terms of infrastructure or community benefit.

FCERM assets in high consequence systems have been below the target of 98% at required condition. The main reasons are the repeated flooding incidents since 2019 and a level of resource funding below that required to reduce the increasing level of asset deterioration associated with climate change and ageing assets. The rate of deterioration is increased by more frequent, prolonged, and more severe flooding and by periods of prolonged dry weather in the summer. The dry weather is damaging to soft earth embankments that make up the largest number of our maintained assets.

We have seen an improved end of year position for 2022-23, with 94.5% of our flood risk management high consequence assets at target condition – exceeding our internally set target of 94.2%.

6.5 Water quality and quantity

Risk: We fail to secure expected improvements in water quality and quantity, leading to impacts for wildlife and people

An amended risk for 2022-23.

Key mitigations

- We have influenced the investment plans in the Water Industry National Environment Programme (WINEP) as part of the pricing review for the 5-year period 2024-2029 ("PR24"). WINEP is the most important and substantial programme of environmental investment in England, with the current WINEP amounting to £5 billion over 5 years.
- We published the annual water company performance report and a spotlight report on storm overflows in July 2023 with strong messages on performance.

The Office of Environmental Protection (OEP) has launched an investigation into the regulatory performance of Defra, Ofwat and the Environment Agency. The outcome of the investigation was received in September 2023. EA and Defra are considering the report's findings.

Our National Framework for Water Resources shows that, by 2050, some rivers could have between fifty and eighty per cent less water during the summer.

Increasing water resources resilience in the short term will be challenging. There is a strong reliance on demand management until new supplies can be developed. New supplies will have environmental challenges to overcome, and costs will come under scrutiny.

We are seeking to maximise the impact of our charge and Grant in Aid income to deliver our ambition for efficient and effective regulation. We are working to ensure we fully recoup the costs of our regulatory services and increasing our recharge powers for incident and enforcement work to ensure the polluter pays.We are working to secure further funding, reallocation of money, and increasing our recharge powers for incident and enforcement.

6.6 Defra group Corporate Services

Risk: There is a risk that Defra group Corporate Services (DgCS) are unable to provide the services the Environment Agency needs to deliver its priorities including EA2025 and the SR21 programmes.

A continuing risk for 2022-23.

Key mitigations

- The risk to the Environment Agency is that we do not receive the critical enabling services we need, impacting our legal and statutory accountabilities and the delivery of outcomes, transferring workload back to the us, increasing costs and failing to address risks such as cyber-security, IT stability and employee relations. Pressure on resources because of inflation and significant financial reductions over the SR21 period continues.
- The Environment Agency Action Plan for Corporate Services, which assessed the risks and opportunities facing the partnership with DgCS has proposed actions for improving the partnership to ensure that we get enabling services that underpin operational delivery. Following discussions at senior levels, we have agreed high level actions to address the recommendations.

6.7 Regulatory challenges

This risk is split into three parts with no change to residual risk from 2021-22.

Risk: The Environment Agency fails to meet the requirements of our statutory regulatory powers and duties across four areas of regulatory risk (future strategy, permitting, compliance, enforcement).

Key mitigations

- Business Activity Groups and Portfolio Groups are leading initiatives to prioritise activity to align regulatory activity with funding, such as environmental incident management, enforcement, communications, and engagement and improving regulatory tools and compliance information to target our highest risks more effectively.
- A Planning, performance, and assurance review is improving how we track and measure our performance by developing a balanced scorecard – to improve assurance of delivery.
- We are establishing an External Affairs function which will look at how we create the right teams and networks to help us shape and embed our communications. Influencing our strategic communications plan emphasising the need for and role of regulation in delivering benefits and outcomes for the environment and communities is vital.
- A Regulatory Resilience role / team has been created to ensure our regulation is resilient across all regulatory regimes and to better support the links into Operations.
- Directors have commissioned the production of a coordinated regulatory plan as part of regulatory resilience; with an ambition to deliver in 2 years.

- A Permitting Services Improvement Programme is in place to bring about improvements in our permitting services.
- The Operations Delivery Board oversees performance and so secures action.

Risk: we fail to effectively communicate what we have delivered with the funding from Government and our customers and fail to provide an indication of how well the environment and communities are protected from regulated sites.

Key mitigations
- Funding was secured through SR21 and activities are ongoing to support our regulatory shaping work - Regulatory reform and major waste reforms, advanced nuclear technologies, UK Best Available Techniques (UKBAT), Air Quality, Water Industry Regulation programme and the Regulatory Services Programme.
- We have undertaken a comprehensive review of GiA allocation and the activities it funds to better align activity with funding.
- A Funding and Investment Delivery Plan of the Water Resources charging scheme is now in place.
- A new Funding and Investment Portfolio Board has been established to bring clearer governance and greater attention to funding risks and opportunities across the organisation, of which regulatory challenges are a key part.
- Performance measures have been reviewed to ensure they drive the right business and customer behaviours to improve overall compliance and ensure our activity is aligned with our income.
- Cooperative working across competent authorities for the Control of Major Accidents and Hazards (COMAH) policy development has resulted in a Memorandum of Understanding being finalised.

Risk: We fail to shape and then implement regulatory reform in response to government's ambitious regulatory agenda.

Key mitigations
- The Executive Directors' team continue to support the four Directors responsible for regulation to provide governance oversight and ensure our improvement programmes deliver.
- We continue to influence the Better Regulation Initiative, the Retained EU Law (REUL) Bill, Environmental Licensing and Permitting Review, major waste reforms, regulating innovative technologies, Future Farming Programme, Sludge Strategy, a permitting review and UK Best Available Techniques (UKBAT) guidance to achieve good outcomes.
- We will publish and implement the Regulatory Statement and develop our 'Regulatory Futures' work to set the strategic direction over the medium term and a 10 to 20 year horizon.

Good regulation works. It is good for the environment, people, and legitimate business. It is crucial for bolstering national resilience, particularly for the critical national infrastructure sectors, and has a vital role in delivering the UN Climate Change Conference (COP) commitments and wider Government commitments such as on job creation, the economy and levelling up.

Our regulation plays a critical role in mitigating climate change through our regulation of the industries that emit most of the UK's greenhouse gases, and we now have an important new role in administering the UK's new Emissions Trading System.

The Environment Agency administers five major energy efficiency and emissions trading schemes aiming to reduce greenhouse gas emissions. They cover over 40% of the UK's carbon emissions from industry, businesses, and the public sector.

Our regulation continues to successfully deliver outcomes for the environment, people, and wildlife, however there is more to do. The quality of the environment is not where the Environment Agency, our partners and society want it to be. And the pressures are growing from climate change, population growth and public expectations.

Our ability to be an effective regulator depends on the regulatory framework we operate in and the level of resources we must use to implement and enforce it.

We have identified risks around our ability to shape and then implement regulatory reform, ensuring our funding enables us to deliver our statutory regulatory powers and duties, and making sure we deliver our regulation to the level of quality and consistency required. Maintaining our reputation as a trusted and respected regulator to our communities and the businesses we work with is also important. There is a risk that if we fail to effectively communicate our priorities and challenges, our reputation and our ability to regulate will suffer.

We continue to adapt and innovate in our regulatory approach to mitigate these risks and ensure that our regulation is robust, and we are ready for future challenges.

6.8 Flood risk management capital programme delivery

Risk: The Environment Agency fails to deliver the outcomes expected from the flood risk capital programme within its funding envelope.

A new risk for 2022-23.

Key mitigations

- The Infrastructure and Projects Authority undertook an independent review of our programme in October 2022 and we are currently implementing their recommendations and expect actions to be completed by the Autumn.
- The National Audit Office has also commenced a review to consider whether our and Defra’s approach to managing flood risk is likely to deliver value for money. The final report is expected to be published in November 2023.
- We have made changes to assurance and approval thresholds to improve delivery by increasing the proportion of local sign off.
- We have secured specific funding to improve permitting processes with Natural England.
- Our pay flexibility business case seeks to enable increased retention of the skilled individuals we need to deliver the programme.

7. Ministerial directions

The Environment Agency received no ministerial directions during 2022-23.

8. Administration of grants to local authorities, internal drainage boards and civil society

We pay grants to local authorities, internal drainage boards, National Highways, and water companies (all of whom come under the grouping of other risk management authorities) for flood and coastal erosion risk management work. All projects require technical and financial approval, and all studies and schemes must adhere to the grant memorandum.

All grant recipients submit interim claim forms to draw down their grant. At the end of the project, we request a project completion form and within two years of project close, a final statement of account. The project completion form demonstrates how the aims of the project were met and is reviewed and approved by the Area Flood and Coastal Risk Manager. The final statement of account shows that the grant has been spent to budget to deliver the project outcomes.

Since April 2012, we have provided grants to charities and civil society groups for work delivering Water Framework Directive objectives. This funding focuses on Water Improvement Projects that enabled the Agency to award Water Environment Improvement Fund (WEIF) and catchment partnership grants to third sector organisations.

This should include the prioritisation of the catchment-based approach (CaBA) and catchment coordination. The purpose of this funding is to support the delivery of the statutory water body objectives set out in the River Basin Management Plans; the achievement of the 25 Year Environment Plan goals in restoring habitat conditions for water dependent wildlife and enabling riverine ecosystems to adapt and become more resilient to climate change impacts, with a specific focus on delivering clean and plentiful water outcomes. Investments in clean and plentiful water projects must demonstrate good value for money, and the Environment Agency should aim to deliver £6 in benefits for every £1 spent.

The types of intervention may include:

- Managing rural pollution
- Managing pollution from towns, cities, and transport
- Improving physically modified habitats
- Managing invasive non-native species
- Improvements in estuarine and coastal waters

Since April 2021, we have been able to use the Natural Environment Investment Readiness Fund (NEIRF) a catalytic fund to drive private sector investment in nature to demonstrate the role private investors can play in protecting and enhancing our domestic natural environment, in climate adaptation and nature restoration.

NEIRF grants fund a broad range of projects designed to deliver environmental benefits for society, while also demonstrating a wide range of innovative approaches to generating revenues from ecosystem services. These projects aim to provide a return on investment by capturing the value of the carbon, water quality, biodiversity and other benefits provided by natural assets such as woodlands, peatlands, catchments, and landscapes. This will create a pipeline of projects for the private sector to invest in.

In 2022-23, led by Defra and working alongside Natural England, we were able to fund some projects through the Landscape Recovery Scheme. Landscape Recovery is one of three new Environmental Land Management (ELM) schemes, with a focus on radical and ambitious large-scale land-use change and habitat restoration. The aim is to deliver at least 10 large-scale pilot projects (covering 500ha to 5,000ha each) devoted to landscape and ecosystem recovery by 2024. Applications for this grant were welcomed for projects which would deliver under one of two themes: ‘river and stream recovery’ and ‘species recovery’.

We manage all our programmes in accordance with Grant Standards guidance from Cabinet Office.

9. Data security

The Environment Agency works with Defra group Security to ensure that there is appropriate security in place to protect our data and information. We ran annual mandatory security and data protection training in 2023 for all staff to help to mitigate against various security risks, including the increased risk of cyber-attacks and accidental disclosures. We have adopted the accountability framework from the Information Commissioner’s Office (the regulator for information legislation), to monitor, assess, and improve how we demonstrate compliance with data protection requirements.

The data protection team produce guidance, policies and communication on dealing with personal data securely, and conduct Data Protection Impact Assessments for any new and potentially high-risk processing.

In the financial year 2022-23, we reported two personal data breaches to the Information Commissioner’s Office (ICO). The first involved the disclosure of personal data in response to a freedom of Information request, where we did not have a lawful basis to disclose the personal data.

The second involved documents sent by post, which should have had personal data redacted from them before being sent. The ICO accepted the improvements we made to processes and the learning points communicated to our employees as sufficient mitigation. They did not require us to take any further action.

We also discovered a non-reportable breach in May 2022. This involved the publishing of Environment Agency email addresses and passwords on the web, most likely because of a historic breach of a third-party supplier. Our investigation concluded that this did not pose a risk to our internal systems as very few (12%) were live email accounts, and access to our systems could not be gained with this information.

Capita, our third-party pension administrators, experienced a cyber incident where malicious activity was detected to some of their server estates on 22 March 2023. This was interrupted by Capita on 31 March 2023. Capita are working closely with the Financial Conduct Authority (FCA), Information Commissioners Office (ICO) and the Pensions Regulator (tPR). The Environment Agency Pension Fund (EAPF) has also reported to and updated the ICO and is keeping regular dialogue with TPR. At the time of writing, Capita has confirmed that there is no evidence that information resulting from this incident has been misused. This position is being regularly monitored.

10. Public correspondence

Correspondence from the public is detailed below and is based on those recorded and subsequently reported from our National Tracker.

Freedom of Information (FOI) requests received in 2022-23 total 47,406 (2021-22 - 44,379), an increase of 3,027 (7%). The average response rate for FOI requests was 22 working days against an average response rate of 20 working days in 2021-22. The ICO requirement for FOI responses is 20 working days.

Our Chief Executive and Chair received less **correspondence** for 2022-23, 519 enquiries compared to 777 in the previous year. The top three issues raised to our executive team, through these enquiries, were about Water Quality, Flood and Coastal Risk Management, and Waste Management. Compliance with our own internal standards for response rates was 76% compared to 74% for 2021-22.

Complaints received also reduced to 1,754 compared to 2,364 in 2021-22. The top three areas of complaint were waste management, permitting and flood and coastal risk management. Compliance with our own internal standards for response, within 20 working days, was 70% compared to 83% for 2021-22.

Commendations increased slightly to 137 compared to 130 in the previous year.

Complaint handling

The Environment Agency’s complaints process is published on the gov.uk website. We define a complaint as "a strong expression of dissatisfaction about our ways of working, decisions, policies and procedures or our staff, that may require investigation and action."

If a customer remains dissatisfied after completing our two-stage complaints process, we signpost them to the appropriate independent complaints bodies - Parliamentary and Health Service Ombudsman, Local Government Ombudsman, or the Office of Environmental Protection if it is a matter relating to environmental law. Details of our dealings with these bodies in 2022-23 is summarised below.

Our Customer Service Commitment outlines what customers can expect from us and what we expect of our customers.

Looking forward, we are working with central government and the Parliamentary and Health Service Ombudsman to introduce and embed new complaint standards. The standards set out how government services should approach complaint handling and will ensure we continue to promote a learning culture, welcome complaints in a positive way, are thorough and fair, and give fair and accountable responses. The complaints procedure will be reviewed and updated to reflect any best practice changes as a result of implementing the standards.

11. Independent complaints bodies

11.1 Parliamentary and Health Service Ombudsman

As the Parliamentary and Health Service Ombudsman's backlog of cases caused by the Covid-19 pandemic was reduced during 2022-23, the Environment Agency received fourteen fresh enquiries, two of which became investigations which are carried forward into 2023-24.

Of 10 decisions in 2022-23, two investigations were completed: neither found in favour of the complainants. The remaining eight cases were either closed as the Ombudsman decided it had no jurisdiction to consider the complaint or after the Environment Agency responded to enquiries which had been made.

As mentioned in the previous Annual Report and Accounts, the Ombudsman referred one of our cases to Parliament under section 10(3) of the Parliamentary Commissioner Act 1967 because we were unable to comply with one recommendation from a 2015 investigation report. A statement was submitted to the Public Accounts and Constitutional Affairs Committee in August 2022 explaining the reasons for not being able to comply with the recommendations in full. The statement has now been published by the Committee and we await a response.

As there were no findings against the Agency in 2022-23, no digest of learning from Ombudsman cases was issued in the last year. Any findings from future Ombudsman investigations will be cascaded within the organisation to ensure lessons are learnt.

11.2 Office for Environmental Protection (OEP)

The Office for Environmental Protection (OEP) receives and investigates complaints on alleged failures of public authorities to comply with or implement environmental law.

During 2022-23, 10 cases were referred to the Environment Agency. Six of those cases were closed with no further action; one case is under investigation, and one case was closed following intervention and monitoring of our work. We are still awaiting the OEP's assessment on the other two cases.

Feedback and learning from our dealings with the OEP have been shared with the appropriate teams and senior staff. Further reporting and learning will be developed during 2023-24 and cascaded more widely.

The OEP continues to consult with us on matters relating to their scrutiny and advice functions.

12. Whistleblowing

12.1 Internal whistleblowing

Clear information is provided to all employees and our suppliers and contractors on how any disclosure can be made and what protections and support are in place for those who raise concerns. Assurance about our approach is provided to the ARAC on a regular basis. There is widespread awareness amongst all staff about the options available to them if they wish to raise concerns, with information about how to raise a concern easily accessible on our intranet.

Our whistleblowing operational instruction was audited in April 2022 by the Government Internal Audit Agency who rated the content as “excellent” in most respects.

All concerns raised under our policy were carefully considered and investigated. During the year, management action was taken even where cases were not upheld. Management action included improved guidance and processes, reinforcing best practice in the workplace.

We continue to use our whistleblowing register that was established in 2021-22 for recording and tracking reported cases. For the period between 1 April 2022 and 31 March 2023 fifteen cases were raised:

- Six were not upheld following investigation.
- One was not upheld but identified management actions and recommendations for the business.
- One was not upheld but identified learning points which have been fed back into the business.
- Seven are currently under investigation.

12.2 External whistleblowing: concerns about environmental malpractice from workers in third party employers

As part of public interest disclosure law, we have an obligation to act on third party disclosures made to us concerning malpractice on environmental matters. Workers who wish to make a protected disclosure, which is in the public interest, about their employer, can choose to raise their concerns with the employer directly, or otherwise through a number of other routes including directly to us for environmental concerns.

In September 2022, we published our fifth annual report into external whistleblowing. We received eight qualifying disclosures between 1 April 2021 and 31 March 2022. Some of these disclosures were anonymous. We cannot always be certain whether a disclosure has been made by employees wishing to make ‘qualifying disclosures’ under the whistleblowing legislation about their employers or other third parties.

Our reports describe each of the cases reported to us and what action we took in consequence. They are available on the gov.uk website and can be found here:
https://www.gov.uk/government/publications/whistleblowing-annual-reports

13. Fraud risk management

Our Director of Legal and Audit Services, working with the Director of Finance and Deputy Director of HR, is accountable for our counter-fraud activity and our approach to managing fraud risk and dealing with any suspected incidents of fraud. This activity is supported by the financial compliance team in and by a Fraud Steering Group made up of managers representing a cross section of relevant business expertise.

We follow the government's counter fraud functional standards in our approach to addressing this risk, in a way that is proportionate to the actual frauds and irregularities experienced by the organisation. We are working with the Public Sector Fraud Authority which leads the government's counter fraud function and with other arm's length bodies within the Defra group to share good practice.

We continue to review and monitor our fraud risks, ensuring that our mitigation actions remain appropriate and proportionate. The work to complete fraud risk assessments for all our grant schemes has not yet been completed, as planned training was postponed during Covid. Rescheduled training to allow completion of these fraud risk assessments will take place in 2023-24.

Raising awareness across the organisation, through sharing of information, communications, training and staff inductions is a pivotal step in managing our fraud risk. Periodic review of this material ensures our information is accurate, consistent, and aligned to Government risk management standards.

We have continued to ensure that many of our counter fraud controls are embedded in other processes, such as security checks for new staff, our procurement processes and schemes of delegation for both expenditure and authorising decisions. We continue to take learning from individual fraud investigations to identify areas of improvement, for example on our Guidance on using our car hire contract. The creation of a dedicated fraud investigation unit this year has increased our resource for addressing allegations of internal fraud.

We received 28 initial reports of concerns about fraud. Not all have required a fraud investigation to be undertaken. These initial reports exclude third party government payment card misuse (for which we are fully indemnified) and reports of external thefts or other reportable incidents, such as fishing licence prosecutions or frauds against the public. We have not seen a significant increase in these reports, but we continue to monitor and respond appropriately to them. Sixteen reported fraud concerns were investigated, with fraud being concluded in two instances. Several investigations are yet to be concluded. Two incidents were reported before the fraud could take place, so were prevented. Disciplinary action taken where fraud is found can include dismissal. Our total reported fraud loss for 2022-23 was almost £137,000, averaging at around £420 per instance of reported fraud.

The relatively small number of potentially fraudulent incidents identified makes it difficult to identify trends with any level of assurance. We know that as in all organisations there will be more cases than we know about. Our ongoing work to increase fraud risk awareness and to encourage reporting of any concerns means we are identifying incidents and behaviours for which we can implement preventative actions and make system and process improvements. This in turn will help protect the organisation's resources and reputation.

14. Money laundering reporting and compliance

The Director of Legal Services is the Anti-Money Laundering Compliance and Reporting Officer for the Accounting Officer. During 2022-23 we continued to deliver against our action plan. Care is taken to help staff members avoid the accidental commission of tipping-off offences.

The action plan reinforced the message that criminals could use the Environment Agency as a mechanism to launder money and that we need to be vigilant to prevent this from happening which could lead to the Agency accidentally committing connected criminal offences ourselves. Since the last update we have undertaken the following actions:

- Promoted the generic money laundering training WebEx to front line teams on a targeted basis.
- Maintained a review of our processes and procedures, and,
- Reviewed the areas of our activity that are considered most likely to be exposed to money laundering risk.

We have reported two issues to the National Crime Agency (NCA) this year by way of a Suspicious Activity Report (known as SARS).

Our communications activities continue to bring forward queries on reporting now or in the future and general questions about money laundering. This increase is encouraging and reduces the risk of money laundering and accidental criminal offences.

A new action plan for 2023-24 has been developed. Success continues to be heavily dependent on raising awareness and understanding.

15. Modern slavery

In 2018, the Environment Agency made a public commitment to join the fight against modern slavery. Figures from the anti-slavery charity, Hope for Justice, show that two-thirds of victims they work with are reported to have worked within the waste industry, making this for us as a waste regulator one of the key areas we are most likely to interface with modern day slavery.

Whilst the majority of the waste businesses we regulate are well run, there are some operators who stray into criminal practices which harm the environment, local communities, and their own workforce.

As part of delivering on this commitment we:

- Routinely pass intelligence to the police where we suspect modern day slavery may be taking place on sites we visit,
- Take part in multi-agency days of action with the police and other partners to disrupt criminality including modern slavery at sites which are operating illegally,
- Frequently work with partners to raise the profile and awareness of modern-day slavery.

Every year we spend approximately millions of pounds with suppliers, so addressing the modern slavery and wider human rights risks associated with purchases is a core and an embedded part of our approach and has been for many years. We prioritise the work we do with suppliers based on sustainability impacts, business risk and spend so that we can focus our efforts in the highest risk areas. A sustainability risk assessment which includes human rights is completed as part of commercial strategies to determine which impacts are relevant to the contract and how they will be managed throughout procurement and for the entire life of the contract. We continue to focus efforts on high-risk categories including but not limited to construction, IT, waste management, personal protective equipment, and clothing. We embed requirements within contracts including the International Labour Organisation's standards, assessing, and working with suppliers to reduce the risks. Our corporate sustainability plan - eMission2030 - commits the Environment Agency to protecting people from modern slavery, and we will continue to develop our approach to the management of this risk, through working closely with our suppliers.

In 2021-22, the Environment Agency worked with Defra to develop a joint Defra Group Modern Slavery Statement[26] which was published in November 2021, as per the requirements under section 54 (Transparency in Supply Chains) of the Modern Slavery Act 2015.

We now produce an annual modern slavery report. The report for 2022-23 will be published in the autumn of 2023. In 2022-23 we started to partner with the Slave Free Alliance (SFA). We want all our people to be confident that they can spot the signs of modern slavery and know how to report it. We have already made training available and our new partnership with the SFA will enable us to enhance our focus on this area. In 2023-24 the SFA will review our current approach and produce a report detailing their findings, which we will use to improve our modern slavery action plan.

[26] https://www.gov.uk/government/publications/defra-group-modern-slavery-statement-2020-to-2021/defra-group-modern-slavery-statement-2020-to-2021

16. NAO audit opinion

NAO qualification: Valuation of operational assets

From 2019-20, the operational asset balances were qualified on the basis they were not valued using a Depreciated Replacement Cost (DRC) approach. Modified Historic Cost has been applied since 1996, which was a longstanding approach that was considered a cost-effective proxy for DRC.

In 2022-23, we delivered a DRC valuation, a considerable task with over 60,000 operational assets and the requirement for specialist valuation skills, increasing the value of operational assets from £3.2 billion to £9.6 billion. As a result, the C&AG has not qualified his opinion on the 31 March 2023 closing balances in respect of the overall valuation.

The opening balances as of 31 March 2022 remain qualified on valuation approach as it would have been an unjustifiable cost to restate these under the DRC valuation approach, with little public benefit.

During the DRC valuation it was found that source data underpinning the valuation had errors due to the merging of multiple operational systems into a new modern asset management system. These included duplicated multi-purpose assets which had been included, for example, on previous flood defence and water resources data bases. The DRC valuation also defined the assets which are controlled by the Environment Agency as assets it actively maintains, regardless of legal ownership. Several assets have since been removed or added on this basis.

Despite significant effort to resolve these issues, it was not practicable or affordable to complete all the necessary data reviews to resolve these issues before the 31 March 2023 valuation. The data review has continued in 2023-24 and will eventually remove the qualification in future. As the Environment Agency maintains c60,000 assets, this is significant in terms of cost and time. Acceleration of the data reviews would require finite asset management resources being diverted from the priority of increasing asset maintenance of vital operational assets.

NAO qualification: Valuation of land & buildings

In 2020-21, the NAO expanded its qualification on the reported values of operational property to include those within the scope of the quinquennial revaluation of land and buildings (operational land, freehold land, dwellings and freehold buildings). This widening of the NAO qualification on asset values was due to a combination of issues with the quinquennial revaluation.

The Environment Agency's property valuations are complex, with over 5,000 often small property assets. Delivering the property valuation is challenging. During 2022-23, we have moved to a series of rolling annual property asset valuations, delivered by largely internal RICS qualified valuers with knowledge of the bespoke nature of holdings, which will deliver the coverage of all assets within a given five-year period. This has been operationally easier to manage and has reduced the risk of errors with a large one-off quinquennial valuation.

The NAO's audit of the 2022-23 financial statements included work on both the 2022-23 and historic property valuations. Due to the historic nature of many land holdings, which were inherited from previous public organisations, it was challenging to provide sufficient evidence on the ownership and size of assets. The C&AG has not qualified his opinion in respect of the valuation approach to this most recent valuation. However, gaining this evidence for historic valuations, which will be covered by the rolling programme in future years, was challenging. This means the 2022-23 valuation of land and buildings is qualified by the NAO.

During 2023-24 we are undertaking digitalisation and data improvement projects to address missing data on historic assets. We will also continue to refine the rolling programme, looking to undertake more valuations during the year.

NAO qualification: Categorisation of capital spend

The Environment Agency completes two types of capital works:

- capital works on assets which are controlled by us (recognised as assets under construction "AUC" and then once commissioned as Property, Plant & Equipment on completion)
- and on assets which are not controlled us, where there is a significant public benefit in doing so, which is accounted for as Capital Works Expensed in Year ("CWEIY").

During 2021-22 we were unable to provide sufficient evidence in respect of the tangible and intangible additions for 2021-22 of £332 million ('capital expenditure'). We took the decision, based on value for money, to stop providing audit evidence which led to a limitation of scope in the 2021-22 audit opinion.

From 1 April 2022, HMT clarified the expenditure which could be included within CWEIY had to be capital in relation to International Accounting Standard 16 on Property Plant and Equipment. As described in note 4 to the financial statements, this significantly reduced the amount of CWEIY expenditure for previously accepted repairs and maintenance works.

The decision was made, due to resource restrictions and value for money, that for 2022-23 the focus would be on ensuring that both CWEIY and in year AUC capital expenditure met these requirements. We contracted with an audit firm and in collaboration with in-house finance and project management teams, reviewed project spends to ensure that only expenditure we could be very confident under the clarified framework could be classified as capital in nature was recognised in CWEIY or in year AUC expenditure. This review completed in March 2023.

The NAO have confirmed in their audit opinion that unlike in 2021-22, they have received key audit evidence in respect of capital expenditure - including both CWEIY and AUC additions - which means that the scope of the NAO's qualification on 2022-23 in this area has reduced compared to 2021-22. Residual qualification issues on capital expenditure are associated with uncertainties around whether spend should be treated as CWEIY or AUC additions, in line with the continuing project described above.

The qualification also remains in respect of the historic AUC balance. A review of AUC balances, as disclosed in note 7 and 8 to the financial statements, has been taking place during 2023-24. This is being completed in partnership between an external audit firm, in-house finance, and project management teams. The review is expected to be completed in Q4 of 2023-24.

NAO area of focus (unqualified): Permitting deposits

Financial protection is held by the Environment Agency as security for permits issued for landfill sites, dredging lagoons, mining waste and hazardous waste facilities. They are held as security to mitigate the risk of environmental damage due to future non-compliance by permit holders. Amounts held in escrow were not recognised in the financial statements during 2022-23 (page 177). The escrow accounts were omitted as the Environment Agency was not aware that these would be considered financial assets under IAS 7. Bond values are now disclosed in the financial statements in 2022-23 (page 195). These were previously omitted as the Environment Agency had not included the security held for permits, which only crystalises in full if it needs to be called in response to certain conditions set out in statute, in its account. We believe the security held for permits is subject to internal controls in the Agency, which we are having tested in an internal audit that has recently commenced. The omissions were due to a technical accounting misjudgement, and we believe there are no further deposits that require disclosing. As the omissions have been addressed within the 2022-23 report, there is no qualification by the NAO.

16.2 NAO qualification over irregularity of expenditure

Certain elements of FCRM programme expenditure procured under three supplier frameworks exceeded the level the frameworks had been set up for. This meant the Agency was operating outside of the requirements of Cabinet Office Spend Controls and Cabinet Office's Public Contract Regulations (PCRs) regarding the amount of spend, and in addition in relation to the duration of the frameworks. During 2022-23 £88m was spent against the frameworks, which took the cumulative spend to £215m which is £64m above the £151m approved by the Cabinet Office. As these are long term contracts we have committed £341m of expenditure as at 31 March 2023, compared to a compliant limit of £151 million.

This non-compliance arose as a result of several inter-related reasons:

- Significant business challenges with the doubling of the flood risk management capital programme, the impacts of prioritising completing the 2015-21 capital programme, the impact of the Covid pandemic, and the inability to recruit project managers due to paying materially less than the private sector.
- This led to much greater, and faster, engagement of supply chain project management professionals than originally expected under the frameworks.
- Late review of framework expenditure management information. Had expenditure against frameworks been reviewed in late 2021, the exceedance risk would have been identified earlier.
- The development of replacement frameworks was therefore not accelerated early enough.
- A conviction that moving from the existing frameworks, designed for the specific requirements of the Environment Agency's flood risk management programme, to more standard Cabinet Office run Crown Commercial Services frameworks would jeopardise delivery of the programme, and that this would prove to be more expensive for the taxpayer.
- Recognition that the government framework for Managing Public Money considers and a view that it may allow for situations where VFM protection may justify temporary non-regularity.

We believe, based on an internal review, that the path taken is likely to have saved the taxpayer a material amount of additional expenditure, and thus that the VFM basis for the decision appears to have been well grounded and made in good faith.

Following a clear decision by the Cabinet Office to not agree with a proposed extension to the given frameworks, the Accounting Officer directed that the Agency return to a compliant position as quickly as possible and mitigate the impacts on delivery and in particular on any risk to life.

A migration plan was therefore developed with Defra group Commercial and presented to the Cabinet Office, which:

- Complies with most Cabinet Office requirements, and in so doing reduce projected spend on all 3 frameworks,
- Includes a longer extension on FCRM asset maintenance where there would otherwise be a risk to public safety,
- Meant almost all new contracts being under compliant Cabinet Office run frameworks, but allowed for extending some contracts where existing experienced project management individuals managing high risk projects would otherwise be expected to be moved by suppliers to other projects, with a related serious risk to delivery and so of project cost increases.

The migration plan continues to be followed and the level of non-compliant procured expenditure will therefore reduce during the 2023-24 financial year.

A number of lessons have been learned from this matter which are being actioned to ensure this does not happen again.

We will:

- Build greater contingency into development of future replacement commercial frameworks,
- Brief earlier on significant commercial challenges to enable greater scope for senior choice,
- Inform Cabinet Office early of any procurement challenge potentially requiring its support,
- Update organisational awareness of the full range of Accounting Officer duties,
- Seek earlier Finance support for a timely VFM review to test all major commercial decisions,
- Make adoption of a higher risk appetite more explicit to key external stakeholders,
- Where there is a higher risk of non-compliance with PCR, include legal advice in good time in framework board papers and internal approval requests for contracts and extensions,
- Ensure we have the right training on contract management for managers of large contracts,
- Include higher value framework spend versus PCR limits in new balanced scorecard reporting,
- Enhance clarity on commercial approval controls in the Financial Scheme of Delegation,
- Note to the Board any high value contract frameworks and their extensions, in the way done with high value project and programme business cases and update reports,
- Escalate any material commercial non-compliance to the ARAC.

Directors' report

Board and Executive Directors

We employ four Executive Directors in addition to the Chief Executive.

A full list of Executive Directors and Board members is provided in the remuneration and staff report. The notice period for Executive Directors is at least three months.

The Board members and Executive Directors had no company directorships or other significant interests which may conflict with their responsibilities in the financial year 2022-23.

Pensions

We are a statutory member of the Local Government Pension Scheme (LGPS). We are the administering and employing authority for the Environment Agency Pension Fund (EAPF), an active fund known as the "Active Fund". The EAPF was created in 1989 for employees of the National Rivers Authority. It now provides defined benefit pension benefits to over 29,000 people, who are current and former employees of the Environment Agency, Natural Resources Wales (NRW) and Shared Services Connected Limited (SSCL). For the financial year 2022-23, the Active Fund received contributions equivalent to 19% from the Environment Agency and between 5.5% and 12.5% from its employees.

Every three years, the Active Fund undertakes a valuation in conjunction with the Scheme Actuary. Our 31 March 2022 valuation assessed the Active Fund's financial position with a funding level of 103% (31 March 2019 - 106%). Better than expected investment returns on the Active Fund's assets between 31 March 2019 and 31 March 2022 were 24.4% which had a positive impact on the funding position of £570 million. The 2022 valuation is positive with the Active Fund reporting only a small reduction in funding over the preceding three years, driven by inflation and offset by strong asset performance. To maintain 100% funding, the Active Fund needs a 3% annual investment return (2.9% annual in 2019), the likelihood of achieving that is estimated at 80% (in 2019, the likelihood was more than 80%).

The 2022 valuation reflects the experience of the Covid-19 pandemic. The funding position was not significantly affected by the pandemic as pension ceasing was broadly in line with expectations. Overall, the mortality experience has had minimal impact on the funding position. The valuation flags that the financial experience did exceed expectations (7.5% annual investment return compared to 3.1% expected) and so has improved the funding position.

Since 31 March 2022, markets continued to be disrupted by the ongoing conflict in Ukraine and inflationary pressures, impacting on investment returns achieved by the Fund's assets. High levels of inflation in the UK (compared to recent experience), have resulted in a higher than expected LGPS benefit increase of 10.1% in April 2023. Despite this, the funding level remains very strong as at 31 March 2023 due to the significant rise in interest rates which reduces the value placed on the Fund's liabilities.

The EAPF's actuary continues to monitor the funding level and outlook for the long-term economy and returns on the Active Fund's assets on a regular basis.

The EAPF has a strategy to integrate responsible investment into its decision making and is a global leader in this. Being a responsible investor means delivering financial goals in the long-term interest of its members, recognising that environmental, social and governance issues can impact financial performance. These issues are considered throughout the funding and investment decision making process.

The government introduced regulations in 2016 which require LGPS Funds to pool investments to improve efficiency. Brunel Pension Partnership Ltd (Brunel), was created and became operational from 1 April 2018. It comprises the EAPF and nine other LGPS Funds (predominantly based in the South West) to meet this obligation.

The Board approved becoming a shareholder in Brunel in July 2017, following a rigorous assurance process. The EAPF will continue to adhere to its own investment strategy, and retain control of its own assets, but will aim to benefit from reduced costs from pooling investments. Around 60% of the Fund's assets are managed by Brunel at 31 March 2023.

Due to the Fund's strong funding position, it was agreed that in March 2023 the overweight equity position would be reduced and invested in to LDI (liability driven instrument) and corporate bonds. This de-risking of the portfolio is in line with the EAPF's rebalancing policy. Around £354 million was disinvested across its six equity portfolios and invested in Blackrock LDI and Corporate bonds mandates.

The EAPF is responsible for, and provides oversight to, the administration of the Active Fund which is carried out by Capita Pension Solutions.

Following the EAPF's Process to Report Breaches of the Law, the EAPF made one report to the Pensions Regulator during 2021-22 which related to the identification of incorrect final pensionable pay figures provided by SSCL to Capita Pension Solutions for employees who have left the Environment Agency. This has created an inequity in final pensionable pay figures, either understating or overstating pay which impacts the final pay calculation of pension. A project group has been established to provide assurance and rectification along with a wider audit at SSCL. The Pension Fund Management Team continue to keep the Pension Regulator appraised on progress.

The EAPF has a communication policy which identifies the Active Fund's key stakeholders, and how we communicate with our different categories of members. The Active Fund has an agreed 'digital by default' strategy for implementing a move to more electronic communication and this continues to evolve. These developments are reflected in the Active Fund's communication strategy. Information can be found at www.eapf.org.uk/.

In 2022, we also won two awards from Pensions for Purpose: Best Climate Change Policy Statement Award and the Impact Investors Adopters Award.

We are also the statutory administering authority for the Environment Agency Closed Pension Fund, known as the "Closed Fund". The Closed Fund provides final salary pension benefits for employees from predecessor water industry bodies. We are responsible for administering both funds in line with LGPS Regulations. The Closed Fund receives no contributions linked to Environment Agency staff. The Secretary of State for the Environment, Food and Rural Affairs has a duty under section 173 (3) of the Water Act 1989 to ensure the Closed Fund can meet the liabilities of pensioners who are in the scheme. We have continued to receive cash funding from Defra for the Closed Fund to pay these liabilities. The Closed Fund is reported within the annual report and accounts of Defra.

Creditor payment policy and statistics

We aim to meet the level of performance for paying creditors in 'British Standard 7890: Method for achieving good payment performance in commercial transactions' and relevant HM Treasury guidance.

During the year, we paid 98% of invoices from suppliers within five days of receipt and registration, compared to 96% in the previous year. Creditor days, calculated on an average basis for the year, were two days during 2022-23 (2021-22 – four days).

Research and development expenditure

We run a research and development programme which covers all our scientific and technical functions in environment and business, and flood and coastal erosion risk management. The purpose of the programme is to make our business more effective and efficient, inform our advice and guidance, and develop innovative approaches to the challenges we face. We record expenditure on research in the year we spend it and we do not capitalise this expense within our statement of financial position.

In 2022-23, we recorded £8.5 million research and development expenditure.

Remuneration and staff report

The People and Pay Committee

The People and Pay Committee comprises five non-executive Board members and is chaired by the Environment Agency's Chair. Its terms of reference were updated in December 2021 and were derived from the Greenbury Code of Best Practice on Directors' Remuneration. These were adapted to the circumstances of the Environment Agency as a non-departmental public body.

For the financial year 2022-23 the Committee's terms of reference were as follows:

1. The People and Pay Committee is appointed by the Environment Agency Board with its delegated authority to consider any matters relating to the pay or remuneration of Environment Agency employees. The committee has regard to the Defra-Environment Agency Framework Document and other relevant requirements of Defra.
2. The People and Pay Committee will consider and advise the Environment Agency Board generally on matters relating to human resources.
3. The People and Pay Committee
    - Considers and approves the overall remuneration strategy of the Environment Agency from the employees' perspective including the full benefits package,
    - Considers and approves periodic pay reviews for Environment Agency employees,
    - Considers and approves any significant policy issues involving terms and conditions other than pay,
    - Considers and approves any performance-related pay to Executive Directors based upon recommendations from the Chief Executive, approves the broad salary bands for Executive Directors and approves the specific remuneration of any Executive Director proposed to be appointed outside of those bands or with any special conditions,
    - Sets and reviews all aspects of the objectives and remuneration of the Chief Executive
    - Reviews the framework for succession planning for key posts,
    - Receives an annual statement of expenses incurred by Board members,
    - Advises the Board on any matters relating to pay, remuneration packages and benefits or general human resources matters in normal Board business.
4. The Chair of the People and Pay Committee should make a report on People and Pay Committee business to the Board meeting following each People and Pay Committee meeting. The full minutes and papers of the People and Pay Committee meetings are made available to any Board member on request.

The People and Pay Committee met four times during the financial year ended 31 March 2023. It agreed the Chief Executive's performance rating and objectives.

During the year, the committee also considered:

- 2022 pay review and pay remit,
- Equality, Diversity and Inclusion (EDI) Race Action Plan,
- Employee Relations – pay and industrial action,
- Chief Executive recruitment,
- Performance ratings and related pay for the Chief Executive and Executive Directors,
- Gender pay gap and pay gap reporting,
- Future incident response.

Under section 1 of the Environment Act 1995, Board members are appointed by the Secretary of State for the Environment, Food and Rural Affairs. The Act provides for the Environment Agency to pay its Board members such remuneration as may be determined by the appropriate minister.

The level of remuneration is subject to review in the context of decisions taken by ministers from time to time in relation to payments of this type.

Non-executive Board members are not eligible for membership of the Environment Agency pension scheme or compensation for loss of office. Board members' appointments may be terminated at any time upon giving three months' notice in writing.

Remuneration of Executive Directors

Detailed below are the Executive Directors and their period of service (including date of appointment).

Table 2: Executive Directors' periods of service

Position	Executive director	Period of appointment
Chief Executive	Sir James Bevan	30 November 2015 – 31 March 2023
	Philip Duffy	1 July 2023 - present
Executive Director of Environment and Business	Harvey Bradshaw	26 September 2015 – 31 December 2022
	John Leyland	17 October 2022 - present
Executive Director of Flood and Coastal Risk Management	Caroline Douglass	1 April 2021 – present
Executive Director of Local Operations	John Curtin	1 December 2020 – present*
Executive Director Chief Operating Officer	Lucy Hunt	1 December 2020 – 31 August 2023

*John Curtin has been an Executive Director since 19 September 2015, having been the Executive Director of Flood and Coastal Risk Management from that date to 30 November 2020. From 1 April 2023 to 30 June 2023, he was acting Chief Executive. Sarah Chare was acting Executive Director of Local Operations during this period.

The notice period for Executive Directors is at least three months and the policy for their remuneration is the responsibility of the People and Pay Committee.

Board members' remunerations (audited)

Table 3: The appointment and emoluments of Board members who have received emoluments in the last two financial years

Board member	Subcommittee member	Latest date of appointment or reappointment	Period of appointment (months)	Latest time commitment (days)	Remuneration in 2022-23 (£)	Remuneration in 2021-22 (£)
Emma Howard Boyd (Chair) (i)	PC, PCISC, PPC	19 September 2019	36	3 per week	46,598	100,000
Alan Lovell (Chair) (ii)	PPC	26 September 2022	36	3.5 per week	58,311	-
Richard Macdonald (Deputy Chair) (iii)	ARAC, EB, PPC	1 June 2021	10	5 per month	-	25,201
Judith Batchelar (Deputy Chair) (iv, v)	ARAC, EB, PPC	30 September 2021	42	5 per month	25,201	16,800
Robert Gould (v, vi)	ARAC, PC, PCISC, FCERM, PPC	30 September 2021	42	6 per month	24,151	21,002
Maria Adebowale-Schwarte (vii)	EB, PPC	1 July 2019	36	5 per month	5,251	21,002
John Lelliott (viii)	ARAC, PC, FCERM	30 September 2021	30	5 per month	21,002	21,002
Caroline Mason	PC, PCISC, EB	30 September 2021	30	4 per month	16,800	16,800
Lynne Frostick (ix)	FCERM	16 July 2021	12	6 per month	7,336	25,344
Stewart Davies	ARAC, EB, FCERM	1 February 2021	48	4 per month	16,800	16,800
Ines Faden da Silva	ARAC, FCERM	1 February 2021	48	4 per month	16,800	16,800
Lilli Matson	PC, FCERM	1 February 2021	48	4 per month	16,800	16,800
Mark Suthern (x)	ARAC, FCERM, EB	10 January 2022	48	4 per month	16,800	3,813
Sarah Mukherjee (x)	FCERM, EB	10 January 2022	48	4 per month	16,800	3,813
Total					288,650	305,177

Details of the attendance of Board members are provided in Appendix D. Non-executive Board members have no entitlement to performance-related pay. Remuneration is in the form of salary. The above figures are total emoluments received and are not shown on a full time equivalent or full year basis.

ARAC – Member of Audit and Risk Assurance Committee at 31 March 2023

PC – Member of Pensions Committee at 31 March 2023

PCISC – Member of Pensions Investment Sub Committee at 31 March 2023

FCERM – Member of Flood and Coastal Erosion Risk Management Committee at 31 March 2023

EB – Member of Environment and Business Committee at 31 March 2023

PPC – Member of People and Pay Committee at 31 March 2023

Notes:

i. Emma Howard Boyd was reappointed as Chair for a final three years from 19 September 2019 to 18 September 2022, when her term ended. Her full year equivalent pay was £100,000.
ii. Alan Lovell was appointed as Chair from 26 September 2022 to 25 September 2025. His full year equivalent pay is £100,000.
iii. Richard Macdonald was reappointed for a further ten months from 1 June 2021 to 31 March 2022, when his term ended.
iv. Judith Batchelar was appointed as Deputy Chair from 1 April 2022, increasing her time commitment to five days per month.
v. Judith Batchelar and Robert Gould were reappointed from 30 September 2021 to 31 March 2025.
vi. Robert Gould became Chair of the Regional Flood and Coastal Committee in July 2022, increasing his time commitment to six days per month.
vii. Maria Adebowale-Schwarte was reappointed for three years from 1 July 2019 to 30 June 2022, where her term ended. Her full year equivalent pay was £21,002.
viii. John Lelliott and Caroline Mason were reappointed from 30 September 2021 to 31 March 2024.
ix. Lynne Frostick was reappointed for twelve months from 16 July 2021 to 15 July 2022, where her term ended. Her full year equivalent pay was £25,200.
x. Mark Suthern and Sarah Mukherjee were appointed on 10 January 2022. Their terms will run for four years until 9 January 2026. Their full year equivalent pay is £16,800.

Executive Directors' emoluments (audited)

Table 4: Total emoluments and benefits in kind of Executive Directors in the last two financial years

Executive Director	Emoluments (£5,000 banded range)		Performance related pay (£5,000 banded range)		Benefits in kind (to nearest £100)		Pension benefits (to nearest £000)		Adjustment (£5,000 banded range)		Total (£000 banded range)	
	2022-23	2021-22	2022-23	2021-22	2022-23	2021-22	2022-23	2021-22	2022-23	2021-22	2022-23	2021-22
Sir James Bevan (i)	190-195	190-195	5-10	10-15	-	-	(130,000)	(26,000)	0-5	20-25	75-80	195-200
Harvey Bradshaw (ii)	115-120	140-145	-	-	-	-	-	-	-	-	115-120	140-145
John Leyland (iii)	60-65	-	5-10	-	-	-	(6,000)	-	-	-	65-70	-
John Curtin (iv)	145-150	140-145	-	5-10	-	-	(105,000)	(9,000)	-	-	40-45	140-145
Caroline Douglass	135-140	130-135	-	-	-	-	21,000	33,000	-	-	155-160	165-170
Lucy Hunt (v)	120-125	120-125	-	5-10	-	-	(8,000)	54,000	-	-	110-115	180-185

Emoluments which reflect gross salaries, and performance related pay are the amounts paid in the financial year, details of which are included in the notes below.

i. Sir James Bevan became Chief Executive on 30 November 2015. Sir James Bevan was an employee of the Foreign, Commonwealth and Development Office (FCDO) who was seconded to the Environment Agency. The amounts shown above are the amounts reimbursed to the FCDO, exclusive of VAT which is recoverable. The pension benefits disclosed above represent the contributions the Environment Agency reimbursed to the FCDO in respect of Sir James Bevan's pension costs in the Principal Civil Service Pension Scheme. Following an audit that identified underpayment of salary from 1 April 2016 he received arrears of salary paid in August 2021. This is included within the 2021-22 Adjustment figure. He was awarded performance related pay for 2020-21 which was paid in August and November 2021, and for 2021-22 which was paid in October 2022.
ii. Harvey Bradshaw opted out of the pension scheme on 31 March 2020. He left the Environment Agency on 31 December 2022. His full year pay was in the range £140,000 - £145,000.
iii. John Leyland started as Executive Director of Environment and Business on 17 October 2022. His full year pay was in the range £115,000-£120,000.
iv. John Curtin was awarded performance related pay for 2020-21 which was paid in October 2021.

v. Lucy Hunt was awarded performance related pay for 2020-21 which was paid in October 2021.

Performance related pay policy

We award performance related pay to our Executive Managers in line with the Civil Service Senior Civil Service Pay Guidance.[27] The approval process for this is through our People and Pay Committee.

[27] https://www.gov.uk/government/publications/senior-civil-service-pay-award-202223-practitioner-guidance

Table 5: Pension benefits of Executive Directors during the last two financial years (audited)

Executive Director	Accrued pension at 31 March 2023 (£5,000 range)	Increase/ (decrease) in accrued pension during year (£2,500 range)	Accrued lump sum at 31 March 2023 (£5,000 range)	Increase/ (decrease) in lump sum during year (£2,500 range)	CETV at 31 March 2022 (£000s)	CETV at 31 March 2023 (£000s)	Real increase/ (decrease) in CETV (£000s)
Sir James Bevan (i)	95-100	(5-10)	285-290	(20-25)	2,160	2,141	(181)
Harvey Bradshaw (ii)	-	-	-	-	-	-	-
John Leyland (iii)	20-25	(0-2.5)	0-5	0-2.5	246	264	(6)
John Curtin	60-65	(2.5-5)	90-95	(7.5-10)	1,107	1,160	(95)
Lucy Hunt	30-35	0-2.5	5-10	0-2.5	370	418	(12)
Caroline Douglass	15-20	0-2.5	0-5	0-2.5	192	242	10

The Environment Agency remunerates its employees in line with standard public sector pay and pension policies. The accrued pension at 31 March 2023 represents the annual pension that individuals would be entitled to at their normal retirement date in the event they left employment with the Environment Agency on 31 March 2023. Changes in the lump sum calculation can fluctuate depending on changes in the final salary figures at the start and end of the period, which can sometimes result in a reduction in value. Where there is no or a small pay rise, the increase in pension due to extra service may not be sufficient to offset the inflation increase. Thus, in real terms, the pension value can reduce, hence some negative values are reported in the table above.

CETV - cash equivalent transfer value. This is the amount an individual's total accrued pension benefits would represent if transferred to an alternative pension scheme in exchange for giving up all rights under the current scheme. The real increase in CETV reflects the increase funded by the employer. It does not include the increase in accrued pension due to inflation or contributions paid by the employee (including the value of any benefits transferred from another pension scheme or arrangement).

Notes

i. Sir James Bevan was on secondment from the FCDO from 30 November 2015 and therefore was a member of the Principal Civil Service Pension Scheme.
ii. Harvey Bradshaw opted out of the pension scheme on 31 March 2020. His CETV at the time of opting out was £1,462,000. He left the organisation on 31 December 2022.
iii. John Leyland started as Executive Director of Environment and Business on 17 October 2022.

Staff Report

This report provides information on the composition of our workforce. Staff costs are disclosed in note 3 of the financial statements.

Table 6: Average number of full-time equivalent staff employed during the year (audited)

	2022-23			2021-22		
	Permanent	**Temporary**	**Total**	**Permanent**	**Temporary**	**Total**
Directly employed	10,755	276	**11,031**	9,902	237	**10,139**
Contractors	-	520	**520**	-	516	**516**
Total	10,755	796	**11,551**	9,902	753	**10,655**

Table 7: Staff seconded out

	2022-23		2021-22	
Grade	Seconded out	Average duration (years)	Seconded out	Average duration (years)
DD1	**3**	**3**	**2**	**3**
NG2	1	1	-	-
SG7	5	2	5	2
SG6	7	1	10	1
SG5	9	2	10	2
SG4	1	1	1	2
SG3	1	4	1	4
Total	**27**		**29**	

All staff were seconded out for a period of six months or more.

Table 8: Staff seconded in

	2022-23		2021-22	
Grade	Seconded in	Average duration (years)	Seconded in	Average duration (years)
CEO	1	7	1	7
SG6	1	2	1	2
SG5	3	1	3	1
SG4	-	-	2	1
Total	**5**		**7**	

All staff were seconded in for a period of six months or more.

In March 2023, the Environment Agency employed 105 executive managers (equivalent to senior civil servant grades). A breakdown of these by level is shown in table 9, below.

Table 9: Executive manager breakdown on 31 March 2023

	Headcount		SCS Equivalent Payband	
	2022-23	2021-22	2022-23	2020-21
Chief Executive	1	1	3	3
Executive Directors	4	4	3	3
Directors	19	19	2	2
Deputy Directors	81	75	1	1
Total	**105**	**99**		

All of the above are Environment Agency employees with the exception of the Chief Executive who was on a secondment from the Foreign, Commonwealth and Development Office.

Equality, diversity and inclusion

We follow the Defra group Equality, Diversity and Inclusion (EDI) strategy 2020 to 2024 which builds on the previous 2017 to 2020 strategy and has been developed with input from EDI networks, HR, trade unions and others across Defra group organisations.

The strategy focuses on delivering against five key objectives:

- Create more inclusive cultures.
- Build and sustain a diverse workforce across the Environment Agency and Defra group.
- Enhance making the UK a great place to live for all citizens.
- Improve EDI capability and confidence.
- Communicate, raise awareness, and report progress.

The Environment Agency looks to create a sense of belonging for all our employees whatever their background, so that they will be heard and feel supported to bring their best self to work.

Gender

We monitor the gender split of our workforce and have included the current numbers in table 10, alongside the prior year comparison.

Table 10: Gender split

Headcount	2022-23		2021-22	
	Male	Female	Male	Female
Chief Executive, Executive Directors, Directors and Deputy Directors	55	50	57	42
All other staff	6,772	5,592	6,066	4,785
Total	**6,827**	**5,642**	**6,123**	**4,827**

The gender pay gap is the difference in the average hourly wage of all men and women across a workforce. We have a higher proportion of men than women in both higher paid and lower paid roles. Our gender pay gap at 31 March 2022 was 0.1%, down from 1.4% in the previous year at 31 March 2021. This is significantly lower than the civil service gender pay gap average of 8.5%.

Disability

We continue to nurture, encourage, and support our mutual support employee networks. They act as our “critical friends” supporting our plans to remove all potential barriers which might prevent employees achieving their full potential in our workplace. We have separate networks for those who are autistic, and those dealing with cancer, chronic pain, dyslexia, hearing loss, fatigue, inflammatory bowel disease, mental health, physical mobility, stammering and visual impairment. Executive Manager champions also support these networks working together with them and disability networks and champions from across the wider Defra group, sharing knowledge and experience to improve the day to day working environment for employees with disabilities.

The feedback of disabled colleagues remains a key driver in helping to build on our continued commitment, in addition to the continued learning and shaping of our disability action plan. We champion career development, career progression and retention of our disabled employees and carry out reviews to make sure we do not discriminate against them. We have a centralised workplace adjustments process for employees with a disability, impairment, or long-term medical condition, which is complimented by a disability leave policy, and an employee disability passport. The employee passport is a confidential document to help our employees to have discussions with their line manager about the support they need. It is also a key document when an employee moves to a new team and can be shared with the new line manager to ensure continuity of support.

In addition, our guaranteed interview scheme means that if an external or internal candidate declares that they have a disability or impairment and they meet the minimum criteria for the job, they will be offered an interview.

Staff turnover

Staff turnover in 2022-23 was 5.9% (2021-22 - 6.1%).

Sickness absence data

We monitor staff sickness absences and have policies in place to minimise them. An average of 5.6 days per full time equivalent employee was lost to sickness absence in 2022-23 (2021-22 - 6.1 days).

Staff engagement

The full employee survey is conducted every two years. The most recent employee survey was conducted in the autumn of 2021 with the results published in December 2021.

Between full employee surveys, we run regular pulse surveys to evaluate our key metrics for staff engagement. These are flexible to make space to hear how staff are coping with the different ways of working and what support they have needed.

The results from our 2021 employee survey (8,100 respondents) show that overall engagement has slightly decreased; it was at 68% compared to 72% in October 2018. Over 70% of staff surveyed said they were proud to tell others they work for the Environment Agency, with particular positive themes being the people, flexible ways of working and the fact we help protect the environment.

Staff felt the main areas for improvement were salaries, better IT, and more opportunities for progression.

A pulse survey conducted in March 2023 (2,168 respondents) produced results showing a minimal decrease in engagement; 67% in comparison to 68% in the 2021 employee survey discussed above.

Positive themes highlighted in the survey results include employees being satisfied by the challenge presented by their work, knowing that they have achieved something worthwhile at work and being able to explain the benefits of their work to both people and the environment.

Employment of consultants and contractors

The nature of our work means we require the expertise of temporary workers as well as those we employ permanently. We have also received additional funding and have increased temporary worker numbers while we recruit permanently. Table 11 shows how much we have spent on consultants and temporary workers and contractors over the past two years (Table 6 shows the numbers employed under the category “contractors”).

Table 11: Expenditure on temporary workforce

	2022-23	2021-22
	£ million	**£ million**
Consultancy	89.7	8.2
Temporary workers and contractors	12.8	10.0
Total	102.5	18.2

The increase in consultancy costs for 2022-23 has been driven by changes to the way that some project accounting costs can be treated, with costs being classified within consultancy during 2022-23 that were previously accounted for as capital works expensed in year (‘CWEIY’).

Tax arrangements of public sector appointees

We provide information about appointments of consultants or staff that last longer than six months and where the individuals earn more than £245 per day, where we pay by invoice rather than through the payroll. We only use these arrangements where we cannot avoid them and minimise their use. We include contractual clauses in the appointment documents to enable us to receive assurance that the individual or their employer is managing their tax and national insurance affairs appropriately.

New off-payroll working rules for public sector organisations called “IR35” were put in place from April 2017 to make sure that where an individual would have been an employee if they were providing their services directly, they pay broadly the same tax as an employee, with the requirement for the employer to deduct tax at source.

Table 12: Off-payroll appointments as at 31 March 2023, for more than £245 per day and that last longer than six months

Number of existing engagements as of 31 March 2023 that have existed for:	2022-23	2021-22
Less than one year	1	0
Between one and two years	9	1
Between two and three years	5	0
Between three and four years	1	0
Four years or more	6	1
Total	**22**	**2**

Table 13: All highly paid off-payroll workers engaged at any point during the year ended 31 March 2023, earning £245 per day or greater

	2022-23	2021-22
Number of off-payroll workers engaged during the year ended 31 March 2023		
Not subject to off-payroll legislation	0	2
Subject to off-payroll legislation and determined as in-scope of IR35	12	0
Subject to off-payroll legislation and determined as out-of-scope of IR35	10	0
Total	**22**	**2**
IR35		
Number of engagements reassessed for compliance or assurance purposes during the year	22	2
Of which: number of engagements that saw a change to IR35 status following review	6	0

The £245 threshold is set to approximate the minimum point of the pay scale for a Senior Civil Servant.

A worker that provides their services through their own limited company or another type of intermediary to the client will be subject to off-payroll legislation and the organisation must undertake an assessment to determine whether that worker is in-scope of Intermediaries legislation (IR35) or out-of-scope for tax purposes.

There were nineteen Board members or senior officials with significant financial responsibility over the organisation during the financial year 2022-23. We did not pay any of them via off-payroll arrangements, other than Sir James Bevan, the Chief Executive Officer, who was paid through the civil service payroll within the FCDO, as described in the remuneration and staff report.

Reporting of compensation schemes (audited)

There may be occasions when external or internal changes have an impact on our staffing requirements. In these situations, we will use our Voluntary Early Release Scheme to avoid compulsory redundancies wherever possible. Our scheme supports business needs and fits in with our overall human resources strategy.

Redundancy and other departure costs are paid in accordance with our compulsory redundancy and voluntary early release schemes. Both schemes are based on the statutory redundancy scheme and take account of the Local Government (Early Termination of Employment) (Discretionary Compensation) (England and Wales) Regulations 2006. All departure costs are accounted for in full when official notice has been served.

Table 14: Exit packages for the financial year 2022-23 (audited)

Category	Compulsory redundancy	Other departures	Total	Compulsory redundancy	Other departures	Total
	Number	Number	Number	£ million	£ million	£ million
£0-£25,000	-	1	1	-	0.0	0.0
£25,001-50,000	-	-	-	-	-	-
£50,001-100,000	-	-	-	-	-	-
£100,001-150,000	-	-	-	-	-	-
£150,001+	-	-	-	-	-	-
Total	**-**	**-**	**-**	**-**	**-**	**-**

Table 15: Exit packages for the financial year 2021-22 (audited)

Category	Compulsory redundancy	Other departures	Total	Compulsory redundancy	Other departures	Total
	Number	Number	Number	£ million	£ million	£ million
£0-£25,000	1	-	1	0.0	-	0.0
£25,001-50,000	-	-	-	-	-	-
£50,001-100,000	-	-	-	-	-	-
£100,001-150,000	-	-	-	-	-	-
£150,001+	-	-	-	-	-	-
Total	**1**	**-**	**1**	**0.0**	**-**	**0.0**

Where we have agreed early retirements, any additional costs have been paid by us rather than the Environment Agency Pension Fund. Ill-health retirement costs are covered by the pension scheme and are not included in the table. Redundancy and other departure costs for Executive Directors are also included in the remuneration and staff report.

Fair Pay disclosure (audited)

The Environment Agency and similar reporting bodies are required to disclose the percentage change from the previous financial year for both salary and performance pay in respect of the highest paid director and in respect of employees of the organisation taken as a whole.

Table 16: Highest paid director and the whole workforce

	Salary and benefits in kind		Performance related pay		Total	
	2022-23	2021-22	2022-23	2021-22	2022-23	2021-22
Highest paid director (£5,000 banded range)*	195-200	215-220	5-10	10-15	205-210	225-230
Average employee remuneration (£)	37,501	36,508	624	648	38,125	37,156

* The 2021-22 figures for the highest paid director include arrears of salary since 2016 which were paid in 2021-22.

Table 17: Percentage increase or decrease for highest paid director and the whole workforce – 2022-23 versus 2021-22

	Salary and benefits in kind	Performance related pay	Total
Highest paid director	(9.2)%	(40.0)%	(8.8)%
Highest paid director (excluding arrears of salary)*	2.6%	(40.0)%	2.5%
Average employee remuneration	2.7%	(3.7)%	2.6%

*The highest paid director received arrears of salary paid in August 2021. For further details see Table 4.

No employee received remuneration in excess of the highest-paid director (2021-22 - none). The range of banded remuneration for employees was £15,000 to £20,000 up to £195,000 to £200,000 (2021-22 - £15,000 to £20,000 up to £225,000 to £230,000).

Reporting bodies are also required to disclose the relationship between the remuneration of the highest-paid director in their organisation and the lower quartile, median and upper quartile remuneration of the organisation's workforce.

Total remuneration includes salary, non-consolidated performance-related pay, and benefits-in-kind. It does not include severance payments, employer pension contributions and the cash equivalent transfer value of pensions.

Table 18: Relationship of pay between highest paid director and the whole workforce

	25th percentile		Median		75th percentile	
	2022-23 £	2021-22 £	2022-23 £	2021-22 £	2022-23 £	2021-22 £
Highest paid director (mid-point of pay band)*	207,500	202,500	207,500	202,500	207,500	202,500
All employees (salary)	29,706	28,785	37,462	36,389	39,448	38,501
All employees (total pay and benefits)	29,706	29,217	37,949	37,012	45,794	43,411
Ratio*	7.0	6.9	5.5	5.5	4.5	4.7

* Excluding arrears of salary received by the highest paid director paid in August 2021. For further details see Table 4.

The banded remuneration of the highest paid Executive Director, as disclosed in the remuneration and staff report, for 2022-23 was £205,000-£210,000 (2021-22 - £200,000-£205,000). This was 5.5 times (2021-22 – 5.5 times) the median remuneration of the workforce, which was £37,949 (2021-22 - £37,012).

In line with the public sector pay remit guidance, on 1 July 2022 annual pay increased by 2% of the grade rate to all staff in Grades 1 -7, Environment Officer B, Graduate and Nuclear Grades. The median pay ratio is consistent with the Environment Agency's pay, reward and progression policies.

Relevant union officials (not subject to audit)

The Trade Union (Facility Time Publication Requirements) Regulations 2017, a statutory instrument under the Trade Union and Labour Relations (Consolidation) Act 1992, requires reporting of certain information regarding employees of public sector organisations who conduct activities as members of trade unions during their employment.

The number of employees who were relevant union officials during 2022-23 was 393 (2021-22 - 284) with full-time equivalent employee numbers of 376 (2021-22 - 272).

Table 19: Percentage of pay bill spent on facility time

Measures	Cost (£ million)	
	2022-23	2021-22
Total facility time by union officials	0.3	0.5
Total all staff	418.8	382.5
Percentage on facility time	0.1%	0.1%

Table 20: Percentage of staff time spent on facility time

Measures	Time (in hours)	
	2022-23	2021-22
Total facility time by union officials	8,179	7,784
Total working hours by union officials	716,960	523,985
Percentage on facility time	1.1%	1.5%

Table 21: Percentage of individual staff time spent on trade union activities

Percentage of time	Employee headcount	
	2022-23	2021-22
0% - 1%	326	214
1% - 50%	67	70
Total	**393**	**284**

Parliamentary Accountability and Audit Report

Main activities of the Environment Agency business units

Environment and Business charges

The main chargeable activities of our Environment and Business operating units (water, land and biodiversity and regulation of industry) are detailed below.

Water, land, and biodiversity:

- Abstraction charges - charging businesses for abstracting water from rivers or groundwater. The income reported also includes other elements of water resources income.
- Environmental Permitting Regulations (EPR) water quality - charging businesses for permits to discharge into the water environment.
- Fishing licences - charging individuals for licences to fish.

Regulation of industry:

- EPR installations - permitting to control and minimise pollution from industrial activities.
- EPR waste - permitting for waste management and exemptions.
- Hazardous waste - licensing for producing, transporting, or receiving hazardous waste.
- Emissions trading, Carbon Reduction Commitment (CRC) Energy Efficiency Scheme and Climate Change Agreements Scheme - regulation of businesses under schemes including the EU Emissions Trading System and Climate Change Agreement Scheme. The CRC Energy Efficiency scheme closed on 31 March 2019, but some compliance and closure work is still continuing.
- Nuclear regulation - regulation of nuclear sites (radioactive substances 1 and 2), non-nuclear sites (radioactive substances 3 and 4) and nuclear new build sites.
- Other environmental protection charges - licensing for registration of waste carriers and brokers, trans-frontier shipments, producer responsibility licensing, end-of-life vehicles, polychlorinated biphenyls, and regulation of businesses under such schemes as control of major accident hazards (COMAH).
- Navigation licences - charging individuals for boat licences.

The majority of the charges funding is for resource expenditure.

Environment and Business grant-in-aid

In addition, we receive grant-in-aid from Defra, the un-ringfenced component of which supports the following Environment and Business activities:

- Strategic direction for delivery and support to Defra,
- Setting our direction on environmental protection to help create a better place for people and wildlife,
- Provision of technical leadership,
- Advice to government and other organisations in England that are involved in environmental protection,
- Monitoring, including water quality and air quality,
- Strategic environment planning, including river basin and catchment restoration plans,
- Investigations and improvement under the Water Framework Directive,
- Enforcement and environmental crime work including waste crime,
- Incident management,
- Navigation and fisheries work not covered by charges,
- Work with local partners, communities, and government,

- Town and country planning advice,
- Administration of energy efficiency/carbon reduction schemes, including the Energy Savings Opportunities Scheme (ESOS).

We receive ringfenced grant-in-aid from Defra to carry out specific activities. The majority of the environment and business grant-in-aid funding is for resource expenditure.

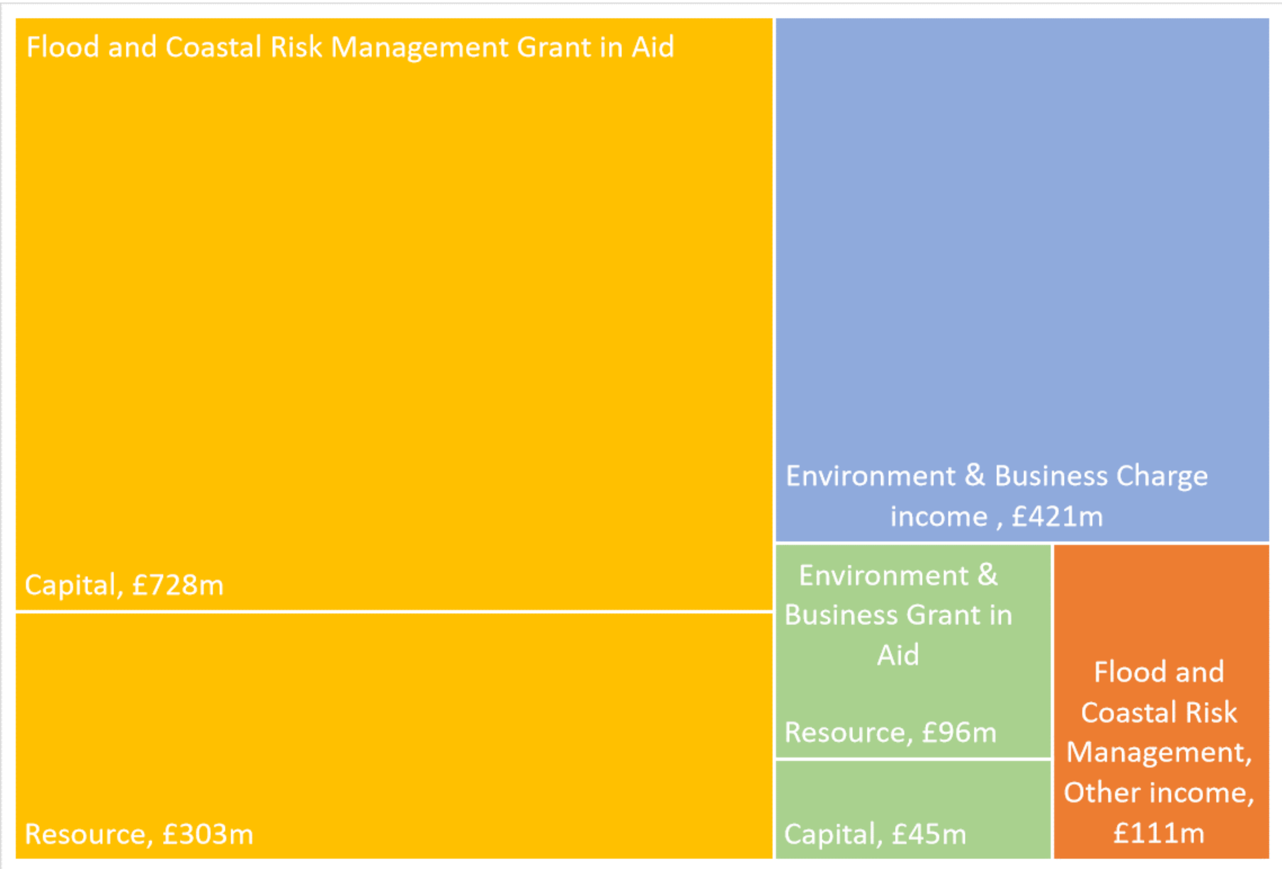
Flood and Coastal Erosion Risk Management

The main activities of our Flood and Coastal Erosion Risk Management operating unit are detailed below:

- Capital investment strategy and delivery,
- Incident management and resilience, including flood warnings,
- Asset management,
- Digital and skills.

This is mainly funded by Defra grant-in-aid with some other funding sources as presented in the funding overview diagram below. The majority of the FCERM funding is for capital expenditure.

Figure 7: Funding by main activity area



Regularity of expenditure (audited)

Section 16.4 of the governance statement describes the supplier frameworks issue where expenditure procured exceeded the level for which the frameworks had been set up and the lessons learned.

Analysis of fees and charges (audited)

Table 22 relates to income from fees and charges for the Environment and Business operating unit and is reported in line with the accounting policy for deferred and accrued income within the financial statements.

Income billed differs from income reported in note 6 to the financial statements due to the accounting policy on accrued and deferred income. The cumulative surpluses and deficits are reported in notes 11 and 13 of the financial statements. Surpluses and deficits are held as Managing Public Money requires income streams to fully cost recover and so deficits are recovered either from reduced spending or increased charging and surpluses from increased spending or reduced charges. As the recovery of surpluses or deficits will occur in a future year (or years), the Environment Agency needs to hold the surplus or deficit on its Statement of Financial Position.

Expenditure funded by grant-in-aid has been excluded from the table below, except for fisheries and navigation where the deficit after charges is funded by grant-in-aid. The table does not include the effect of IAS 19 pension adjustments as these are not passed on to charge payers. The financial objective for the above Environment and Business charging schemes is full cost recovery taking one year with another, based on all costs including current cost depreciation and a rate of return on relevant assets.

Table 22: Fees and charges income

Type of charge	Expenditure	Income billed	Deficit or (surplus)
	£ million	£ million	£ million
Abstraction charges	172.1	(173.3)	(1.2)
Navigation licences	14.9	(9.8)	5.1
Fishing licences	21.4	(21.2)	0.2
EPR water quality	71.7	(72.5)	(0.7)
EPR installations	37.7	(33.8)	3.9
EPR waste	33.8	(31.6)	2.2
Hazardous waste	13.9	(15.9)	(2.0)
Emissions trading and carbon reduction commitment	3.8	(4.3)	(0.5)
Nuclear regulation	17.4	(17.3)	0.1
Other environmental protection charges	16.5	(18.7)	(2.2)
Total 2022-23	**403.2**	**(398.4)**	**4.8**
Total 2021-22	**357.3**	**(370.4)**	**(13.1)**

Losses and special payments (audited)

HM Treasury's 'Managing Public Money' rules require disclosure of losses and special payments by category, type and value where they exceed £300,000 in total, and for any individual items above £300,000.

Table 23: Losses and special payments by category

Category/type	2022-23		2021-22	
	Number	£ million	Number	£ million
Write-off of sundry debts	2,093	2.6	2,759	2.9
Loss of assets	27	0.1	21	-
Special payments	10	0.2	26	1.5
Other (cash losses, fruitless payments, unenforceable claims and gifts)	58	0.8	24	0.3
Total	**2,188**	**3.7**	**2,830**	**4.7**

Losses are estimated at fair value and include costs incurred in previous years. We pursue all debts and refer unpaid invoices to a debt collection agency after a certain period. Some debts become irrecoverable and need to be written off such as those due from businesses and individuals which have become insolvent. There was one special severance payment in 2022-23 and none in 2021-22. As there was only one payment no further disclosures (e.g. maximum, minimum, average) are being made.

Losses and special payments individually over £300,000 (audited)

There were two losses and were no special payments in excess of £300,000 in 2022-23. One loss was a constructive loss relating to emergency works to repair coastal flood defences where not all forecasted risks materialised leading to an excess of rock armour being purchased. This was not able to be used at other Environment Agency projects and so has been passed to a nearby local authority for use in their scheme. In exchange for the rock armour, the local authority is paying for the transportation from the site to theirs. The value of the loss was £657,000.

The second related to a specific situation where the Environment Agency had previously issued a short-term variation to a number of abstraction licences, reducing the cumulative volume allowed. The decision in respect of a further short-term variation was delayed by the need for complex modelling and the impacts of Covid-19. The Environment Agency agreed that the charge payer would maintain a reduced abstraction volume in accordance with the expired short-term variation, in order to reduce the potential environmental impact on the important chalk aquifer. The charge payer would continue to pay the appropriate amount for that reduced level of abstraction. The charge payer made the correct payments on that basis, but the higher fee was recorded in accordance with the (unused) higher abstraction volume in the old licence condition. As a result, a £733,000 reduction has been applied to invoices over 3 years to reflect the fees chargeable for the actual, reduced levels of abstraction.

There were no losses and one special payment in excess of £300,000 in 2021-22 and there were no gifts in excess of £300,000 in 2022-23 or 2021-22.

Contingent liabilities and remote contingent liabilities (audited)

There are two contingent liabilities, and no remote contingent liabilities, that require disclosure in the annual report and accounts. The first contingent liability relates to damage to an existing weir when Environment Agency works took place nearby. The claimants have indicated their claim would be in the region of £3 million. The Environment Agency disagrees with that valuation. The uncertainty and difference between these positions mean a reliable value cannot be attributed.

The second relates to the commercial matters described in the governance statement; the Environment Agency assesses the likelihood of these leading to cash outflow beyond the operation of the contracts themselves as possible rather than probable, and in any case does not recognise provisions on these matters on the basis that no reliable basis for assessment is available.

The contingent liability disclosed last year relating to the estimated £13 million contract dispute has been converted to a provision. This is following the completion of an adjudication process as per the contract the determination of which means there is likely to be an economic outflow from the Environment Agency but the exact amount is yet to be determined.

At the time of writing there is significant uncertainty on the extent of both obligation and value based on the behaviour of regulators and potential claimants with regard to the Cyber Incident at Capita and as such no contingent liability could be reliably measured.

Philip Duffy, Chief Executive and Accounting Officer

23 October 2023

The Certificate of the Comptroller and Auditor General to the Houses of Parliament

Qualified opinion on financial statements

I certify that I have audited the financial statements of the Environment Agency for the year ended 31 March 2023 under the Environment Act 1995.

The financial statements comprise the Environment Agency's:

- Statement of Financial Position as at 31 March 2023
- Statement of Comprehensive Net Expenditure, Statement of Cash Flows and Statement of Changes in Taxpayers' Equity for the year then ended; and
- the related notes including the significant accounting policies.

The financial reporting framework that has been applied in the preparation of the financial statements is applicable law and UK adopted International Accounting Standards.

In my opinion, except for the possible effects of the matters described in *the Basis for qualified opinion on the financial statements* section, the financial statements:

- give a true and fair view of the state of the Environment Agency's affairs as at 31 March 2023 and its net expenditure after interest for the year then ended; and
- have been properly prepared in accordance with the Environment Act 1995 and HM Treasury directions issued thereunder.

Basis for qualified opinion on the financial statements

Overview

I have been unable to obtain sufficient appropriate evidence that the values of Property, Plant and Equipment, including Assets Under Construction – as well as Intangible Assets Under Construction – as stated in the Statement of Financial Position for the Environment Agency as at 31 March 2023 and 31 March 2022 are free from material misstatement, due to the following matters.

i. The Environment Agency's **operational assets** are now valued on a Depreciated Replacement Cost (DRC) basis, in line with the financial reporting framework. The valuation of £9.6 billion is presented in Note 7. The source data underpinning this valuation has limitations on its reliability which are relevant to my opinion. The Environment Agency is making efforts to improve the accuracy of its standing data on the extent of its operational assets. Material changes were made during the audit period and this improvement project is continuing. Consistent with the Environment Agency's ongoing efforts on data quality, I found some assets in my sample which were duplicates, or the responsibility of other entities, as well as indications of issues with completeness. While I have not been able to reliably quantify the effect of this matter due to the nature of the limitations described, I consider the combined effect of these issues to be potentially material in terms of the valuation, completeness and existence of these assets.

ii. As has been the case since 2020-21, my audit identified errors and uncertainties associated with the value attached to the Environment Agency's **land and buildings**, including the portion described as operational land. These are presented in note 7 with a combined value of £480 million at 31 March 2023, and of £464 million at 31 March 2022. I have not been able to quantify the uncertainties, principally because the Environment Agency has been unable to provide sufficient evidence of the extent of its holdings, and its rights over them; and secondarily, because of residual weaknesses in the valuation evidence for some assets, particularly a subset which has not been revalued for more than five years. These issues impose limitations on the scope of my work which affect my opinion on both the 31 March 2023 and 2022 balances, and related revaluation entries.

iii. As in 2021-22, I have been unable to obtain sufficient evidence in respect of the existence, completeness, rights and obligations and valuation of the **Assets Under Construction** (tangible and intangible) balances due to the limitations of evidence in respect of Assets Under Construction. The combined balance as presented in notes 7 and 9 for 31 March 2023 is £627 million (31 March 2022: £414 million). I have been unable to conclude on the level of error due to the underlying records not being ready for audit, pending the completion of a review by the Environment Agency on the appropriateness and completeness of project spend recognition. My opinion remains qualified in respect of the comparative (31 March 2022) balances. The related uncertainty also affects the capitalisation of cost in 2022-23, so I am unable to express a view on the appropriateness of its **classification** between capital additions (notes 7 and 9) and amounts passing directly through net expenditure. The limitation described also affects the equivalent transactions reported for 2021-22, on which my opinion remains qualified.

Additional issues affecting prior year balances

I also note the following matters relating to the prior year which do not affect 2022-23 transactions and balances, but because of which my opinion is additionally qualified in respect of comparative figures. This would be the case even if the above matters had been resolved.

i. The Environment Agency's operational assets are from 31 March 2023 valued on a Depreciated Replacement Cost (DRC) basis. Previous valuations have been undertaken under modified historic cost, **a basis not in line with the financial reporting framework**. No prior year restatement has been undertaken following this change in accounting policy, since the Environment Agency was not able to reliably analyse the source data for this balance retrospectively. The revaluation movement for 2022-23 includes both the effect of this change of policy in terms of unit rates applied to assets, and an expansion of the asset base represented in the updated source data. My opinion remains qualified on the 31 March 2022 Statement of Financial Position in that the valuation approach adopted prior to 2023 is not a materially accurate proxy for the measurement basis (DRC) required by the financial reporting framework, which has subsequently been adopted. This matter is also relevant to the revaluation movements in both 2021-22 and 2022-23 and - while a third balance sheet has not been presented – to the related balance at 31 March 2021.

ii. In my 2021-22 report I described being unable to obtain sufficient evidence in respect of the tangible and intangible additions for 2021-22 of £149 million, reported in notes 7 and 9, as well as Capital Works Expensed In Year (together, '**capital expenditure**'). The Environment Agency took a decision to stop providing audit evidence with regards to this spend, and has not presented revised evidence for audit in respect of these comparative figures in 2022-23. This led me to limit the scope of my audit opinion in respect of capital expenditure for 2021-22. My audit work on capital expenditure for 2022-23 was not affected by the same broad limitations, though as described above I have been unable to gain sufficient assurance that transactions in 2022-23 are correctly classified between capital additions and items taken direct to net expenditure.

My assessment of the matters giving rise to qualified opinions

Valuation of Operational Assets

Matter giving rise to qualification	The Environment Agency holds a nationally important portfolio of operational infrastructure assets, predominantly to respond to risks of flooding. The accounting framework set for Government bodies by HM Treasury dictates that such assets should be valued under the Depreciated Replacement Cost (DRC) method, reflecting the cost of a modern equivalent asset adjusted to reflect the asset's current condition. In my previous report, I explained that as at 31 March 2022 this portfolio was not valued in line with the requirements of the accounting framework; it was instead valued using the modified historic cost method. In 2022-23 the Environment Agency implemented a DRC valuation on this portfolio for the first time. This revaluation has resulted in a material increase to the valuation of operational assets within the Statement of Financial Position. The net book value of these assets has increased to £9.6 billion (31 March 2022: £2.9 billion) as a result of both changes in costing rates and the changes in the scope of assets included in the Statement of Financial Position under the new valuation basis. Note 7 includes further details on the nature of this framework as it relates to the Environment Agency's operational assets. The preparation of the asset portfolio on the DRC methodology relies on several key inputs: a) source data on the quantity, nature and extent of assets within the Environment Agency's control; b) unit rates for the replacement cost of these assets, determined with expert input on a modern equivalent basis; and c) information on the age and/or condition of these assets to inform an estimate of the extent of adjustment between the as-new modern equivalent asset value and the depreciated replacement cost of the actual portfolio.
Scope of my audit work	In responding to the above, my procedures included: • assessing key elements of the Environment Agency's methodology for the DRC valuation, drawing in part on the input of RICS-qualified experts; • testing for a sample of assets to evaluate evidence of their existence, the accuracy of attribute data relevant to valuation (principally, dimensional data) and whether they were controlled by the Environment Agency; • assessing the completeness of the data based on post year end changes; • engaging an auditor's expert to evaluate the appropriateness of costing rates for different asset types prepared by management's expert; • reviewing the evidence informing the Environment Agency's adjustment for condition; • assessing the operation and mathematical integrity of the DRC model; and • evaluating management's related disclosures.

Why I was unable to obtain sufficient appropriate audit evidence	My opinion remains qualified in respect of comparative figures for this valuation because the basis of valuation applied at 31 March 2022 has not been restated retrospectively under IAS 8 on grounds of impracticability. The preparation in the prior year therefore remains out of line with the financial reporting framework. This is because management lack retrospective source data that would have enabled a reliable adjustment as at 31 March 2022, reflecting the live nature of the systems involved and extensive changes made during 2022-23 to improve information in the recently implemented asset management database. While I note in a significant number of areas that management have successfully implemented the new methodology as at 31 March 2023, my opinion on 31 March 2023 remains qualified because I was unable to obtain sufficient appropriate audit evidence because of issues with the accuracy and completeness of source data on assets. During the period of my audit, management made changes to asset data, primarily to improve the accuracy of standing data, which had a material effect. Management's actions are moving the Environment Agency towards a more stable and reliable dataset which will support both asset management and accounting; however, the project is ongoing. As of October 2023, management assessed that out of the 69,646 assets which the Environment Agency either owns or maintains, 15,497 were at higher risk for duplicates and errors, and it is prioritising the review of these items. Consistent with management's analysis that improvements need to continue, I found a number of issues in my sample including assets which were duplicated, and where evidence contradicted the assertion of control by the Environment Agency. As a result of these residual weaknesses in asset data, I have qualified my opinion in respect of the value recognised at 31 March 2023 in respect of operational assets.

Land and Buildings

Matter giving rise to qualification	The Environment Agency holds a significant amount of land and buildings, presented in Note 7. Following a reclassification this now includes 'operational land' – principally relating to Environment Agency-owned land used for flood alleviation purposes. The Environment Agency values the combined balance at £480 million (31 March 2022: £464 million). The accounting framework sets out that Environment Agency needs to revalue this subset of assets on a 5-yearly basis using Existing Use Value. For specialised assets, this involves a consideration of replacement cost; for non-specialised assets, an evaluation of market value constrained to the existing use. I qualified my audit opinion in 2020-21 and 2021-22 due to errors and uncertainties my audit identified within the quinquennial revaluation of land and buildings recognised by the Environment Agency. I was unable to quantify the uncertainties due to the weaknesses in the Environment Agency's revaluation of the assets. In 2022-23 the Environment Agency has moved to a rolling programme of valuations for its operational land – which at £333 million (31 March 2022: £356 million) represents the largest element of the Environment Agency's land-holdings – with the aim of revaluing 20% of in-scope assets in each year of a 5-year cycle. The Environment Agency aims to complete the first cycle in an accelerated pattern, by 31 March 2026. The revaluation of land and buildings relies on: • the classification of assets between operational land and freehold land to ensure the assets are revalued under a methodology in line with the financial reporting framework; • source data, including on location and area; • an assessment of which parcels the Environment Agency has rights over (generally, legal ownership); and • the use of an index appropriate to the underlying asset category in order to bring land and building assets not fully revalued in year to their current cost.
Scope of my audit work	In responding to the above, my audit procedures included: • testing a sample of revalued assets to confirm the existence, rights and accuracy of source data used in each valuation; • assessing the key elements of the 2022-23 revaluations to ensure the Environment Agency had appropriately applied in line with RICS guidance and the Financial Reporting Framework; • testing a sample of assets which had been indexed in year to confirm existence, rights, accuracy of source data used in the valuation and whether the appropriate indices had been applied; • analysing a sample of assets selected from the asset database to assess the completeness of assets; and • evaluating management's disclosures.

Why I was unable to obtain sufficient appropriate audit evidence	My opinion remains qualified in respect of the comparative figures as the issues detailed below are equally applicable to the 31 March 2022 balance. This is principally because I was unable to obtain sufficient appropriate audit evidence across enough of my sample in respect of the Environment Agency's rights and the extent of its property holdings (e.g. evidence over area). For some of my sample items, the Environment Agency has not been able to evidence its rights (principally, ownership) over the asset. Not all landholdings are registered and in some of these cases alternative evidence, such as deeds, was not promptly available for inspection. Evidence on land area was not available in all cases, and where it was there were some differences between the values used in the Environment Agency's valuations and the evidence promptly available. In respect of valuation procedures, I note the significant change that the Environment Agency has implemented in 2022-23 by beginning the new rolling programme with a revaluation in 2022-23 of £104 million of assets. My testing did not identify any material issues with these in-year revaluations additional to the evidential issues described above. However, there remain residual issues with the valuation of properties revalued in prior years ('the indexed population'), including: • duplicated assets detected in my testing; • valuation and existence evidence being unavailable for some items in the indexed population, including but not exclusively in respect of revaluations over five years old (which management estimate at £47 million); and • indexation having been performed using indices which did not appear appropriate to the asset class. I am not able to reliably estimate the aggregate effect of the issues above due to the limitations in evidence presented. Management is in the process of implementing a new asset management system for land and buildings with part of this project aiming to improve the data and underlying records and I consider my findings to be consistent with this diagnosis of further improvement being necessary. As a result of the issues described, I have qualified my opinion in respect of the value recognised for the Environment Agency's land and building assets. These uncertainties affect my opinion on both the 31 March 2022 and 2023 balances.

Classification of expenditure and valuation of Assets Under Construction

Matter giving rise to qualification	The combined balance of Assets Under Construction is recognised in the Environment Agency's accounts at £627 million (31 March 2022: £414 million). Expenditure contributing to this balance relates to the development of operational assets which are not yet operationally live, under projects to reduce flood risk and deliver other environmental objectives. The accounting framework sets out that only directly attributable costs contributing to an asset under the control of the reporting entity should be recognised on the Statement of Financial Position. Expenditure on projects which does not meet this criterion should instead form part of the Environment Agency's net expenditure. When it meets specific HM Treasury budgetary criteria, predominantly based on the nature of the activity, the Environment Agency describes this expenditure as Capital Works Expensed In Year (CWEIY). For example, coastal defences built on behalf of a local authority would generally not be assessed as within the Environment Agency's control, so would not be capitalised, but would be assessed as CWEIY and count towards the Environment Agency's Capital DEL spending for the purpose of assessing outturn against voted Supply at the Environment Agency's parent Department, on consolidation. In 2021-22 the Environment Agency was unable to provide sufficient evidence, including necessary transactional listings, for either in-year capital expenditure or the Assets Under Construction balances. I therefore qualified my previous year's opinion with regards to the existence, completeness, rights and valuation of the Assets Under Construction (tangible and intangible) balance. This year, the Environment Agency has been able to provide transactional listings to support my audit work on in-year capital additions. Management's work to address my previous findings is ongoing. The Environment Agency has engaged external consultants to review the historic Assets Under Construction balance to ensure costs are appropriately classified between expenditure and the Statement of Financial Position. This review is ongoing and aimed for completion in 2024.
Scope of my audit work	For the reasons above, the Environment Agency were not able to provide a corrected Assets Under Construction balance for audit. My team, however, were able to complete audit work to consider capital additions to assets during 2022-23, including additions to the Assets Under Construction balance. This work included: • testing a combined sample of tangible and intangible asset additions to confirm the accuracy, cut-off, regularity and classification of expenditure; and • testing a sample of CWEIY expenditure to ensure it had been appropriately classified between expenditure and the Statement of Financial Position.
The reasons for my inability to obtain sufficient appropriate audit evidence	Due to the management's inability to present reliable evidence on the valuation of Assets Under Construction, pending the completion of its review of historic balances, a limitation of scope remains on my audit of tangible and intangible Assets Under Construction as at 31 March 2023, and the comparative figures. I cannot conclude on any assertions in respect of Assets Under Construction.

	Following my team's testing of both 2022-23 Capital Works Expensed In Year (CWEIY) expenditure and asset additions, I assessed no material issues in respect of the accuracy, cut-off and regularity of transactions. In this respect my audit work was not affected by the same limitations as in the prior year, though my opinion on the comparative year's capital expenditure remains qualified as a result of audit evidence not being made available. I was, however, not able to form an opinion in respect of the classification of in-year expenditure between CWEIY and asset additions (and consequently the completeness of both populations) because: • relevant evidence for asset additions, including for the current year, was not available pending the progress of the Environment Agency's review; and • my CWEIY expenditure testing identified inconsistencies between the rules applied to whether expenditure is classified as a capital addition, and the rules newly applied to the Environment Agency's existing asset base to determine whether items are in scope for valuation.

My report on page 135 includes further details of the matters leading to my qualified opinion.

Qualified opinion on regularity

In my opinion, in all material respects, except for the effects of the matters described under *Basis for the qualified opinion on regularity* below, the income and expenditure recorded in the financial statements have been applied to the purposes intended by Parliament and the financial transactions recorded in the financial statements conform to the authorities which govern them.

Basis for qualified opinion on regularity

During my audit the Environment Agency informed me that it had identified an instance of non-compliance with the Cabinet Office's commercial spending controls. The Environment Agency had extended three contracts for civil engineering associated with flood risk management beyond their original expenditure limits. The Environment Agency's management was aware of the extensions but did not promptly identify the need for Cabinet Office approval. Cabinet Office's commercial spend controls set out that where such a change exceeds £20 million (£10 million prior to the 1 February 2023), further approval must be obtained from them before any commitment is made.

The Environment Agency assess that it spent £64.3 million beyond its approval levels during 1 April 2022 – 31 March 2023, with committed expenditure of £341 million against a Cabinet Office approved contract value of £151 million. Expenditure undertaken without the proper approvals from Cabinet Office is irregular. I therefore qualify my opinion on regularity in this regard. Management describes the circumstances behind this non-compliance, and steps it is taking to avoid a recurrence in its governance statement on page 92. I have not qualified my opinion on regularity in respect of this expenditure in any other respect.

Overall basis for qualified opinions

I conducted my audit in accordance with International Standards on Auditing (UK) (ISAs UK), applicable law and Practice Note 10 *Audit of Financial Statements and Regularity of Public Sector Bodies in the United Kingdom (2022)*. My responsibilities under those standards are further described in the *Auditor's responsibilities for the audit of the financial statements* section of my certificate.

Those standards require me and my staff to comply with the Financial Reporting Council's *Revised Ethical Standard 2019*. I am independent of the Environment Agency in accordance with the ethical requirements that are relevant to my audit of the financial statements in the UK. My staff and I have fulfilled our other ethical responsibilities in accordance with these requirements.

I believe that the audit evidence I have obtained is sufficient and appropriate to provide a basis for my qualified opinions.

The framework of authorities described in the table below has been considered in the context of my opinion on regularity.

Framework of authorities	
Authorising legislation	Environment Act 1995
Parliamentary authorities	Relevant regulations including in respect of fee income
HM Treasury and related authorities	Managing Public Money Cabinet Office controls

Conclusions relating to going concern

In auditing the financial statements, I have concluded that the Environment Agency use of the going concern basis of accounting in the preparation of the financial statements is appropriate.

Based on the work I have performed, I have not identified any material uncertainties relating to events or conditions that, individually or collectively, may cast significant doubt on the Environment Agency's ability to continue as a going concern for a period of at least twelve months from when the financial statements are authorised for issue.

My responsibilities, and the responsibilities of the Accounting Officer, with respect to going concern are described in the relevant sections of this certificate.

The going concern basis of accounting for the Environment Agency is adopted in consideration of the requirements set out in HM Treasury's Government Financial Reporting Manual, which requires entities to adopt the going concern basis of accounting in the preparation of the financial statements where it is anticipated that the services which they provide will continue into the future.

Overview of my audit approach

Key audit matters

Key audit matters are those matters that, in my professional judgment, were of most significance in the audit of the financial statements of the current period and include the most significant assessed risks of material misstatement (whether or not due to fraud) identified by the auditor, including those which had the greatest effect on: the overall audit strategy; the allocation of resources in the audit; and directing the efforts of the engagement team.

These matters were addressed in the context of the audit of the financial statements as a whole, and in forming my opinion thereon. I do not provide a separate opinion on these matters.

This is not a complete list of all risks identified through the course of my audit but only those areas that had the greatest effect on my overall audit strategy, allocation of resources and direction of effort. I have not, for example, included information relating to the work I have performed addressing the presumed risk of management override of controls, in respect of which I have no exceptions to report.

The key audit matters I have determined to be communicated in my certificate, below, are in addition to the issues described in the sections above headed *Basis for qualified opinion on the financial statements* and *Basis for qualified opinion on regularity*. I discussed both sets of issues with the Audit and Risk Assurance Committee; its report on matters that it considered to be significant to the financial statements is set out on pages 90-93.

Valuation of defined benefit pension surplus
Description of risk The Environment Agency is responsible for a significant funded defined benefit pension scheme which is presented in Note 17, for which it recognises £3,366 million of defined benefit pension obligations and £3,870 million of recognised scheme assets. There is significant complexity, and estimation uncertainty, in the valuation of the position of both the assets and liabilities contributing to the net scheme position, as described in Note 17. *Scheme liabilities* As with all defined benefit pension schemes, an actuarial estimate of the liability reflecting amounts to be paid out to members of the scheme in the future involves significant estimation in respect of key financial and demographic assumptions, applied to scheme membership data. Liabilities reduced markedly in the year, driven particularly by a rising discount rate which reflects changes in market pricing of relevant financial instruments (high quality corporate bonds) which is applied to determine the present value of future pension cashflows. *Scheme assets* I placed particular emphasis on assurance over unquoted equity instrument valuations, given the extent of unobservable inputs. My assessment is partly informed by stale pricing risk, i.e. the risk arising from delays in investment managers providing the quarterly valuation coterminous with the Environment Agency's reporting date. *Recognition of surplus* The fair value of scheme assets exceeded the present value of the defined benefit obligation at the Environment Agency's reporting date. Accounting rules in this area are complex and I assessed a risk of misstatement associated with this and the judgements inherent to the financial reporting framework on the extent of asset ceiling which should be applied.

How the scope of my audit responded to the risk	*Scheme liabilities* I contracted an actuarially qualified auditor's expert to examine the assumptions, methodology and source data used to value the obligations, including both financial assumptions and the roll-forward procedures used to update membership data. *Scheme assets* I placed reliance on the work of the auditor of the pension fund, which was under common direction with this audit, whose work included: • vouching the alternative investment valuations to independently received statements; • testing a sample of private equity holdings, property funds and other alternative investment balances to third party evidence; • inspecting the latest audited financial statements of the funds; and • considering the reasonableness of movements from audited accounts position to the year-end valuation where these are not co-terminous, based on relevant external benchmarks. *Recognition of surplus* Having obtained management's justified position that the surplus did not require restriction using an asset ceiling, I: • reviewed management's position against IFRIC 14; • prepared a recalculation of the asset ceiling value based on recent industry guidance on the determination of the economic benefit available through future contribution reductions, as applicable to the Local Government Pension Scheme regime, supported by internal consultation; • obtained written representations from management's actuary supporting the assumptions modelled in my recalculation and interpretation of guidance, for example in respect of the rate-setting regime, and the level of hypothetical future contributions relevant to that calculation; and • evaluated the sufficiency of management's disclosures.
Key observations	In the course of completing this work, I did not identify any material misstatements. I determined no misstatement in respect of management's surplus recognition judgement. Management expanded disclosure on this point to reflect my findings on surplus recognition and its responses during the audit.

Application of materiality

Materiality

I applied the concept of materiality in both planning and performing my audit, and in evaluating the effect of misstatements on my audit and on the financial statements. This approach recognises that financial statements are rarely absolutely correct, and that an audit is designed to provide reasonable, rather than absolute, assurance that the financial statements are free from material misstatement or irregularity. A matter is material if its omission or misstatement would, in the judgement of the auditor, reasonably influence the decisions of users of the financial statements.

Based on my professional judgement, I determined overall materiality for the Environment Agency's financial statements as a whole as follows.

	Overall materiality	**Additional threshold**
Materiality	£106 million	£35 million
Basis for determining materiality	1% of non-current assets (including land) of £10.9 billion	1.75% of gross expenditure excluding depreciation and impairment, but including capital additions
Rationale for the benchmark applied	With a revised operational asset valuation basis now compliant with the financial reporting framework, non-current assets are the largest item in the Statement of Financial Position. Significant public benefit is derived from the flood defence assets, driving user interest in the extent and condition of those assets.	This threshold is set to reflect the sensitivity of financial statement users to transactions and balances reflecting taxpayer-backed financial activity. Capital additions are included since these form part of Total Managed Expenditure voted by Parliament, and depreciation is excluded to avoid double-counting.

This is the first year I have adopted a percentage of non-current assets as the materiality base. There is significant public interest in the Environment Agency's financial information both in respect of its stewardship of nationally important infrastructure assets, and in respect of its application of taxpayer money to its objectives. In previous years, an overall materiality based on the balances and transactions most closely related to these perspectives would not have resulted in significantly divergent materiality figures, and I based my materiality on gross expenditure. Now that the Environment Agency has implemented a DRC valuation of its operational assets, non-current assets are a significantly higher base for materiality and I have elected to use this balance as the basis for my overall materiality. This ensures a focus on the asset base which uses a level of relative precision similar to that used in the past, while also ensuring – through an additional threshold – an appropriate level of attention on transactions and balances reflecting taxpayer-backed financial activity given the continuing user interest from that perspective.

Performance Materiality

I set performance materiality at a level lower than materiality to reduce the probability that, in aggregate, uncorrected and undetected misstatements exceed the materiality of the financial statements as a whole. Performance materiality was set at 70% of materiality for the 2022-23 audit (2021-22: 68%). In determining performance materiality, I considered the effectiveness of the Environment Agency's control environment.

Other Materiality Considerations

Apart from matters that are material by value (quantitative materiality), there are certain matters that are material by their very nature and would influence the decisions of users if not corrected. Such an example is any errors reported in the Related Parties note in the financial statements. Assessment of such matters needs to have regard to the nature of the misstatement and the applicable legal and reporting framework, as well as the size of the misstatement.

I applied the same concept of materiality to my audit of regularity. In planning and performing my audit work to support my opinion on regularity and in evaluating the impact of any irregular transactions, I considered both quantitative and qualitative aspects that would reasonably influence the decisions of users of the financial statements.

Error Reporting Threshold

I agreed with the Audit and Risk Assurance Committee that I would report to it all uncorrected misstatements identified through my audit in excess of £300,000, as well as differences below this threshold that in my view warranted reporting on qualitative grounds. I also report to the Audit and Risk Assurance Committee on disclosure matters that I identified when assessing the overall presentation of the financial statements.

Total unadjusted audit differences reported to the Audit and Risk Assurance Committee would have the net effect, on correction, of decreasing net assets and increasing comprehensive net expenditure by £23 million; and of increasing net expenditure (before other comprehensive expenditure) by £7 million. Unadjusted errors reflect misstatements the audit team has been able to specifically identify, and should be taken in the context of potentially material findings or limitations on the scope of the audit described in the *Basis for qualified opinion on the financial statements* section, which are not replicated here and in many cases cannot be quantified precisely due to the nature of the limitations.

Audit scope

The scope of my audit was determined by obtaining an understanding of the Environment Agency's environment and relevant controls, and by assessing the risks of material misstatement. This included a consideration of the estimation uncertainty attaching to specific balances, transaction streams and disclosures, informed by both my cumulative audit knowledge and analysis of recent changes in the environment.

In making this assessment in respect of my work on regularity, I considered the risks of non-compliance with the framework of authorities, including both statutory elements and other authorities including HM Treasury and Cabinet Office controls.

Other Information

The other information comprises the information included in the Annual Report but does not include the financial statements and my auditor's certificate and report thereon. The Accounting Officer is responsible for the other information.

My opinion on the financial statements does not cover the other information and, except to the extent otherwise explicitly stated in my certificate, I do not express any form of assurance conclusion thereon.

My responsibility is to read the other information and, in doing so, consider whether the other information is materially inconsistent with the financial statements, or my knowledge obtained in the audit or otherwise appears to be materially misstated.

If I identify such material inconsistencies or apparent material misstatements, I am required to determine whether this gives rise to a material misstatement in the financial statements themselves. If, based on the work I have performed, I conclude that there is a material misstatement of this other information, I am required to report that fact.

I have nothing to report in this regard except that any references in the Annual Report to financial information, including asset values, within the scope of the matters described under *Basis for qualified opinion on the financial statements* are affected by the same limitations as that section describes.

Opinion on other matters

In my opinion the part of the Remuneration and Staff Report to be audited has been properly prepared in accordance with HM Treasury directions made under the Environment Act 1995.

In my opinion, based on the work undertaken in the course of the audit:

- the parts of the Accountability Report subject to audit have been properly prepared in accordance with HM Treasury directions made under the Environment Act 1995;
- the information given in the Performance and Accountability Reports for the financial year for which the financial statements are prepared is consistent with the financial statements and is in accordance with the applicable legal requirements.

Matters on which I report by exception

In the light of the knowledge and understanding of the Environment Agency and its environment obtained in the course of the audit, I have not identified material misstatements in the Performance and Accountability Reports.

In respect solely of the limitations in receiving sufficient appropriate evidence as described in the *Basis for qualified opinion on the financial statements* section above:

- adequate accounting records have not been kept; and
- I have not received all of the information and explanations I require for my audit.

In all other respects, I have nothing to report in respect of the following matters which I report to you if, in my opinion:

- the financial statements and the parts of the Accountability Report subject to audit are not in agreement with the accounting records and returns; or
- certain disclosures of remuneration specified by HM Treasury’s Government Financial Reporting Manual have not been made or parts of the Remuneration and Staff Report to be audited is not in agreement with the accounting records and returns; or
- the Governance Statement does not reflect compliance with HM Treasury’s guidance.

Responsibilities of the Accounting Officer for the financial statements

As explained more fully in the Statement of Accounting Officer's Responsibilities, the Accounting Officer is responsible for:

- maintaining proper accounting records;
- providing the C&AG with access to all information of which management is aware that is relevant to the preparation of the financial statements such as records, documentation and other matters;
- providing the C&AG with additional information and explanations needed for his audit;
- providing the C&AG with unrestricted access to persons within the Environment Agency from whom the auditor determines it necessary to obtain audit evidence;
- ensuring such internal controls are in place as deemed necessary to enable the preparation of financial statements to be free from material misstatement, whether due to fraud or error;
- ensuring that the financial statements give a true and fair view and are prepared in accordance with HM Treasury directions made under the Environment Act 1995;
- ensuring that the annual report, which includes the Remuneration and Staff Report, is prepared in accordance with HM Treasury directions made under the Environment Act 1995; and
- assessing the Environment Agency's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless the Accounting Officer anticipates that the services provided by the Environment Agency will not continue to be provided in the future.

Auditor's responsibilities for the audit of the financial statements

My responsibility is to audit, certify and report on the financial statements in accordance with the Environment Act 1995.

My objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue a certificate that includes my opinion. Reasonable assurance is a high level of assurance but is not a guarantee that an audit conducted in accordance with ISAs (UK) will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these financial statements.

Extent to which the audit was considered capable of detecting non-compliance with laws and regulations including fraud

I design procedures in line with my responsibilities, outlined above, to detect material misstatements in respect of non-compliance with laws and regulations, including fraud. The extent to which my procedures are capable of detecting non-compliance with laws and regulations, including fraud is detailed below.

Identifying and assessing potential risks related to non-compliance with laws and regulations, including fraud

In identifying and assessing risks of material misstatement in respect of non-compliance with laws and regulations, including fraud, I:

- considered the nature of the sector, control environment and operational performance including the design of the Environment Agency's accounting policies, key performance indicators and performance incentives;
- inquired of management, the Environment Agency's head of internal audit and those charged with governance, including obtaining and reviewing supporting documentation relating to the Environment Agency's policies and procedures on
    - identifying, evaluating and complying with laws and regulations;
    - detecting and responding to the risks of fraud; and
    - the internal controls established to mitigate risks related to fraud or non-compliance with laws and regulations including the Environment Agency's controls relating to its compliance with the Environment Act 1995 and Managing Public Money;
- inquired of management, the Environment Agency's head of internal audit and those charged with governance whether
    - they were aware of any instances of non-compliance with laws and regulations; or
    - they had knowledge of any actual, suspected, or alleged fraud; and
- discussed with the engagement team and the relevant internal and external specialists, including pensions, property and scientific specialists, regarding how and where fraud might occur in the financial statements and any potential indicators of fraud.

As a result of these procedures, I considered the opportunities and incentives that may exist within the Environment Agency for fraud and identified the greatest potential for fraud in the following areas: revenue recognition, posting of unusual journals, complex transactions and bias in management estimates. In common with all audits under ISAs (UK), I am required to perform specific procedures to respond to the risk of management override.

I obtained an understanding of the Environment Agency's framework of authority and other legal and regulatory frameworks in which the Environment Agency operates. I focused on those laws and regulations that had a direct effect on material amounts and disclosures in the financial statements or that had a fundamental effect on the operations of the Environment Agency. The key laws and regulations I considered in this context included the Environment Act 1995, Managing Public Money, employment law, pensions and tax legislation and relevant income regulations.

Audit response to identified risk

To respond to the identified risks resulting from the above procedures:

- I reviewed the financial statement disclosures and testing to supporting documentation to assess compliance with provisions of relevant laws and regulations described above as having direct effect on the financial statements;
- I enquired of management, the Audit and Risk Assurance Committee and in-house legal counsel concerning actual and potential litigation and claims;
- I reviewed minutes of meetings of those charged with governance and the Board and internal audit reports;

- in addressing the risk of fraud through management override of controls, I tested the appropriateness of journal entries and other adjustments; assessed whether the judgements on estimates are indicative of a potential bias; and evaluated the business rationale of any significant transactions that are unusual or outside the normal course of business; and
- I considered the Environment Agency's assessment of its risk and liability with regards to a data breach within a key supplier Capita, of which I am content appropriate disclosures have been made within the Environment Agency's annual report.

I also communicated relevant identified laws and regulations and potential risks of fraud to all engagement team members and remained alert to any indications of fraud or non-compliance with laws and regulations throughout the audit.

A further description of my responsibilities for the audit of the financial statements is located on the Financial Reporting Council's website at: www.frc.org.uk/auditorsresponsibilities. This description forms part of my certificate.

Other auditor's responsibilities

I am required to obtain evidence sufficient to give reasonable assurance that the expenditure and income recorded in the financial statements have been applied to the purposes intended by Parliament and the financial transactions recorded in the financial statements conform to the authorities which govern them.

I communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control I identify during my audit.

Gareth Davies
Comptroller and Auditor General

25 October 2023

National Audit Office
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The Report of the Comptroller and Auditor General to the Houses of Parliament

Introduction

1. The Environment Agency is the leading public body for protecting and improving the environment in England. It has responsibilities for flood and coastal erosion risk management, waste management and pollution incidents, reducing industry's impact on the environment, cleaning up rivers, coastal waters and contaminated land, and improving wildlife habitats.

2. In my certificate on the Environment Agency's accounts – which this report should be read alongside – I explained the basis of my qualified audit opinion on the 2022-23 financial statements in relation to the valuation of the Environment Agency's operational assets; its land and buildings; and the classification of expenditure and valuation of Assets Under Construction. I also described the qualification of my regularity opinion following a material breach of Cabinet Office spending controls.

3. This report provides an accompanying commentary explaining how these issues have progressed since my report on the 2021-22 accounts, and looking forward to the actions which the Environment Agency will need to take in order to address the issues described.

How my opinion on the financial statements differs between 2021-22 and 2022-23

4. Each of the issues described under the *Basis for Qualified Opinion on the Financial Statements* section in my certificate also featured in 2021-22. Nevertheless, some meaningful progress has been made, and in those areas the scope of my qualifications has developed accordingly.

Valuation of operational assets

5. The Environment Agency is responsible for a nationally important portfolio of operational infrastructure assets, mostly made up of those protecting against, and responding to, the risk of flooding. In valuing these assets, management has successfully implemented the Depreciated Replacement Cost (DRC) methodology for the first time. This not only brings the Environment Agency's accounting policy into line with the financial reporting framework, but increases the relevance of the financial statements by drawing from the same information sources as the Environment Agency uses to manage its assets. In doing so the Environment Agency has implemented a valuation which, like other significant infrastructure valuations in the sector, factors in the extent of the relevant assets, management's best assessment of their condition, and a consideration of portfolio's service potential on a current cost basis. It has also achieved a simplification, in process terms, with reliance on asset management records used by the business removing the need for a separate asset register for finance purposes.

6. While management had aimed to fully address operational asset qualification issues in year, my opinion remains qualified because the data on the extent of the Environment Agency's operational assets, whilst improving, is not yet at the point where I am assured that it is a materially reliable basis for valuation. This is reflected both in continuing data changes, and in my team's sample testing. Nevertheless, I have been able to successfully audit a number of areas which provide a good platform for future improvements. These areas include:

    - the key assumptions and principles underlying the Environment Agency's DRC methodology;

- the costing rates for key asset types, which I evaluated using a risk-based sample with the help of an external civil engineering expert; and
- the operation of the model which translates source data inputs and costing rates into a DRC value.

Land and Buildings

7. I first qualified my opinion in respect of the Environment Agency's land and buildings valuations in 2020-21, following issues with the application of that year's revaluation, including its application to the accounting records and financial statements.

8. Management has addressed some of the more basic issues which previously limited the scope of my audit, and its reconciliation work allowed me to properly review the valuation evidence supporting these balances. As described in my certificate, an important limitation on the evidence available to me was in respect of the Environment Agency's ownership records, as well as records on extent of the properties (e.g. land area). This issue is one which requires attention across the asset base.

9. My team also encountered other issues including duplications, missing or incomplete valuation and existence evidence, and problems with indexation. However, these did not affect the sample of properties revalued in 2022-23, which indicates that management is making progress in addressing these issues.

Classification of expenditure and valuation of Assets Under Construction

10. Management had not set out to address my issues with Assets Under Construction within 2022-23 due to the lead time associated with reviewing historic balances on a number of capital projects. With its delivery partners, management has made measurable progress with this backlog. In doing so, management has also established principles which will help mitigate the risk of these issues recurring. These need to be refined further to fully align management's treatment of in-year expenditure with its accounting policies for existing assets.

11. This year, management was able to provide sample listings and supporting evidence in respect of in-year capital expenditure for the Environment Agency. This had not been possible in 2021-22. This progress has allowed me to narrow my qualification in respect of capital expenditure, which is now focused on limitations on evidence for whether expenditure should be treated as an addition to Assets Under Construction, or expensed in-year. This issue shares a common root with the Assets Under Construction issue and will be resolved in the same way.

Additional qualification of my opinion on regularity

12. My opinion on regularity is newly qualified in 2022-23 as a result of a breach of Cabinet Office controls. As set out on page 92, the Environment Agency decided to extend its expenditure in a number of high-value commercial arrangements beyond the contractually set values. By the time the Environment Agency identified the need to request Cabinet Office approval, significant expenditure was already committed and management estimate that it will spend around £190 million beyond approved limits as a result. Cabinet Office did not grant approval retrospectively.

13. As explained in my certificate, I consider both quantitative and qualitative factors when evaluating whether a regularity matter is material, just as for my opinion on the financial statements. In this case the value of overspend, and the intended focus of this control on protecting value for money, informed my decision to qualify my opinion. I have not performed any evaluation of the practical impact on value for money from the Environment Agency's decision to extend; these would in any case be challenging to form given significant uncertainties in the counterfactual scenario.

Conclusions and forward look

14. While the qualification on regularity arises from a single incident, it is an essential feature of a good overall control environment that conditions preventing significant breaches are in place. Management has already taken practical steps on this point, as set out in the governance statement.

15. On the financial statements issues, problems which affected my audit of the Environment Agency's financial information in 2021-22 - a valuation basis outwith the financial reporting framework, incomplete property accounting reconciliations, and difficulties in providing sample listings – are no longer a factor. While the Environment Agency has more work to do, the improvement on these fundamentals has enabled a better understanding of the issues which need to be addressed and provides a platform for further progress.

16. To realise this progress, the Environment Agency will need to maintain a continued focus on improved financial management to enable a clearer line of sight on accurate data for management purposes, along with more reliable financial reporting. Management needs to set specific goals, allocate sufficient resources for improvement, and to ensure that efforts are effectively targeted. In order to address the issues described in my certificate, priority areas for 2023-24 should include:
    - achieving a more stable, accurate and complete asset management dataset, with activity prioritised based on the Environment Agency's own risk analysis as well as audit findings;
    - updating property ownership records and making them accessible, where possible through registration – plans should take note of the overall public sector aspiration for comprehensive registration by 2025 – and addressing gaps in information on the extent of property holdings (e.g. area);
    - continuing the Environment Agency's rolling valuation programme with property selection including a risk-based element (e.g. addressing older balances and risks of duplication) with the aim of presenting a materially reliable picture of the overall portfolio as early as practically possible;
    - drawing on 2022-23 experience to refine written policies around both land valuation and expenditure classification, mitigating the risk of judgements in future not fully aligned to the financial reporting framework or other policies;
    - completing work on historic Assets Under Construction balances; and
    - establishing the conditions – through updated procedures, appropriate training, and broader leadership – for improvements in data quality to be sustained over the long-term.

Gareth Davies **25 October 2023**
Comptroller and Auditor General

National Audit Office
157-197 Buckingham Palace Road
Victoria
London
SW1W 9SP

Financial statements

Statement of Comprehensive Net Expenditure

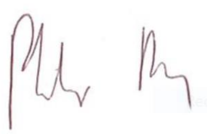
For the year ended 31 March 2023		2022-23	2021-22
	Note	**£ million**	**£ million**
Expenditure			
Staff costs	3	666.8	585.3
Capital works expensed in year	4	306.5	531.1
Depreciation and amortisation	7,8,9	124.1	117.6
Other expenditure	5	800.0	676.3
		1,897.4	**1,910.3**
Income			
Revenue from contracts with customers	6	(456.8)	(414.5)
Other operating income	6	(39.1)	(51.7)
		(495.9)	**(466.2)**
Net expenditure	2	**1,401.5**	**1,444.1**
Loss on sale of assets		18.5	18.6
Interest receivable		(1.6)	-
Financing on pension scheme assets and liabilities	17.3	19.7	23.4
Net expenditure after interest		**1,438.1**	**1,486.1**
Other comprehensive expenditure			
Revaluation of property, plant and equipment	7	(6,864.7)	(537.7)
Revaluation of right of use assets	8	(4.6)	-
Revaluation of intangible assets	9	(5.8)	2.3
Actuarial (gain)/loss on pension scheme assets and obligations	17.3	(1,302.4)	(580.7)
		(8,177.5)	**(1,116.1)**
Total comprehensive net (income) / expenditure for the year		**(6,739.4)**	**370.0**

All of the Environment Agency's income and expenditure for the year was derived from continuing activities. The notes on pages 142 to 197 form part of these financial statements.

Statement of Financial Position

As at 31 March 2023		31 March 2023		31 March 2022	
	Note	£ million	£ million	£ million	£ million
Non-current assets					
Property, plant and equipment	7	10,752.0		3,775.7	
Right of use assets	8	54.4		-	
Intangible assets	9	111.8		128.2	
Pension assets	17.3	503.4		-	
Total non-current assets			**11,421.6**		**3,903.9**
Current assets					
Assets classified as held for sale		9.6		8.7	
Trade, contract, and other receivables	11	165.0		110.5	
Cash and cash equivalents	12	167.5		119.5	
Total current assets			**342.1**		**238.7**
Total assets			**11,763.7**		**4,142.6**
Current liabilities					
Trade and other payables	13	(559.9)		(540.7)	
Reservoir operating agreements	18.1	(24.3)		(21.1)	
Lease liabilities	14	(14.0)		-	
Total current liabilities			**(598.2)**		**(561.8)**
Total assets less current liabilities			**11,165.5**		**3,580.8**
Non-current liabilities					
Provisions		(29.2)		(10.6)	
Reservoir operating agreements	18.1	(423.7)		(412.3)	
Pension liabilities	17.3	-		(654.7)	
Trade and other payables	13	(142.7)		(3.2)	
Lease liabilities	14	(31.0)		-	
Total non-current liabilities			**(626.6)**		**(1,080.8)**
Assets less liabilities			**10,538.9**		**2,500.0**
Taxpayers' equity					
Revaluation reserve		9,199.2		2,425.4	
General reserve		836.3		729.3	
Pension reserve		503.4		(654.7)	
Total taxpayers' equity			**10,538.9**		**2,500.0**

The notes on pages 142 to 197 form part of these financial statements. The financial statements on pages 138 to 141 were approved by the Board on 23 October 2023 and signed on its behalf by:



Philip Duffy, Chief Executive and Accounting Officer 23 October 2023

Statement of cash flows

For the year ended 31 March 2023		2022-23		2021-22	
	Note	£ million	£ million	£ million	£ million
Cash flows from operating activities					
Net expenditure after interest		(1,438.1)		(1,486.1)	
Depreciation and amortisation	7,8,9	124.1		117.6	
Impairment of non-current assets	10	10.4		42.5	
Loss on sale of assets		18.5		18.6	
(Increase)/decrease in trade and other receivables	11	(54.5)		5.5	
Increase in trade and other payables	13	192.6		67.7	
Increase/(decrease) in reservoir operating agreement liabilities	18.1	14.6		23.9	
Increase/(decrease) in provisions		19.0		(0.4)	
Lease interest	14.4	1.0		-	
Non-cash pension costs		204.2		229.7	
Employer contributions to pension		(59.9)		(54.6)	
Net cash outflow from operating activities			**(968.1)**		**(1,035.6)**
Cash flows from investing activities					
Purchase of property, plant and equipment	7	(233.9)		(130.2)	
Purchase of intangible assets	9	(2.3)		(18.6)	
Less movements in capital payables and accruals	13	(37.3)		9.4	
Proceeds of disposal of property, plant and equipment		1.4		2.1	
Net cash outflow from investing activities			**(272.1)**		**(137.3)**
Cash flows from financing activities					
Grants from Defra	19.1	1,300.0		1,220.0	
Payments towards lease liabilities	14.4	(11.8)		-	
Net financing			**1,288.2**		**1,220.0**
Net increase/(decrease) in cash and cash equivalents in the period	12		**48.0**		**47.1**
Cash and cash equivalents at the beginning of the period	12		119.5		72.4
Cash and cash equivalents at the end of the period	12		**167.5**		**119.5**

We have represented the prior year cash flow but there is no change in the overall totals.

The notes on pages 142 to 197 form part of these financial statements.

Statement of Changes in Taxpayers' Equity

For the year ended 31 March 2023		Revaluation reserve	General reserve	Pension reserve	Total reserves
	Note	£ million	£ million	£ million	£ million
Changes in taxpayers' equity					
Balance at 1 April 2021		**1,952.2**	**758.1**	**(1,060.3)**	**1,650.0**
Net gain on revaluation of property, plant and equipment	7,10	537.7	-	-	537.7
Net gain on revaluation of intangible assets	9	(2.3)	-	-	(2.3)
Actuarial loss on pension scheme assets and obligations	17.3	-	-	580.7	580.7
Transfers between reserves	15.2	(62.2)	237.3	(175.1)	-
Retained deficit		-	(1,486.1)	-	(1,486.1)
Grants from Defra	19.1	-	1,220.0	-	1,220.0
Balance at 31 March 2022		**2,425.4**	**729.3**	**(654.7)**	**2,500.0**
Initial adoption of IFRS16 on 1 April 2022	14	-	(0.5)	-	(0.5)
Balance at 1 April 2022		**2,425.4**	**728.8**	**(654.7)**	**2,499.5**
Net gain on revaluation of property, plant and equipment	7	6,864.7	-	-	6,864.7
Net loss on revaluation of intangible assets	9	5.8	-	-	5.8
Net gain on revaluation of right of use assets	8	4.6	-	-	4.6
Actuarial gain on pension scheme assets and obligations	17.3	-	-	1,302.4	1,302.4
Transfers between reserves	15.1	(101.3)	245.6	(144.3)	-
Retained deficit		-	(1,438.1)	-	(1,438.1)
Total recognised income and expense		**9,199.2**	**(463.7)**	**503.4**	**9,238.9**
Grants from Defra	19.1	-	1,300.0	-	1,300.0
Balance at 31 March 2023		**9,199.2**	**836.3**	**503.4**	**10,538.9**

The notes on pages 142 to 197 form part of these financial statements.

Details on the individual reserves

Revaluation reserve - reflects the cumulative position of revaluation and indexation of non-current assets.
General reserve - reflects the cumulative position of net expenditure and funding from the sponsor bodies of the Environment Agency, together with the historical cost of the non-current assets transferred on the creation of the Environment Agency.
Pension reserve - reflects the cumulative position of the net assets or liabilities of the pension scheme.

Notes to the financial statements

1. Statement of accounting policies

The financial statements have been prepared in accordance with the 2022-23 government financial reporting manual (FReM) issued by HM Treasury and are in accordance with the accounts direction issued by the Secretary of State for Environment, Food and Rural Affairs and HM Treasury under section 45 of the Environment Act 1995.

The accounting policies in the FReM adapt and interpret International Financial Reporting Standards (IFRS) for the public sector context. They comply with the guidelines issued by the International Financial Reporting Interpretations Committee.

Where the FReM allows a choice of accounting policy, these accounts follow the policy which is most appropriate to give a true and fair view for the Environment Agency. The policies adopted by the Environment Agency are described in the relevant notes to the financial statements on pages 141 to 196. The Environment Agency has applied these judgements consistently in dealing with items that are considered material in relation to the accounts.

The Environment Agency is required to make estimates and assumptions that affect the reported amounts of assets and liabilities, the disclosures of contingent assets and liabilities, and the reported amount of income and expenditure. All estimates are based on knowledge of current facts and circumstances, assumptions concerning past events,and forecasts of future events.

All values are reported in pound sterling rounded to the nearest 0.1 million unless otherwise stated.

1.1 Significant judgements

The following areas represent significant judgements made in applying the accounting policies:

- Pension liabilities (reported in note 17). Independent and qualified actuaries assess the specific factors that influence the pension fund position, such as life expectancy and age of scheme members, prevailing interest and inflation rates, and projected returns on invested funds.
- The valuation of operational assets (reported in note 7).
- The selection of appropriate indices to assist with the valuation of property, plant and equipment and intangible assets (reported in notes 7, 8 and 9).
- The useful economic lives of assets that form the basis of periods over which property, plant and equipment is depreciated (reported in note 7 and 8) and intangible assets are amortised (reported in note 9).
- The impairment of property, plant and equipment, and intangible assets (reported in notes 7 and 9).
- Revenue recognition regarding satisfaction of performance obligations on capital works expensed in year income per IFRS 15 (reported in notes 6, 13 and 16).
- Revenue recognition regarding satisfaction of performance obligations on fees and charges per IFRS 15 (reported in note 6). Within receivables and payables there are accrued and deferred income balances for fees and charges where there is a surplus or deficit. Charging schemes are required to break even over a reasonable period of time and judgment is required in assessing the factors behind whether the surplus or deficit will result in a break-even position over this reasonable period (reported in notes 11 and 13).
- The classification of expenditure between property, plant and equipment or intangible assets and capital works expensed in year (reported in note 4).
- The calculation of expected bad debts by income stream per IFRS 9 business model assessment and calculation of Expected Credit Losses (reported in note 18).

- The recognition of the liability relating to the reservoir operating agreements fixed payments at amortised cost under IFRS 9 (reported in notes 5.3 and 18.1). The liability is discounted using the Effective Interest Rate (EIR) method. The EIR is the rate that exactly discounts the estimated future cash payments through the expected life of a financial liability to the amortised cost of the financial liability. Significant judgements are made pertaining to the treatment of the liability, including the recognition of the liability as a perpetuity at amortised cost and the expected future Retail Prices Index (RPI).
- The calculation of staff recharges to capital expenditure in line with IAS 16, IAS 19 and IAS 38 including judgements on management deployment of staff, utilisation rates and mix of permanent employees and contractors and agency staff (reported in note 3 and 4).

Please note that the actual future income, expenditure, assets, and liabilities may differ from the estimates included in these financial statements.

1.2 Accounting convention

These accounts have been prepared on an accruals basis, under the historical cost convention, modified to account for the revaluation of property, plant and equipment and intangible assets. The accruals basis of accounting means reporting income and expenditure when it is incurred rather than when it is received or paid. These financial statements are based on the going concern principle.

1.3 Adoption of new and revised IFRS or FReM interpretations

The following reporting standard will become effective for accounting periods after 1 January 2024:

IFRS 17 Insurance Contracts

IFRS 17 Insurance Contracts becomes effective, subject to adoption into the FReM, for accounting periods commencing on, or after, 1 January 2025. It requires a discounted cash flow approach to measuring insurance liabilities.

We do not expect a significant impact of the new standard on the Environment Agency's financial statements as we have few arrangements that are likely to be within scope. We plan to do further work where there is uncertainty if arrangements come within scope.

1.4 Internal drainage boards (IDBs) under common control

The Environment Agency administers the River Arun internal drainage district (IDD).

It is a separate legal entity which has its own budgets and reporting arrangements. Their administration is discharged through an IDB. The Environment Agency Board approves the accounts of the IDB and therefore it is classed as a subsidiary of the Environment Agency for accounting purposes as they come under the common control of the Environment Agency's Board.

The River Arun internal drainage district's annual income and expenditure is less than £0.1 million and is therefore not material to the Environment Agency's accounts so their results have not been consolidated and the plan for the future of the IDB remains under review.

1.5 Value added tax (VAT)

By HM Treasury Order, the Environment Agency is classified as a body to which section 33 of the Value Added Tax Act 1994 applies. Accordingly, the Environment Agency recovers tax paid on both business and non-business activities, although the recovery of VAT on exempt supplies is dependent on the threshold for exempt activities.

In all instances, where output tax is charged, or input tax is recoverable, the amounts included in these accounts are stated net of VAT.

2. Segmental reporting

Analysis of net expenditure by segment

In accordance with IFRS 8, the Environment Agency is required to report financial and descriptive information about its operating segments. These are components about which separate financial information is available. Financial information is required to be reported on the same basis as is used internally by the Chief Operating Decision Makers (CODMs). For the Environment Agency, the CODMs are the Board and Executive Directors' team, and they evaluate performance regularly using operating segments.

Definition of segments and other segmental information

The Environment Agency summarises its activities into three main segments which are reported to the CODMs. These are:

- FCERM. The main activity for FCERM is to help to predict, minimise and manage the risk of flooding in England.
- E&B (Environment & Business) grant-in-aid. This incorporates work funded by Defra in environment protection, fisheries, and navigation. Further information is included in the Parliamentary Accountability and Audit report.
- E&B charges. This incorporates regulatory work funded by fees and charges for water resources, environment protection, fisheries, and navigation.

There are no significant transactions between the segments and where costs relate to more than one segment they are apportioned appropriately with reference to the underlying substance of the transaction.

Major customers

Over 10% of revenue from transactions with customers is derived from Northumbrian Water Limited, being £48.4 million in 2022-23 (2021-22 - £55.1 million).

All the Northumbrian Water Limited income relates to the Environment and Business segment and the vast majority (90%) of that income relates to regulatory charges for water abstraction. This includes the charges raised by the Environment Agency in relation to the Kielder reservoir operating agreement costs. As the Kielder costs charged by Northumbrian Water Limited are fully recovered from the company, there is no Environment Agency reliance on Northumbrian Water Limited as a customer.

Expenditure by operating segment

Statement of comprehensive net expenditure line	FCERM	E&B charges	E&B grant-in-aid	Total 2022-23	Total 2021-22
	£ million	**£ million**	**£ million**	**£ million**	**£ million**
Staff costs	309.5	284.6	72.7	666.8	585.3
Capital works expensed in year	306.5	-	-	306.5	531.1
Depreciation and amortisation	92.7	16.7	14.7	124.1	117.6
Other expenditure	532.5	233.1	34.4	800.0	676.3
Gross expenditure	**1,241.2**	**534.4**	**121.8**	**1,897.4**	**1,910.3**
Revenue from contracts with customers	(62.1)	(394.7)	-	(456.8)	(414.5)
Other income	(10.2)	(6.5)	(22.4)	(39.1)	(51.7)
Net expenditure	**1,168.9**	**133.2**	**99.4**	**1,401.5**	**1,444.1**

3. Staff costs

	2022-23	2021-22
	£ million	**£ million**
Wages and salaries	418.8	382.5
Social security costs	50.4	43.6
Normal contributions to the Active Pension Fund (defined benefit scheme)	59.9	54.6
	529.1	**480.7**
Agency staff wages and salaries	10.9	9.1
Other staff related costs	41.1	(3.1)
Less amounts included within the IAS 19 pension charge	(59.9)	(54.6)
Pension charge – service cost (note 17.3)	184.5	206.3
	705.7	**638.4**
Less amounts charged to capital projects	(39.2)	(53.4)
	666.5	**585.0**
Amounts payable to Board members	0.3	0.3
Total staff costs	**666.8**	**585.3**

Note 17 provides details of the Agency's pension arrangements. The remuneration and staff report provide details of the remuneration of Board members and Executive Directors.

The Agency makes regular contributions to the Environment Agency's Pension Fund (known as the active fund) to fund current and future pension liabilities. Contributions are charged to the statement of comprehensive net expenditure, taking account of the expected pension costs over the service lives of the employees, and are set at a level sufficient to ensure the scheme is fully funded following formal actuarial valuations of the fund. The last triennial valuation of the active fund was at 31 March 2022. Liabilities for enhancements to employees' pension arrangements under the Environment Agency's voluntary severance scheme are accounted for in the year in which applications for severance are approved.

The Environment Agency recognises a liability and expense for all other employee benefits, including unused annual leave, accrued at the statement of financial position date, provided these amounts are material in the context of overall staff costs. Termination benefits are recognised when the Environment Agency has a binding commitment to terminate the employment of an employee or group of employees before the normal retirement date, or as a result of an offer to encourage voluntary redundancy.

Amounts charged to capital projects reflects the allowable staff costs included in the creation and improvement of Environment Agency's assets (note 7) and in the delivery of capital works expensed in year projects (note 4). This is based on time recording data from time coded to capital projects which is then converted into a cost for the project using a calculated charge out rate based on allowable costs, expected deployment of staff, expected staff utilisation rates and mix of permanent staff, contractors and temporary workers.

4. Capital works expensed in year (CWEIY)

Type of capital works	2022-23	2021-22
	£ million	**£ million**
Beach replenishment	23.6	17.1
Capital salaries	6.9	52.0
Catchment flood management plans	3.3	19.7
Culverts and channel improvements	17.2	22.6
Embankments	62.1	92.4
Flood mapping	6.4	7.1
Flood risk management habitat creation	24.8	16.1
Flood risk management strategies	20.2	35.5
Navigation asset works	22.4	33.0
Restoration and refurbishment	102.2	201.2
Rock groynes and sea walls	2.0	1.7
Other*	15.4	32.7
Total	**306.5**	**531.1**

This relates to work where the activity undertaken by the Environment Agency is capital in nature but is in relation to assets that it does not have control over.

This includes:

- Flood and coastal erosion risk management assets built on land which the Environment Agency does not own but where it has permissive powers to maintain the defence.
- Assets where it is not possible to check for impairment, for example beach replenishment, so it is more prudent to write off the expenditure on the related 'asset' in year.

An adjustment of £12.1 million was included within the total balance of £531.1 million in 2021-22 which related to re-classifying expenditure incurred in previous financial years that had been treated as assets under construction. As required by IAS 8, this was corrected in 2021-22.

The significant decrease in spending classified as capital works expensed in year is due to the change in the agreement between the Environment Agency and HM Treasury on what this expenditure covers. Previously, spend on the repairs and maintenance of flood defences could be classified as capital works expensed in year, but this no longer qualifies, as well as some piling expenditure.

Costs that can no longer be classified as capital works expensed in year have been included within other expenditure (note 5). We estimate that approximately £183 million of cost would have been included within capital works expensed in year under the previous agreement rules.

Types of capital work

Beach replenishment

This involves sand and shingle replacement on beaches to retain the integrity of a coastal defence.

Capital salaries

Capital salaries represent the staff costs incurred on these capital works that are expensed in year.

Catchment flood management plans

Catchment flood management plans aim to establish flood risk management policies that deliver sustainable flood risk management for the long term across a river catchment.

Culverts and channel improvements
This involves work on repairing or replacing culverts under land, roads and properties, and channel improvements that assist the flow of watercourses.

Embankments
This is for the creation, improvement or heightening of embankments to reduce the risk of water escaping from a river channel.

Flood risk management habitat creation
Habitat creation, for example through the restoration of wetlands or creation of inter-tidal habitat in coastal areas, enables natural management of flood risks and contributes to flood and coastal resilience.

Flood risk management strategies
Strategies are developed to provide long term flood risk management options for fluvial catchments. It is from these long-term strategies that individual flood risk projects are developed.

Flood mapping
Flood mapping is the production of multi-layered maps which provide information on flooding from groundwater, rivers, and the sea. Flood maps also have information on flood risk management assets and the areas benefiting from those assets.

Navigation asset works
Navigation asset works include investment in waterways for which the Environment Agency is protecting and developing on behalf of other parties.

Restoration and refurbishment
This involves carrying out works to ensure that flood risk management assets are restored to the appropriate condition.

Rock groynes and sea walls
Rock groynes and sea walls are built as part of coastal flood risk management assets and are often used in conjunction with beach replenishment activity to prevent sea flooding. The responsibility for maintenance often resides with the local council.

Prior period adjustment
We are currently undertaking a review of how current and historic project accounting has been performed at the Environment Agency. This focused on capital expensed in year (CWEIY) and we are now reviewing balances classified within assets under construction.

The CWEIY review has identified approximately £159 million of historic CWEIY spend which should have been treated as AUC (tangible or intangible). We have not yet concluded the review of AUC, but this is expected to be completed before the 2023-24 year end.

Our expectation is that this review will generate further prior year adjustments. If the known CWEIY prior period adjustment had been posted in 2022-23, it would have increased the Environment Agency’s assets and there is a risk that the AUC review would lead to a 2023-4 prior year adjustment which would reduce assets.

It was therefore agreed that the CWEIY prior year adjustment was not processed in 2022-23, to avoid any inflation and then deflation of the assets under construction value whilst the review is ongoing. The categorisation of capital spends and assets under construction asset are qualified for 2021-22 and 2022-23.

5. Other expenditure

Type of expenditure	2022-23	2021-22
	£ million	**£ million**
Capital grants (note 5.4)	179.0	210.9
Hired and contracted services	122.1	96.4
Outsourced IT services	54.4	48.5
Fees and commissions	111.3	29.8
Reservoir operating agreements (note 5.3 and 18.1)	58.0	57.6
Transport and plant	24.2	19.4
Utilities	13.4	8.6
Travel and subsistence	7.3	2.3
Low value and short-term leases (note 14.2)	4.9	-
Other lease expenditure	6.4	14.5
Information technology	10.4	5.6
Defra group Corporate Services charge (note 5.1 and 19.2)	85.9	71.5
Buildings	18.1	13.3
Training	8.7	7.2
Consumables and materials	7.5	9.9
Grants and contributions	17.0	14.8
Maintenance	3.5	3.0
Administration	2.9	2.9
Compensation payments	1.9	0.3
External auditor's non-audit remuneration (note 5.2)	-	-
Bad debt write-offs	2.2	0.7
IFRS16 interest expense	1.0	-
Other*	30.6	19.1
Impairment of non-current assets (note 10)	10.4	42.5
Movement in provisions	18.6	0.4
Movement in the expected credit loss (bad debt) provision (note 11)	0.3	(2.9)
Total	**800.0**	**676.3**

IAS 1 disclosure – re-presentation

*Other expenditure for 2021-22 has been re-presented to split out the movement in provisions of £0.4 million. There are no changes to any totals presented. Other expenditure includes insurance premiums (£4.0m), laboratory costs (£2.2m) and tree cutting (£1.1m).

Expenditure is recognised on an accruals basis. Accrued expenditure is recognised when the Environment Agency has an unconditional obligation to pay customers, and is based on agreed amounts, contractually or by another form of mutual agreement.

Debts are written off when considered to be irrecoverable. Expected credit losses have been calculated and provided for in accordance with IFRS 9, as described in note 18.

5.1 Defra group Corporate Services

The full year cost of Defra group Corporate Services provided to the Environment Agency for 2022-23 was £152.0 million (2021-22 - £134.9 million).

£66.1 million of the expenditure in 2022-23 was incurred directly by the Environment Agency due to being under longstanding contracts (2021-22 - £63.4 million) but as external supplier contracts end and move to Defra group contracts, costs will in future years be classified within the Defra group Corporate Services charge to the Environment Agency.

Defra charged the Environment Agency £85.9 million (2021-22 - £71.5 million) for expenditure it incurred relating to the provision of corporate services to the Environment Agency in 2022-23. Further information on the transfer of corporate services to Defra is provided in note 19.2.

The approach to apportioning the total Defra group Corporate Service cost across the group uses metrics driving the costs to apportion them across the organisations that are serviced.

A breakdown of the cost by function is provided below:

Defra group Corporate Service Function	2022-23	2021-22
	£ million	**£ million**
Digital, Data and Technology Services	72.7	64.4
Estates	41.8	32.7
Corporate Strategy	1.7	4.3
Shared Services Connected Limited (SSCL)	11.6	10.2
Commercial	4.6	4.1
Human Resources	4.8	4.5
Finance	10.2	10.0
Communications	4.6	4.7
	152.0	**134.9**
Less amounts incurred directly by the Environment Agency	(66.1)	(63.4)
Total	**85.9**	**71.5**

SSCL is Defra group's outsourced provider of payroll, finance, HR, and procurement shared transactional processing services.

5.2 External auditor's remuneration

The external auditor's remuneration is the audit fee for the statutory audit of £545,000 (2021-22 - £265,000). The cost of the audit is classified within the cost of finance and was included in the corporate services finance function charge (note 5.1). No payment was made to the external auditor for non-audit work.

5.3 Reservoir operating agreements

Expenditure under reservoir operating agreements includes two components. The first, and smaller component is reimbursement to water companies of their net costs of operating certain reservoirs, after deducting any income generated from hydroelectric power.

The second element represents annual payments set at the time of the related agreements (generally in 1989 upon privatisation of water companies) as compensation for a return-on-investment in reservoir assets which is indexed annually by the RPI (note 18.1). Increases in the liability as a result of the accounting treatment (i.e. the element of the liability that will not result in a payment) have been approved by HM Treasury as being non-recoverable from charge payers.

5.4 Capital grants

The Environment Agency has responsibility for administering and issuing grants to local councils, internal drainage boards and other risk management authorities for flood and coastal erosion risk management capital schemes.

The £179.0 million expenditure can be broken down as follows:

Capital grants	2022-23	2021-22
	£ million	**£ million**
Local councils	163.7	198.1
Internal Drainage Boards (IDBs)	15.2	12.6
Other risk management authorities	0.1	0.2
Total	**179.0**	**210.9**

The Environment Agency also has responsibility for administering grants to risk management authorities which support waste and landfill initiatives and improvements to the water environment, flood resilience, flood management and surface water mapping.

The Environment Agency receives the funding from Defra as grant-in-aid and then allocates it to appropriate projects during the year. The grants are recognised in the financial statements when the Environment Agency has a present obligation to the grantee as a result of it meeting the entitlement conditions set out in the grant agreement, and it can form a reliable estimate of the expenditure.

6. Income

	FCERM	E&B charges	E&B	Total 2022-23	Total 2021-22
	£ million	£ million	£ million	£ million	£ million
Revenue from contracts with customers					
Abstraction charges	-	(167.1)	-	(167.1)	(119.0)
EPR water quality	-	(71.6)	-	(71.6)	(72.7)
EPR installations	-	(37.7)	-	(37.7)	(35.5)
EPR waste	-	(30.7)	-	(30.7)	(32.4)
Fishing licence duties	-	(21.2)	-	(21.2)	(22.0)
Hazardous waste	-	(13.9)	-	(13.9)	(13.1)
Nuclear waste regulation	-	(17.4)	-	(17.4)	(17.8)
Navigation licence income	-	(9.8)	-	(9.8)	(9.6)
Emissions trading and carbon reduction commitment	-	(3.9)	-	(3.9)	(4.8)
Other charges	-	(21.4)	-	(21.4)	(21.7)
Flood risk levies	(31.5)	-	-	(31.5)	(35.5)
IDB precepts	(8.0)	-	-	(8.0)	(8.0)
Capital work expensed in year	(22.6)	-	-	(22.6)	(22.4)
Total	**(62.1)**	**(394.7)**	**-**	**(456.8)**	**(414.5)**
Other operating income					
EU grants	(0.3)	(1.1)	(3.0)	(4.4)	(6.1)
Other grants	(2.5)	-	(4.8)	(7.3)	(7.5)
Other income*	(7.4)	(5.4)	(14.6)	(27.4)	(38.1)
Total	**(10.2)**	**(6.5)**	**(22.4)**	**(39.1)**	**(51.7)**
Total income	**(72.3)**	**(401.2)**	**(22.4)**	**(495.9)**	**(466.2)**

* 2021-22 other income includes £11.8m for Covid-19 wastewater testing.

Revenue from contracts with customers

Revenue from contracts with customers above includes £0.7 million E&B charges that had been included in the contract liability balance at the beginning of the period (2021-22 - £0.7 million).

These are both split between applications income and subsistence income. Within receipts in advance there is £0.6 million of abstraction applications (2021-22 - £0.2 million) and £3.1 million of water quality applications (2021-22 - £2.0 million) where consideration has been received but the performance obligation has not been completed. The Environment Agency expects to complete the performance obligations for these applications in 2023-24.

Income reported in the accounts represents revenue received and receivable during the accounting period for the permitted functions of the Environment Agency.

Charges income

The income from charges for regulating businesses to monitor and control their impact on the environment falls into two main categories: fees arising from applications relating to a licence or permit, and the subsistence charge associated with licences and permits, which give the customer legal entitlement to carry out their operation for a period of time under the Environment Agency's regulation.

Income is reported before an estimate is made of expected future losses in the form of bad debts by income stream, as required by IFRS 9.

The Environment Agency recognises revenue from its fees and charges in accordance with the five stages set out in 'IFRS 15 Revenue from contracts with customers'. Revenue is recognised when (or as) the Environment Agency satisfies a performance obligation.

Applications income

For applications income, the performance obligation is the processing of the application and the provision of a decision and if appropriate the issuing of a permit or licence. This income is recognised at the point in time at which the decision, permit or licence is issued. Applications income is paid when the application is made. If no payment is made, processing of the application does not commence. Therefore, income relating to applications not fully processed is deferred.

Subsistence income

For subsistence income, the performance obligation is to provide the legal entitlement to carry out operations for the period. Subsistence income is recognised over the permit period to reflect the Environment Agency's regulation over the period. For subsistence, payment is due on the invoice date. Our approach to contract balances follows Managing Public Money and is described in note 11.

Accounting policies

Revenue is measured based on the consideration specified in a contract with a customer and excludes amounts collected on behalf of third parties. Income from Government Grants (accounted for under 'IAS 20: Accounting for Government Grants') is recorded as other operating income.

For other income transactions, including sale of goods, the customer simultaneously receives and consumes the benefits provided, and the revenue is recognised at the appropriate point in time when earned.

IFRS 15 requires disclosure on determining the transaction price. For charges income this is defined by the statutory charges that the Environment Agency is able to charge under each charging scheme.

The Environment Agency recognises revenue from capital work expensed in year in accordance with the five stages set out in IFRS 15 Revenue from contracts with customers. Revenue is recognised when (or as) the Environment Agency satisfies a performance obligation.

Revenue from capital work expensed in year arises from legally binding agreements. An agreement obligates the Environment Agency to carry out certain flood risk management works in return for a contribution from a third party, although individual agreements may include other specific obligations unique to that particular agreement.

The transaction price comprises of the total amount payable under the agreement. This is allocated to the overall completion of the flood risk management works unless there is a specific separate obligation (for example, future maintenance works). Revenue is recognised over the progress of the completion of the flood risk management works using an input cost-based method. The costs incurred to date are assessed against the overall forecast costs for the project to give an indication of completion which is then applied to the relevant transaction price.

Due to the unique nature of each project and subsequently a corresponding agreement, the satisfaction of the performance obligations does not necessarily have a direct relationship to the timing of payments under an agreement. Therefore, the corresponding contract asset and liability balances can fluctuate from year to year.

Grants

The Environment Agency treats other grants that relate to specific capital expenditure, and that have conditions attached to the asset, as deferred grants, and contributions. These are credited to the statement of comprehensive net expenditure over the period where the condition relating to the asset remains effective, but no longer than the asset's useful economic life. The specific conditions are:

- If the grant is provided on condition of construction of an asset, the grant is only repayable if the asset is not constructed; therefore, the income is recognised over the period of construction of the asset.
- If the grant is provided on condition of construction of the asset and also imposes a requirement on the condition of the asset over its useful life, the income is recognised over the useful economic life of the asset. The method of apportioning the amortisation each year depends on the contract terms associated with each grant receipt.

Where there are no grant conditions imposed on the asset, the grant is recognised as income within the statement of comprehensive net expenditure at the date of receipt.

7. Property, plant and equipment

As at 31 March 2023	Operational assets	Operational land	Freehold land	Dwellings	Freehold buildings	Plant and machinery	Vehicles	Furniture, fittings & equipment	IT hardware	Assets under construction	Total
	£ million	**£ million**	**£ million**	**£ million**	**£ million**	**£ million**	**£ million**	**£ million**	**£ million**	**£ million**	**£ million**
Cost or valuation											
At 1 April 2022*	**6,344.0**	**356.4**	**47.8**	**14.1**	**103.6**	**70.9**	**71.1**	**43.2**	**38.9**	**367.7**	**7,457.7**
Capital expenditure	-	-	0.2	-	-	2.0	2.2	4.5	-	225.0	233.9
Assets commissioned in year	(12.4)	(2.9)	-	-	21.0	-	-	-	-	(5.7)	-
Disposals	(55.5)	(0.2)	(0.1)	-	-	(2.6)	(3.6)	(5.2)	(3.4)	-	(70.6)
Reclassification to held for sale	-	(0.6)	(0.4)	(0.1)	0.1	-	-	-	-	-	(1.0)
Revaluation	678.8	62.9	0.2	1.4	10.4	12.1	7.5	7.2	0.9	-	781.4
Impairment	-	(2.0)	0.1	-	-	-	-	-	-	(5.2)	(7.1)
Reclassification to right of use asset**	-	(1.8)	(1.8)	-	(3.6)	-	-	-	-	-	(7.2)
Reclassification to intangibles / other PPE	14.7	(78.8)	1.4	2.3	33.6	18.4	0.2	15.5	(3.7)	(0.3)	3.3
Impact of transition to DRC***	16,408.6	-	-	-	-	-	-	-	-	-	16,408.6
At 31 March 2023	**23,378.2**	**333.0**	**47.4**	**17.7**	**165.1**	**100.8**	**77.4**	**65.2**	**32.7**	**581.5**	**24,799.0**

* We consider that it is impracticable to restate the opening balances of operational assets and operational land under depreciated replacement cost (DRC) as we did not have a reliable asset base at 1 April 2022. The opening balances are therefore the same as the closing balances as at 31 March 2022, where the assets were valued under the modified historic cost method.
** With the adoption of IFRS16, finance leases have been reclassified as right of use assets (note 8).
*** The 'Impact of transition to DRC' figures include all changes to asset valuations under DRC and includes some assets that are newly recognised as the EA has control and responsibility.
**** Operational assets includes habitat creation schemes that are valued at £64m under the Modified Historic Cost method.

As at 31 March 2023	Operational assets	Operational land	Freehold land	Dwellings	Freehold buildings	Plant and machinery	Vehicles	Furniture, fittings & equipment	IT hardware	Assets under construction	Total
	£ million	**£ million**	**£ million**	**£ million**	**£ million**	**£ million**	**£ million**	**£ million**	**£ million**	**£ million**	**£ million**
Depreciation											
At 1 April 2022*	**3,467.2**	**-**	**-**	**7.4**	**50.3**	**48.6**	**49.7**	**27.2**	**31.6**	**-**	**3,682.0**
Charged during the period	74.3	-	-	0.5	(3.0)	5.2	7.2	2.6	2.7	-	89.5
Disposals	(37.6)	-	-	-	-	(2.5)	(3.2)	(5.0)	(3.0)	-	(51.3)
Revaluation	424.7	-	-	0.5	12.7	6.5	4.2	4.1	0.6	-	453.3
Impairment	-	-	-	-	0.1	-	-	-	-	-	0.1
Reclassification to right of use asset**	(0.3)	-	-	-	(1.9)	-	-	-	-	-	(2.2)
Reclassification to intangibles / other PPE	(24.4)	-	-	1.3	15.3	7.1	0.1	6.8	(2.6)	-	3.6
Impact of transition to DRC***	9,872.0	-	-	-	-	-	-	-	-	-	9,872.0
At 31 March 2023	**13,775.9**	**-**	**-**	**9.7**	**73.5**	**64.9**	**58.0**	**35.7**	**29.3**	**-**	**14,047.0**
Net book value at 31 March 2023****	**9,602.3**	**333.0**	**47.4**	**8.0**	**91.6**	**35.9**	**19.4**	**29.5**	**3.4**	**581.5**	**10,752.0**

As at 31 March 2022	Operational assets	Operational land	Freehold land	Dwellings	Freehold buildings	Plant and machinery	Vehicles	Furniture, fittings & equipment	IT hardware	Assets under construction	Total
	£ million	**£ million**	**£ million**	**£ million**	**£ million**	**£ million**	**£ million**	**£ million**	**£ million**	**£ million**	**£ million**
Cost or valuation											
At 1 April 2021	**5,213.4**	**427.6**	**40.2**	**27.6**	**68.6**	**66.5**	**66.7**	**34.3**	**49.4**	**345.0**	**6,339.3**
Capital expenditure	-	-	-	-	-	6.0	7.5	5.5	0.6	110.6	130.2
Assets commissioned in year	60.8	4.2	-	-	6.1	-	-	-	-	(71.1)	-
Disposals	(34.1)	(2.2)	-	-	0.2	(2.9)	(5.0)	(5.5)	(10.1)	-	(59.6)
Reclassification to held for sale	-	(0.6)	0.2	0.1	0.2	-	-	-	-	-	(0.1)
Revaluation	1,023.9	40.5	8.1	3.0	8.3	4.1	1.9	0.3	(0.8)	-	1,089.3
Impairment	(8.1)	(12.0)	(1.6)	(1.2)	(1.6)	-	-	(0.1)	-	(2.4)	(27.0)
Reclassification to intangibles / other PPE	88.1	(101.1)	0.9	(15.4)	21.8	(2.8)	-	8.7	(0.2)	(14.4)	(14.4)
At 31 March 2022	**6,344.0**	**356.4**	**47.8**	**14.1**	**103.6**	**70.9**	**71.1**	**43.2**	**38.9**	**367.7**	**7,457.7**

As at 31 March 2022	Operational assets	Operational land	Freehold land	Dwellings	Freehold buildings	Plant and machinery	Vehicles	Furniture, fittings & equipment	IT hardware	Assets under construction	Total
	£ million	**£ million**	**£ million**	**£ million**	**£ million**	**£ million**	**£ million**	**£ million**	**£ million**	**£ million**	**£ million**
Depreciation											
At 1 April 2021	**2,884.0**	**-**	**-**	**12.7**	**36.5**	**43.7**	**46.0**	**25.8**	**36.4**	**-**	**3,085.1**
Charged during the period	70.8	-	-	0.8	1.3	6.1	8.3	1.9	4.0	-	93.2
Disposals	(22.5)	-	-	-	0.7	(2.5)	(4.5)	(5.5)	(8.3)	-	(42.5)
Revaluation	541.8	-	-	(0.4)	2.7	2.2	(0.1)	1.2	(0.3)	-	547.1
Impairment	(0.3)	-	-	(0.6)	-	-	-	-	-	-	(0.9)
Reclassification to intangibles / other PPE	(6.6)	-	-	(5.1)	9.1	(1.0)	-	3.8	(0.2)	-	-
At 31 March 2022	**3,467.2**	**-**	**-**	**7.4**	**50.3**	**48.6**	**49.7**	**27.2**	**31.6**	**-**	**3,682.0**
Net book value at 31 March 2022****	**2,876.8**	**356.4**	**47.8**	**6.7**	**53.3**	**22.3**	**21.4**	**16.0**	**7.3**	**367.7**	**3,775.7**

Impact of transition to DRC

The government's financial reporting manual requires relatively specialised assets held for their service potential – including networked assets – to be accounted for at Depreciated Replacement Cost (DRC) to give the most appropriate valuation. During the year the Environment Agency has transitioned from valuing operational assets using the Modified Historic Cost (MHC) method to the Depreciated Replacement Cost method. In readiness for the transition to DRC, the Environment Agency has taken steps to significantly improve the reliability of source data on its asset base, especially in respect of its completeness. This has led to the recognition of assets for which the Environment Agency has taken control and responsibility, but which were not previously valued under MHC as the EA neither purchased nor built them.

The impact of transition to DRC under cost shows the adjustment from the gross book value as at the 31 March 2023, to the Modern Equivalent Asset Value (MEAV), i.e. the replacement cost of the asset portfolio based on modern equivalents. The impact of transition to DRC under depreciation shows the additional depreciation required to bring the MEAV down to the Depreciated Replacement Cost values as at the 31 March 2023. This ensures that the closing net book value of DRC assets reflects a replacement cost appropriately adjusted for the overall condition of the assets, which are part-way through their life.

As the transition to a DRC valuation was as at 31 March 2023, the opening balances are valued under MHC and are still subject to a qualified opinion based on the valuation approach not being in line with the financial reporting framework.

Operational assets includes a number of habitat creation schemes which remain valued using the Modified Historic Cost method (£64m at 31 March 2023). Their primary purpose is to reduce the risk of flooding, but at the same time to enhance the natural habitat of the area and promote biodiversity. These are relatively recently constructed schemes and are not yet categorised as a separate asset type in the EA's asset management system, however in most cases conventional operational assets, such as outfalls, sluices and embankments have also been built on the site.

The number of schemes that use natural solutions to managing flood risk is expected to increase in the future and alternative valuation approaches may be worthy of review at future valuations.

Accounting convention

The Environment Agency's tangible non-current assets fall into 4 categories:

Asset category	Accounting conventions
7.1 Operational assets	Valued using the depreciated replacement cost method
7.2 Land and buildings	Valued on an existing use value basis
7.3 Other property, plant and equipment	Valued using the modified historic cost method
7.4 Assets under construction	Valued at historic cost before they are capitalised and transferred to one of the categories above

The accounting policies for recognition, valuation and depreciation for each asset category is described below.

7.1 Operational assets

Operational assets are assets that directly enable the delivery of the primary outcomes of the Environment Agency. In-scope assets are specialised in nature and function for the delivery of these outcomes and, as such, are not likely to be available in the general marketplace. These assets include flood risk management assets such as control gates, flood gates, pumping stations and screens; water, land and biodiversity assets such as such as boreholes, gauging stations and weirs; and navigation assets such as locks.

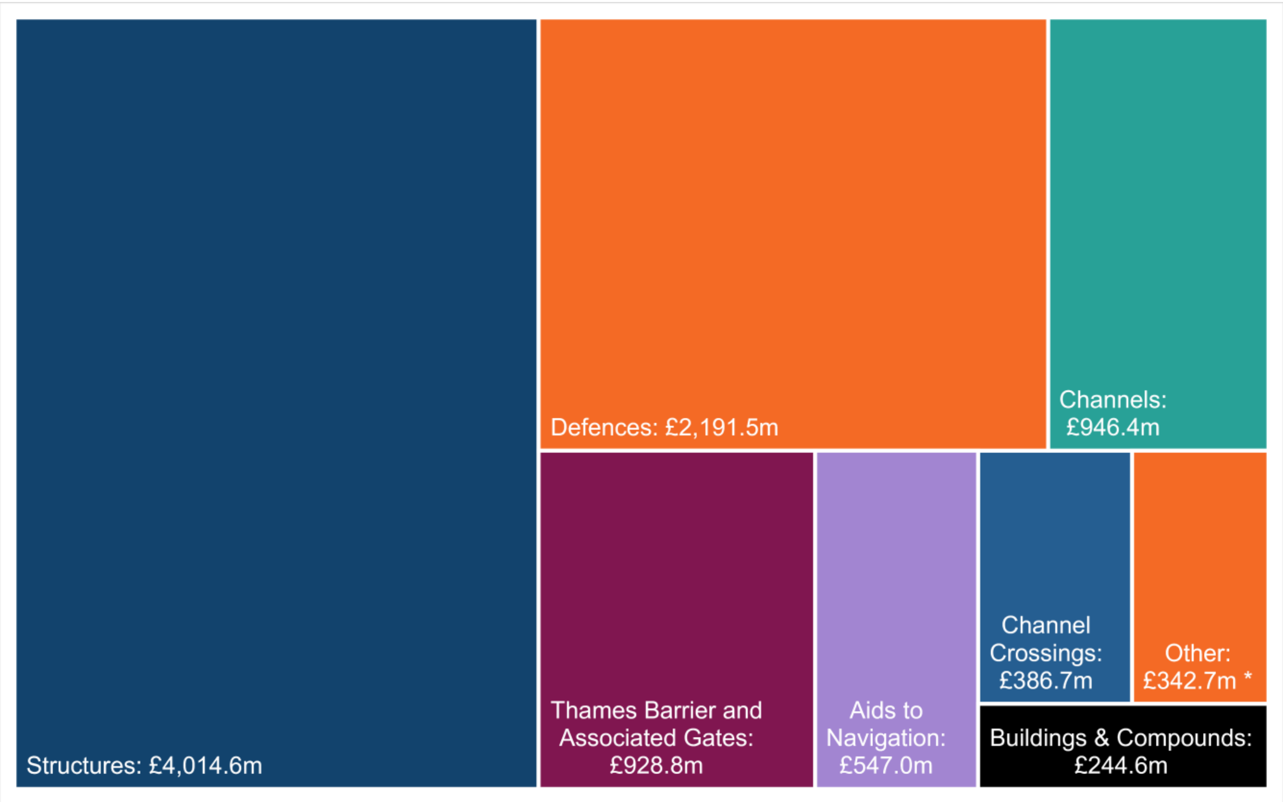
Out of scope assets include assets that do not meet the following criteria:

1. Assets that are not Environment Agency owned or maintained (assets which the Environment Agency does not own but is responsible for keeping in good working condition and from which it receives economic benefit). These assets are not controlled by the Environment Agency, so do not meet the accounting test of providing economic value to the Environment Agency.
2. Assets where the Modern Equivalent Asset Value is less than £5,000. This is the de-minimis criteria for inclusion in the valuation, even if the other criteria are met.
3. Assets where the useful economic life is less than 1 year.

We had historically valued operational assets using the Modified Historic Cost method as a proxy for the Depreciated Replacement Cost method, which was found not to be compliant with the Government's Financial Reporting Manual (FReM) and this led to a qualification of the accounts. In 2022-23 we have implemented a Depreciated Replacement Cost method, for the valuation of operational assets, which determines the current cost of replacing an asset with its modern equivalent asset less deductions for physical deterioration and all relevant forms of obsolescence and optimization.

Operational asset categories

The net book value of operational assets of £9.6 billion can be split into categories as follows:



* Other includes beach structures (£135.3m), MEICA (£124.8m), habitat creation (£64.0m) and instruments (£18.7m).

Aids to Navigation
Assets that are used to aid navigation in the marine and fluvial environment. Included in this asset category are locks moorings, navigation booms and other navigational assets.

Buildings and Compounds
Assets that are used to provide shelter for equipment or storage. Included in this asset category are control buildings, pump houses, gauge station buildings and monitoring buildings.

Channel Crossings
Assets that allow access across a channel. Included in this asset category are bridges and utility service crossings.

Channels
Assets that convey water. Included in this asset category are simple and complex culverts.

Defences
Assets that provide flood defence or coastal protection functions. These include both man-made and natural defences. Natural defences may include man-made elements to make them more effective or protect them from erosion. Included in this asset category are embankments, walls, spillways, floodgates, quays and demountable defences.

Habitat Creation

Habitat involves the creation of ecosystems at localities where systems of that type either did not exist previously or, if they did, the modification to the area in the time since the previous occurrence is such that all continuity has been broken.

Instruments
Assets used to measure water level and flow. Included in this asset category is instrumentation, CCTV systems, and flood warning systems.

Mechanical, Electrical, Instrumentation, Control and Automation (MEICA)
Included in this asset category are Motor Control Centre Controls, High Voltage Electrical Equipment, and Pump Assemblies.

Structures
Assets used to enable, restrict or affect the movement of water, people, fish, animals or materials. Included in this asset category are control gates, weirs, outfalls, debris screens, fish passes and water distribution pipelines.

Measurement principles
For each asset type there is a measurement principle which aligns to the key cost drivers within each individual cost model used to provide the Modern Equivalent Asset Valuation (MEAV) for each individual asset. These differ across the 69 asset types and within the asset categories.

The measurement rules are:

- Control Gates: m2 (cross-sectional area)
- Embankments: m3 (length, assuming 2 metre crest and 1:3 slope)
- Culverts: m (length based on varying cross-sectional sizes)
- Walls: m2 (facing area)
- Outfalls m2 (cross sectional area)
- Weirs: m (length)
- Lock: m3 (chamber volume)
- Bridge: m2 (deck area)
- Debris Scheme: m2
- Water Distribution Pipelines: m (length)

Thames Barrier and Associated Gates

The Thames Barrier is a retractable barrier system built to protect the floodplain of most of Greater London from exceptionally high tides and storm surges on the North Sea. The Associated Gates function in the same way as the Environment Agency's large tidal barriers and other complex defence structures.

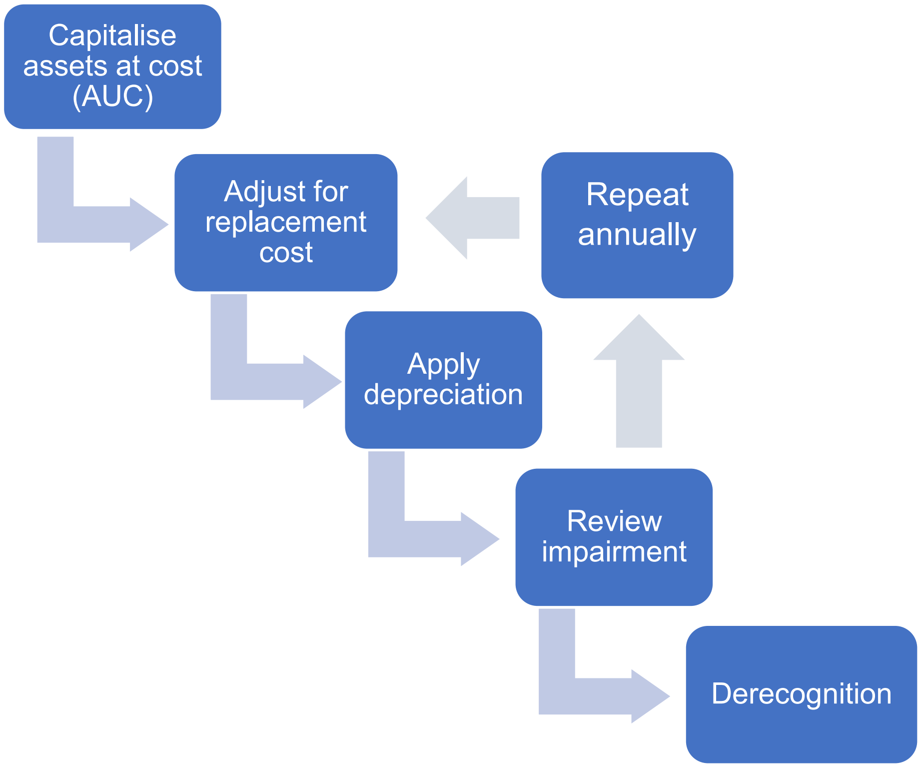
As a bespoke asset with limited recent replacement cost information available, a specialised methodology was developed to value the Thames Barrier. The approach is to triangulate between indexed historical costs, a materials and quantities estimate, and international benchmarks. The valuation placed most weight on the materials and quantities estimate because this is where there was best available data to produce a DRC value to the Thames Barrier.

The valuation was based on:

- A high-level breakdown of the assets and dimensions of assets that comprise the Thames Barrier and are in scope of a DRC valuation.
- The best available data for the cost of replacing these assets. Due to the bespoke nature of the assets the availability of recent cost data associated with replacing or refurbishing components of the barrier is relatively limited. The sources of cost data for the Thames Barrier include:
    - market rates
    - adjusted cost models e.g. for the gates and piers
    - lump sum estimates provided by the EA experts – e.g. for replacement of the Higher Voltage / Low Voltage power assets
- The barrier has been depreciated using the same methods as explained below for all other operational assets. The majority of the value is in the gates and the piers and these have been depreciated based on an assessment of actual condition of these assets and application of EA's modelled deterioration curves for these assets and as also explained further in the section on civils deterioration curves.

A specific cost model was developed for the EA's tidal barrier control gates which was also applied to value the Associated Gates and also adjusted for use in the Thames Barrier valuation.

DRC valuation process



7.1.1 Recognition and capitalisation policy

Operational assets are initially recognised in assets under construction at cost and are not depreciated. When the asset is fully operational, the cost is transferred to operational assets, it is depreciated and included in the valuation process until the time the asset is disposed of or decommissioned.

Capital expenditure is the money that we spend on acquiring, improving or renewing our assets. All direct construction costs are capitalised. Design costs that are directly attributable to an asset are also capitalised, including salaries when they are incurred as a result of staff spending time on capital projects and can be directly linked to bringing specific, separately identifiable assets into working condition or substantially enhancing the working life of an existing asset.

7.1.2 Revalue using DRC

The DRC method is a cost-based valuation approach applied for specialised and networked assets held for their service potential, where market comparators do not exist and/or would not be appropriate. It is the cost a company would need to spend today to replace the asset to deliver the same functionality, adjusted (depreciated) to reflect the level of physical, functional & economic deterioration of the current asset. The EA worked with Turner & Townsend and CBRE to develop a suite of valuation models in accordance with the guidance provided by FReM.

To meet the Red Book requirements for the final valuation CBRE – as the accredited valuer – has provided assurance that the DRC valuation is compliant with RICS standards. CBRE has also assured the overall methodologies, data strategy and the cost model methodologies against the relevant Red Book requirements and guidance.

The key steps and assumptions are summarised below.

7.1.3 Define Modern Equivalent Asset (MEA)

As the EA's assets tend to be bespoke, which is necessary to deliver functional requirements, the MEA is based more on a like-for-like replacement than in other sectors. The EA has developed some MEA assumptions where assets can be more standardised, for buildings for example or because the valuation is based on using modern construction materials.

7.1.3.1 Create cost models

External cost consultants were commissioned to develop the cost models and in exceptional cases unit rates for the valuation. These models have been developed to reflect current design standards and modern materials, the source data and the processes for 'cleansing' of costs that do not align with DRC methodology arising from assumptions such as instant build, no financing and greenfield site.

7.1.3.2 Estimate MEAV

Every asset type then has a measurement rule which aligns to the key cost drivers within each individual cost model to calculate the MEAV for each asset in each asset type according to the attribute data for each asset (see descriptions for different categories including structures at the top of note 7.1.). Significant steps were taken during the valuation process to improve the level of actual attribute data available for the valuation. The valuation uses a mix of valuations driven by attribute data where the cost of an asset is significantly responsive to its dimensional extent (e.g. length / height) and – where supported by the EA technical experts – standardised measurements for the MEA design in other cases where there is limited sensitivity or potential for variance.

Where there remained gaps, assumptions were made based on statistical analysis of the known data points.

7.1.4 Depreciation

In-year depreciation
Depreciation is calculated to apportion the value of operational assets over the expected useful economic life. Depreciation is charged in the month of capitalisation but not in the month of disposal. In year depreciation was straight line over the asset useful life. Additional depreciation was applied to bring the Modern Equivalent Asset Value down to the Depreciated Replacement Cost value at 31 March 2023.

Application of depreciation adjustment to the closing DRC model
As described above, the aim of a DRC valuation is to provide a current cost of asset replacement after an adjustment (depreciation) for physical, functional, or economic obsolescence of the actual asset as compared against the hypothetical as-new modern equivalent asset. The most significant factor for the Agency's assets in terms of this adjustment is a physical deterioration associated with the assets being active over time.

To arrive at this adjustment, the DRC valuation applies one of three approaches (explained below) to arrive at a depreciation factor (a number between 0 and 1 by which the MEAV is multiplied to arrive at a DRC, with 0 being a fully depreciated asset and 1 being an as-new asset).

The approaches were developed according to the data available across the asset types to provide a best estimate.

i. Using inspection data either on asset condition or, in the case of Mechanical, Electrical, Instrumentation, Control and Automation (MEICA) assets, reliability to determine a point on a depreciation curve which models how assessed condition and reliability are expected from an engineering point of view to deteriorate over time, and therefore allow the existing inspection and other asset management information to be used to estimate how far the asset is expected to be through its useful life.

ii. Applying straight line depreciation, with the depreciation factor calculated based on asset start date data and useful economic lives for the asset type. This approach is used as the basis of a best estimate where assets have not yet been included in the inspection regime so do not yet have sufficient data on asset condition to use the methods above.

7.1.4.1 Deterioration curve

This method uses data routinely collected on asset condition and post inspection actions to estimate deterioration curves to calculate the asset's residual life. It has been applied to all civil assets where a suitable Environment Agency deterioration curve is available. For consistency within asset types the same depreciation method was used. The curves have been developed as a predictive tool for estimation of future asset condition and expected residual asset life, considering characteristics related to the:

- environment, whether the asset is located in a fluvial, tidal or coastal location
- asset age
- material type and construction
- past and intended (future) maintenance practices

Asset attribute data such as target condition, location and material type is used to select the relevant deterioration curve and the depreciation factor is calculated across this curve based on the actual recorded condition of the asset.

7.1.4.2 MEICA curve

For MEICA assets, this method uses data from the Environment Agency's inspection regime to provide a depreciation factor. MEICA maintained FCRM assets are routinely inspected for availability, i.e. will they operate and perform as intended when needed, and the outcomes are recorded for each element of the MEICA asset. These inspections assess:

- Likelihood of failure in the future (LOF): Unlikely, Possible, Likely, or Imminent.
- Time to repair if failure does occur (TTR): designated as Quick (2 days), Short (10 days), Medium (30 days), Long (70 days) or Very Long (180 days).
- Whether they fall below the target condition grade.

To use this data as the basis for a DRC valuation two residual life percentage matrix tables were developed; one for assets not below target condition and one for assets that are.

7.1.4.3 Straight line with residual balance

Straight line depreciation with an estimated residual balance is used where assets have not yet been included in the inspection regime so do not yet have sufficient data on asset condition to use either deterioration curves or reliability data. The depreciation factor is calculated based on asset start date data with straight line depreciation calculated based on its' useful economic life.

7.1.5 Summary of key valuation assumptions

The valuation is based on the best available attribute data available at the valuation date. This includes data needed to derive for each individual asset the MEAV and depreciation factor applied to derive the DRC for each asset. This included an exercise during the valuation to improve the level data available focusing on the asset types that are most material to the overall valuation. Where there remains data 'gaps' we have made assumptions. The EA has a further data improvement plan in place to drive continuous improvement in the valuation.

The key assumptions are:

Process	Key data input assumptions
Modern Equivalent Asset	For 17 standardised asset types a MEA assumption relating to design and/or materials has been made. For example for culverts it was assumed that small culverts are circular in design, medium culverts are square and large culverts are rectangular, and all are constructed from pre-cast concrete sectional units. For monitoring station buildings the MEA was a glass reinforced plastic (GRP) kiosk with a footprint of 4m by 4m. This is in line with RICs guidance on MEA assumptions. Other asset types were assumed to be designed to be replaced on a like for like basis.
Dimensional data (to use to apply the cost model to derive the MEAV)	During the valuation improvements were made to the level of attribute data required as inputs into the valuation focused on assets most material to the valuation. In addition, for 21 asset types, in consultation with EA business experts, standardised measurements for at least one required dimension were adopted based on the MEA design for that asset type. For example, standardised widths were used for foot (2m), farm (4m), road (8m), rail (11m), aqueduct (7m) bridges. Where attribute data was not available (either a MEA assumed dimension or actual dimension for like for like replacement), statistical analysis was undertaken to derive an assumption and tested with internal experts to confirm they were reasonably representative of the overall portfolio of assets.
Depreciation factors – method 1 (civils based on condition data and EA deterioration Curve)	The methodology relies on key data from Asset Information Management System, Operations and Maintenance (AIMS OM) to be able to apply the most appropriate deterioration curve. The assumptions we have made where there is incomplete data are: • Where there is no asset raw condition then we have used the asset's actual condition grade if this is populated and if this is also blank, we have assumed the asset's target condition grade • Where there is no target condition data we assume a target condition of 3 (out of a scale of 5) – this is the most common target condition for the EA's assets • Where there is no protection type or it is classified as 'surface water' protection then we have assumed that the protection type is fluvial We also developed a set of rules to determine the appropriate material type drawing on data on material type of assets that is available at an asset element level in order to select the most appropriate curve for individual assets.
Depreciation factors – method 2 (MEICA assets using EA available data)	This method calculated a depreciation factor for each asset element comprising the asset, and a mean average single factor derived for assets with multiple elements to apply to the calculated MEAV for the asset. The assumptions where there was incomplete data were to assume the mid points for the data inputs required to generate the depreciation factor • Where element LOF is 'blank' we have assumed 'Possible' • Where TTR is 'blank we have assumed 'Medium
Depreciation factors – method 3 (using data on asset start dates and useful economic life (UEL)	Where an actual start date for an asset cannot currently be confirmed, we have applied a depreciation factor assuming the asset is at the mid-point of the UEL for the asset type. This equates to a depreciation factor of 0.51 which reflects the assumption of 2% residual life when an asset is still in use but is beyond its UEL. Asset types where this methodology is used are generally maintained to a fair operational standard and as such it is reasonable to assume across the portfolio of assets that these will be at the mid-point of their UEL.

7.1.6 Future DRC valuations

To ensure that the DRC model continues to output a reasonable replacement cost adjusted for asset condition, the models will be updated annually to reflect the latest source data on asset quantities and conditions, as well as an update for indexation using appropriate construction-related indices to retain this being a current cost.

Every 5 years, a more thorough refresh will be carried out to update costing rates and consider modern equivalents based on an updated professional assessment, alongside a fuller check of judgements on modern equivalents.

Accounting for revaluation

Any increase in asset values by category is recognised in the revaluation reserve. Any decrease in asset values is either recognised against the revaluation reserve, where a revaluation reserve surplus is available, or written off as an impairment where a revaluation reserve surplus is not available, by asset category.

7.1.7 Derecognition and impairment

Assets are derecognised when the Environment Agency has either sold, or decommissioned the asset, or transferred control and responsibility to a third party.

7.1.8 Sensitivity analysis

The sensitivities reflected below show the impact of changes to assumptions that affect the valuation of operational assets, excluding the Thames Barrier & Habitat Creation. £8,609m is the DRC value for operational assets excluding the Thames Barrier & Habitat Creation.

Type	DRC	DRC (-)	DRC (+)	Potential DRC	Variance as %
	£ million	£ million	£ million	£ million	£ million
Scenario 1: Alternative Inflation Index	8,609	-	+128	8,737	1.5%
Scenario 2 Combined Depreciation sensitivity (Lower)	8,609	-236	-	8,373	-2.7%
Scenario 3 Combined Depreciation sensitivity (Upper)	8,609	-	+258	8,867	3.0%
Scenario 4 Change the assumption (indirect cost uplifts) by -/+10%	8,609	-382	+383	8,227/8,992	-4.4%

A description of the sensitivities is shown in the table below. Sensitivities 2 and 3 are the lower and upper values for a combined sensitivity relating to the three depreciation methods applied in the valuation.

Sensitivity	Assumption in valuation	Sensitivity
Inflation	Building Cost Information Service (BCIS) all construction costs index. Inflation has been applied to cost data, so all costs are at March 2023 prices.	The sensitivity uses RPI which is a recognised general economic index.
Depreciation Civils – FCRM deterioration curve	For this depreciation method where there is no actual condition data recorded, we have assumed the asset is at its target condition grade. In some cases, for assets below required condition grade the target condition grade has been applied to calculate the depreciation factor for the asset instead of the assessed condition.	Change the assumption (target condition grade) by +/- 10%.
Depreciation Civils - Asset Start Date	For this depreciation method where we do not have an asset start date, we have assumed that the asset is at the midpoint of the asset's useful economic life (UEL)	Change the assumption (depreciation factor) by +/- 10%.
Depreciation MEICA assets	For this depreciation method where there is no actual data for Likelihood of Failure (LoF) we have assumed 'Possible' and where there is no actual data for Time to Repair (TTR) we have assumed 'Medium'. These are the middle categories of the data used to calculate the depreciation factor.	Change the category of data used to calculate the depreciation factor to 'Unlikely' 'Short' and 'Likely' 'Long'.
Cost Models: Indirect cost uplift	We have assumed a range of indirect cost uplifts differentiating between very complex, complex, less complex and in house delivery arrangements.	Change the assumption (indirect cost uplifts) by +/- 10%.

Thames Barrier sensitivity

We have adopted a specialist methodology for valuing the Thames Barrier. The approach is to triangulate between three estimates: indexed historical costs, a materials and quantities estimate, and international benchmarks. Across the various methods when assessed against an industry standard cost estimate maturity assessment criterion our judgement is that the materials and quantities estimate provides the most accurate class of estimate to include in the valuation for the replacement cost of the Thames Barrier.

The assumptions and therefore the sensitivities run for the operational assets are not applicable across this methodology. Instead, we have provided a sensitivity based on the AACE International (AACE) estimate maturity assessment criteria. This can be used to derive an expected level of accuracy range for the MEAV for the Thames Barrier, based on an expert judgement on the class of estimate for the materials and quantities approach. The DRC has then been calculated for the lower and upper limits based on the proportion of DRC / MEAV for the most likely valuation.

7.2 Land and buildings

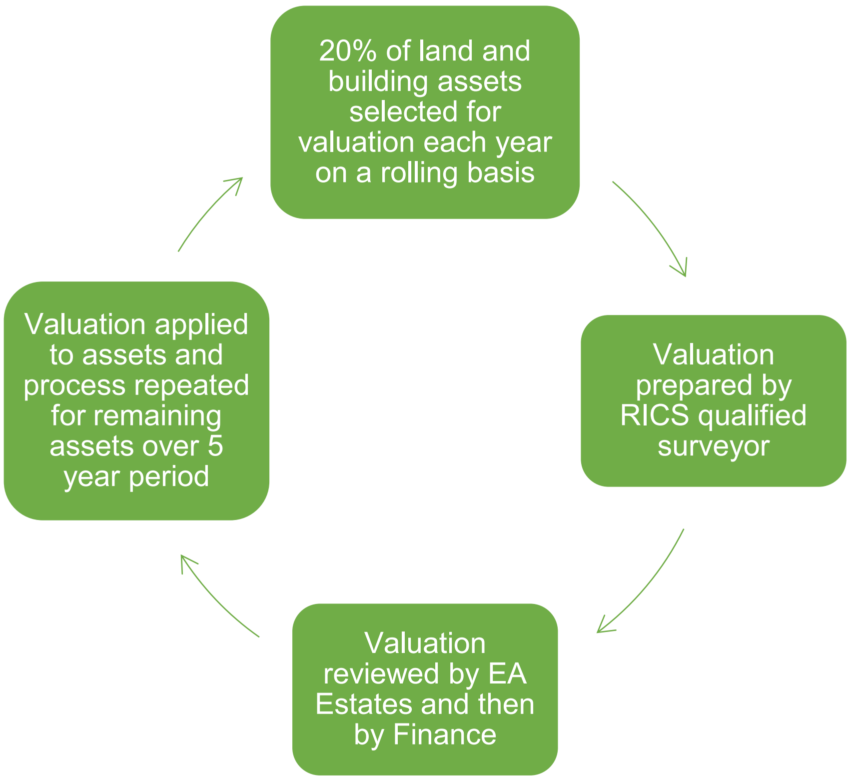
The Environment Agency owns more than 5,000 separately identified freehold land and building assets with a combined value of £480m. The majority of these are operational land parcels but also include several administrative land and building assets and dwellings.

Useful economic life by asset type

Asset type	Useful economic life
Fencing	15 years
Freehold buildings	30 - 50 years
Dwellings	60 years
Operational buildings	60 years
Roads, car parks and walkways	60 years

Quinquennial review process

The quinquennial review process involves four steps, as follows:



7.2.1 Recognition and valuation

All land and building assets are valued on an Existing Use Value (EUV) basis except for dwellings, typically lock keeper cottages, which are valued at Existing Use Value Social Housing to reflect that the property is being held and occupied for the delivery of a service in existing use.

Operational land is valued at Existing Use Value (EUV) based on the cost to replace its service potential. This looks at the original condition of the land at the time of acquisition and uses comparatives of the same nature to calculate the valuation. The EUV valuation approach for Administrative Land and Buildings uses comparatives of market value constrained to existing use.

The majority of land owned by the EA is specialised operational land, held for its service potential. It is valued under EUV at the cost to replace this service potential, i.e. the cost to buy a similar land parcel which is free from any encumbrance from the work done or the restrictions put on the land being replaced. The EA also owns land and buildings for administrative purposes, such as offices and depots, categorised as freehold land and freehold buildings. These are not considered as specialised assets and are valued on a comparable replacement basis.
Land and buildings assets that are above a minimum value threshold, currently set at £25,000, are considered to be in-scope of the quinquennial review process and are revalued by RICS qualified surveyors every five years. The previous review was carried out on all such in-scope assets in March 2021.

Due to issues identified in the quinquennial review process, freehold land and building assets including dwellings were subject to a qualified audit opinion in 2020-21 which remained unresolved in 2021-22 and 2022-23. One of the actions put in place after the 2021 review, was to move to a rolling quinquennial revaluation process for operational land, buildings and dwellings, whereby a proportion of assets are valued every year. Administrative land and buildings (offices and depots) remain on a non-rolling revaluation process and will be revalued in March 2026.

Under the rolling programme, an average of 20% of the assets in-scope of the rolling programme (non-administrative assets above the £25k threshold) would be valued each year on a rolling basis such that each asset is valued once over a 5-year quinquennial period. The rolling programme commenced in 2022-23 with a target of at least 25% of in-scope assets being valued by March 2023 to allow the programme to remain on track to value all relevant assets by March 2026.
In addition to the rolling quinquennial programme, a small proportion of land and building assets with a net book value below £25,000 are being valued each year to indicate any risk of materially inaccurate valuations in this group.

The value of assets not subject to independent revaluation in a particular year are revalued using an appropriate index.

7.2.2 Depreciation

Freehold land assets are not depreciated. The useful economic life for buildings is between 10 and 60 years and is depreciated on a straight-line basis.

7.3 Other property, plant and equipment

The Environment Agency owns around 5,000 tangible assets with a NBV of £88.2m (2021-22 - £67.0m) that don't fall under operational assets or land and buildings. These include vehicles, mobile plant and machinery and equipment. The useful economic life of these assets is:

Asset type	Useful economic life
Furniture, fittings & equipment	3 - 15 years
IT hardware	3 - 15 years
Plant & equipment	3 - 25 years
Vehicles	3 - 25 years

7.3.1 Recognition and valuation

Other PPE is recognised when it is probable that the future economic benefits associated with the asset will flow to the entity, and the cost of the asset can be measured reliably. These assets are valued on a Modified Historic Cost basis, whereby they are revalued annually using the indices in the table below:

Index	Description
MSCI Capital Growth	Designed to measure the performance of real estate companies that are stock exchange listed.
Tender Price Index of Public Sector Building Non-Housing (PUBSEC)	The department for Business Innovation and Skills (BIS) construction price and cost indices are essential to those involved in estimating, cost checking and fee negotiation on public sector construction works.
Land Registry House Price Index (Dwellings)	The index applies a statistical method, called a hedonic regression model, to the various sources of data on property price and attributes to produce estimates of the change in house prices each period.

7.3.2 Depreciation

These assets depreciated on a straight-line basis over their remaining useful life.

7.4 Assets under construction

Assets under construction comprises of assets that are not operationally live. Directly attributable assets under construction are recorded at cost and are not revalued and are not subject to adjustment until after they have been completed and transferred to the appropriate PPE asset category.

7.4.1 Capitalisation approach

When an asset is completed and, in the location and condition necessary for it to be capable of operating in the manner intended by management, it is transferred from assets under construction to the relevant asset category. A review of the costs is carried out to ensure that they meet the capitalisation threshold requirements of IAS 16 and 38.

The top 3 major projects included in assets under construction at the balance sheet date were:

Project	31 March 2023	31 March 2022
	£ million	**£ million**
Boston Barrier/Barrier Works	82.9	75.6
2100 THAMES Delivery	38.5	29.0
Humber Hull Frontage	31.5	31.1

8. Right of use assets

At 31 March 2023	Land	Buildings	Vehicles	Total
	£ million	**£ million**	**£ million**	**£ million**
Initial adoption of IFRS16 on 1 April 2022	0.2	39.5	8.5	48.2
Cost or valuation				
At 1 April 2022	**0.2**	**39.5**	**8.5**	**48.2**
Assets commissioned in year	-	2.0	6.8	8.8
Revaluation	(0.3)	4.9	-	4.6
Reclassification	2.2	5.1	-	7.3
Impairment	(0.3)	-	-	(0.3)
At 31 March 2023	**1.8**	**51.5**	**15.3**	**68.6**
Depreciation				
At 1 April 2022	**-**	**-**	**-**	**-**
Charged during the year	-	7.6	4.3	11.9
Reclassification	-	2.3	-	2.3
At 31 March 2023	**-**	**9.9**	**4.3**	**14.2**
Net book value at 31 March 2023	**1.8**	**41.6**	**11.0**	**54.4**

Right-of-use assets represent the right to direct the use of an underlying asset arising as a result of a lease. This is a new requirement for 2022-23, under IFRS16.

Under IFRS16, all qualifying leases will recognise a right of use (ROU) asset and lease liability. As a result, former operating leases have now been recognised on the Statement of Financial Position (SOFP). The Statement of Comprehensive Net Expenditure (SOCNE) reflects related charges for the depreciation of the right of use asset and interest on the lease liability in place of rental expenses and continues to reflect VAT as cost where applicable on any leases.

This means that the Environment Agency does not own the underlying asset but recognises the value of the right of use.

Note 14 provides further detail on the lease liability that has been recognised on the SOFP.

9. Intangible assets

At 31 March 2023	Software licences	Websites	Other IT	Assets under construction	Total
	£ million	£ million	£ million	£ million	£ million
Cost or valuation					
At 1 April 2022	**62.4**	**21.5**	**135.1**	**45.8**	**264.8**
Capital expenditure	-	-	-	2.3	**2.3**
Assets commissioned in year	1.2	-	1.3	(2.5)	**-**
Disposals	-	(2.0)	(5.5)	-	**(7.5)**
Revaluation	1.6	(0.9)	3.3	-	**4.0**
Impairment	0.1	1.5	-	(2.1)	**(0.5)**
Reclassification	(0.3)	-	(3.4)	1.6	**(2.1)**
At 31 March 2023	**65.0**	**20.1**	**130.8**	**45.1**	**261.0**
Amortisation					
At 1 April 2022	**38.3**	**18.6**	**79.7**	**-**	**136.6**
Charged during the year	4.4	5.2	13.1	-	**22.7**
Disposals	-	(2.0)	(4.8)	-	**(6.8)**
Revaluation	0.4	(5.0)	2.8	-	**(1.8)**
Impairment	0.1	1.4	0.9	-	**2.4**
Reclassification	(0.3)	-	(3.6)	-	**(3.9)**
At 31 March 2023	**42.9**	**18.2**	**88.1**	**-**	**149.2**
Net book value at 31 March 2023	**22.1**	**1.9**	**42.7**	**45.1**	**111.8**

The top 3 major projects included in assets under construction are as follows:

Project	31 March 2023	31 March 2022
	£ million	£ million
National flood risk assessment system	12.6	9.0
Upgrade of the Environment Agency's IT estate and business applications	11.8	6.1
Water resources licensing service	6.3	4.9

At 31 March 2022	Software licences	Websites	Other IT	Assets under construction	Total
	£ million	£ million	£ million	£ million	£ million
Cost or valuation					
At 1 April 2021	**85.2**	**49.2**	**125.2**	**61.0**	**320.6**
Capital expenditure	-	-	-	18.6	**18.6**
Assets commissioned in year	0.1	0.4	27.0	(27.5)	**-**
Disposals	(21.6)	(27.9)	(16.0)	-	**(65.5)**
Revaluation and indexation	(1.3)	1.0	(1.0)	-	**(1.3)**
Impairment	-	(1.2)	(0.1)	(20.7)	**(22.0)**
Reclassification	-	-	-	14.4	**14.4**
At 31 March 2022	**62.4**	**21.5**	**135.1**	**45.8**	**264.8**
Amortisation					
At 1 April 2021	**55.5**	**42.2**	**76.5**	**-**	**174.2**
Charged during the year	4.3	1.6	18.5	-	**24.4**
Disposals	(21.0)	(26.7)	(14.2)	-	**(61.9)**
Revaluation	(0.5)	2.6	(1.1)	-	**1.0**
Impairment	-	(1.1)	-	-	**(1.1)**
Reclassification	-	-	-	-	**-**
At 31 March 2022	**38.3**	**18.6**	**79.7**	**-**	**136.6**
Net book value at 31 March 2022	**24.1**	**2.9**	**55.4**	**45.8**	**128.2**

Intangible assets with a value of £5,000 or more are capitalised and are then revised annually through the use of suitable indices to fair value.

Assets under construction are recorded at cost and are not revalued. There was a management-imposed limitation on the 2021-22 and 2022-23 audit in respect of assets under construction, resulting in a qualified audit opinion in this area.

Amortisation is calculated so as to write off the value of intangible assets on a straight-line basis over the expected useful economic lives of the assets concerned.

Useful economic lives applied for amortisation charge on asset creation

Asset type	Useful economic life (years)
Software licences and models	3-25
Websites and other internally generated IT	3-10

Details of valuation

Intangible assets were revalued internally at 31 March 2023 using suitable indices. The impact of revaluations is shown as revaluation and indexation in the table above. The carrying amount for intangible assets that would have been recognised had the assets been carried under the cost model as at 31 March 2023 was £100.1 million (2021-22 - £114.3 million). The revaluation surplus as at 31 March 2023 for intangible assets was £11.7 million (2021-22 - £13.9 million).

10. Impairment

Impairments by accounting category	31 March 2023	31 March 2022
	£ million	**£ million**
Property, plant and equipment	-	4.5
Total charged to the revaluation reserve	**-**	**4.5**
Property, plant and equipment	7.2	21.6
Intangible assets	2.9	20.9
Right of use assets	0.3	-
Total impairment charge to the statement of comprehensive net expenditure	**10.4**	**42.5**
Total impairment as per statement of financial position	**10.4**	**47.0**

Impairments are recognised when the recoverable amount of non-current assets falls below their carrying amount, as a result of either a fall in value owing to market conditions or a loss in environmental (including flood defence) benefit.

In line with an adaptation in the FReM, any loss of economic benefit is recognised in full against expenditure. However, in order to align the balance in the revaluation reserve with that which would have resulted through strict application of International Accounting Standard (IAS) 36, an amount up to the value of the impairment is transferred to the general reserve for the individual assets concerned.

Downward revaluations, resulting from changes in market value, only result in impairment where the asset is revalued below its historical cost carrying amount. In these cases, the accounting treatment is as for any other impairment, with amounts being firstly set against any accumulated balance in the revaluation reserve, and any amount in addition to this being recognised as impairment and recorded in the statement of comprehensive net expenditure.

11. Trade, contract, and other receivables

	31 March 2023	31 March 2022
	£ million	**£ million**
Within one year:		
Trade receivables	28.5	20.6
Accrued income	93.7	47.8
Expected credit loss	(4.2)	(3.9)
	118.0	**64.5**
Other receivables:		
VAT	40.1	37.9
Employee loans	1.7	1.6
Prepayments	5.2	6.5
Total	**165.0**	**110.5**

Accumulated surpluses and deficits relating to water resources charges, flood risk management local levies and environmental protection charges are treated as accrued (or deferred) income depending on whether the charging scheme is in surplus or deficit. These balances are only treated as accrued or deferred income where they have arisen as a result of unplanned circumstances in line with HM Treasury's Managing Public Money definition. In such circumstances this treatment overrides the standard revenue recognition criteria.

This override of IFRS 15 Revenue from Contracts with Customers is made to give a true and fair view of the Environment Agency's financial position, performance and cash flows. IFRS 15 is complied with for specific performance obligations but where there is a general obligation to regulate, the consideration received for regulation would otherwise be attributed to a specific performance obligation which may mean more income being recognised than fee and charge expenditure incurred. This, all other things being equal, would lead to this surplus income being lost and the Environment Agency would benefit incorrectly from charge payers which would be a breach of the Environment Agency's obligations under Managing Public Money. Similarly, if costs of delivering regulation exceed income, following IFRS 15 without the override would not meet the Managing Public Money requirement to recover full costs and would impose a cost on the Environment Agency instead of the charge payer. As the Environment Agency will recover the surplus or deficit to or from the charge payer, it needs to carry the surplus or deficit within the Statement of Financial Position. The financial impact of the override is £1.6 million in 2022-23 (2021-22 - £1.2 million).

The accrued and deferred balances are considered when setting future years' fees and charges, to enable a cost recovery position to be achieved over a reasonable time period, which due to timing differences is not considered appropriate within a single financial year. Where balances are not considered to have arisen due to unforeseeable events, the Environment Agency has taken appropriate action. Deferred income includes the environmental improvement unit charges received from non-water company abstractors, to be used to fund compensation payments for the variation or revocation of abstraction licences. This change in licence conditions requires approval from the Secretary of State and the charges are used to reduce the environmental damage caused to watercourses through abstracting too much water. Charges are only raised where compensation has been assessed as likely to be paid in the future.

The Environment Agency has a debt recovery process to chase outstanding debt and to resolve any related disputes. Debts are only formally written-off when this process is concluded or when we become aware of a clear reason why we would not recover the debt, such as the debtor becoming insolvent. We may write-off debts in the accounts where it is prudent to, for example when an undisputed debt has been outstanding for a number of years and further pursuit may not represent value for money. Expected credit losses have been calculated and provided for in accordance with IFRS 9, as described in note 18.

12. Cash and cash equivalents

Movement during the year	31 March 2023	31 March 2022
	£ million	**£ million**
At 1 April	**119.5**	**72.4**
Net change in cash and cash equivalent balances	48.0	47.1
At 31 March	**167.5**	**119.5**

By account type	31 March 2023	31 March 2022
	£ million	**£ million**
Government banking service	30.3	90.0
Demand accounts	137.2	29.5
At 31 March	**167.5**	**119.5**

Amounts held with the Government Banking Service are general funds with no bank overdraft, with interest earnt being retained by the Environment Agency.

Demand accounts include amounts held by the Environment Agency with the Government Banking Service and in escrow accounts. These amounts are held as security for permitting deposits. Permitting deposits are amounts held by the Environment Agency as security for permits issued for landfill sites, dredging lagoons, mining waste and hazardous waste facilities.

The amounts are held to ensure if there are environmental incidents, under section 57 The Environmental Permitting (England and Wales) Regulations 2016, that the agency can recover lost income. The Environment Agency cannot utilise the funds without the occurrence of an environmental incident. On the occurrence of an environmental incident, funds would be withdrawn from demand accounts and recognised as income in line with IFRS 15 as remedial actions are completed.

The amounts held reduce over the life of the closure period of the sites, reducing each year as the obligations of the permit holder decreases. They are held purely as security and on completion of obligations under site closure plans, are repayable to the permit holder.

These amounts are recognised as cash & cash equivalents as, although they require an environmental incident to be utilised, they meet the definition of cash under IAS 7. Interest earnt on the accounts is payable to the permit holder.

The corresponding liability for permitting deposits is included within note 13.

Amounts held in escrow were identified during the year, with £17.6m recognised with a corresponding liability recognised within “Permitting deposits” in note 13. On 31 March 2022 there was £15.8m in escrow accounts which have not been adjusted in the financial statements. These amounts would have been matched by an increased liability of the same amount. The liability on 31 March 2022 relating to cash of £29.5m is recognised in “Customer deposits and receipts in advance” within one year in note 13. The omission of escrow accounts and treatment of the liability as short term on 31 March 2022 is not considered material under IAS 8.

13. Trade, other payables, and contract liabilities

	31 March 2023	31 March 2022
	£ million	**£ million**
Within one year		
Other taxation and social security	(11.2)	(10.9)
Trade payables	(19.1)	(11.6)
Trade accruals	(155.6)	(111.2)
Holiday pay accrual	(18.7)	(18.7)
Other payables	(7.7)	(6.9)
Capital payables	-	(16.5)
Capital accruals	(95.1)	(115.9)
Contract liabilities:		
• Flood risk management (including CWEIY)	(101.2)	(88.1)
• Water resources – Abstraction	(18.6)	(3.0)
• Water resources – EIUC	(19.8)	(19.8)
• Environment protection	(17.6)	(13.0)
Pension contribution liabilities	(4.9)	(5.4)
Customer deposits and receipts in advance	(90.4)	(119.7)
	(559.9)	**(540.7)**
More than one year:		
Trade payables including accruals and other payables	(4.1)	(3.2)
Deferred capital grants	(1.4)	-
Permitting deposits	(137.2)	-
	(142.7)	**(3.2)**
Total	**(702.6)**	**(543.9)**

Within customer deposits and receipts in advance is £0.6 million relating to abstraction applications (2021-22 - £0.2 million) and £3.1 million relating to water quality applications (2021-22 - £2.0 million) where the consideration has been received but performance obligations have not been fully completed.

Included in flood risk management (including CWEIY) contract liabilities is the balance of the levy raised on local authorities (“local levy”) by the Environment Agency for flood and coastal erosion risk management purposes. The local levies are subject to approval by the relevant Regional Flood and Coastal Committee and are raised to enable delivery of approved projects within that region. Funding for projects planned but not yet delivered is within Contract liabilities. Delays to new projects and slippage in existing spend profiles meant that contract liabilities relating to local levy spend increased by £13.1 million this year.

Permitting deposits are amounts held by the Environment Agency as security for permits issued for landfill sites, dredging lagoons, mining waste and hazardous waste facilities. Further explanation of the permitting deposits and accounting policy is included within note 12.

14. Lease liabilities

Finance leases

A finance lease is one which transfers substantially all the risks and rewards of ownership to the lessee.

The determination of whether an arrangement is, or contains, a lease is based on the substance of that arrangement. This assessment is based on whether the arrangement is dependent on the use of a specific asset and conveys the right to use the asset.

Right of use assets – EA as a lessee

The Environment Agency (EA) has implemented IFRS16 with effect from 1 April 2022, using the adaptations and interpretations set out by HM Treasury in the 2022-23 Financial Reporting Manual (FReM). As mandated by the Financial Reporting Manual a cumulative catch-up basis has been used and prior year comparatives have not been restated.

For lessees, this transition has removed the separation between operating and finance leases, instead recognising leases in scope of IFRS16 on the Statement of Financial Position as right of use assets and corresponding lease liabilities. Liabilities have been calculated using the present value of outstanding payments due at 1 April 2022 and the opening cost of the right of use assets is calculated to equal lease liabilities, adjusted for any lease prepayments or accruals that existed immediately prior to 1 April 2022.

The Statement of Comprehensive Net Expenditure reflects related charges for the depreciation on the right of use asset and interest on the lease liability in place of rental expenses. It continues to reflect irrecoverable VAT where applicable on any leases in line with HM Treasury guidance on the application of IFRS16 Leases which states that VAT should not form part of the initial measurement of the right of use asset.

This treatment has been applied to all leases except those which are short-term (less than 12 months) or where the underlying asset is of low value (with the threshold set at £10k). These continue to be treated as expenditure on a straight-line basis in the Statement of Comprehensive Net Expenditure for the duration of the lease term.

The definition of a contract is expanded in the FReM to include intra UK government agreements such as Memorandum of Terms of Occupation. The FReM also expands the definition of a lease to those with nil consideration, or significantly below market value, such as those known as peppercorn leases. For peppercorn leases, we have obtained a professional valuation of the asset from an appropriately qualified professional. On transition the difference between the discounted lease liability and right of use asset for peppercorn leases is included as an adjustment to the opening balance of taxpayers' equity.

For leases where we are still in occupation after the end of the lease and are "holding over", professional judgement has been applied to estimate a reasonable length for the term when calculating lease liabilities and right of use asset valuations.

The practical expedient specified in IFRS16 has been mandated by HM Treasury and we have therefore not reassessed whether contracts contain a lease, instead transitioning former operating leases to treatment as a Right of Use Asset and lease liability. However, peppercorn leases have been included in line with HM Treasury adaptations and the exemptions for low value or short-term leases may be applied where appropriate.

Where the interest rate cannot be readily determined within a lease, Defra has calculated the lease liability using the discount rates set out in the latest HM Treasury's Public Expenditure System paper as the incremental borrowing rate which for the 2022 calendar year is 0.95% and 3.51% for 2023. For leases previously treated as finance leases, the carrying value is the same under IFSR16 as it was under IAS17.

The subsequent measurement of right of use assets is at fair value or current value in existing use where assets are held for their service potential unless cost represents a reasonable proxy. For land and buildings, valuations have been determined by appropriately qualified professionals in accordance with RICS Guidance.

Right of use assets – EA as a lessor

Lessor accounting is largely unchanged by IFRS16 with lessors continuing to distinguish finance and operating leases. Leases which transfer substantially all the risks and economic benefits of the underlying asset have been classed as finance leases. All other leases have been classed as operating leases. Where a sub-lease has been judged to be a finance lease, we have derecognised the right of use asset and recognised a receivable for the net investment in the finance lease equivalent to discounted future income.

Occupation of the corporate estate by Defra group bodies is on a flexible shared basis with very few formal occupancy agreements in place between the leaseholder (either core department or the Environment Agency) and the occupant. Corporate estate leases will therefore be recognised in full by the legal leaseholder unless there is a formal arrangement in place.

14.1 Lease liabilities

	31 March 2023
	£ million
Land and buildings	
Not later than one year	8.2
Later than one year and not later than five years	19.8
Later than five years	7.7
Present value of obligations	**35.7**
Other	
Not later than one year	5.8
Late than one year and not later than five years	3.5
Later than five years	-
Present value of obligations	**9.3**
Total present value of obligations	
Current	14.0
Non-current	31.0
	45.0

14.2 Quantitative disclosures around elements in the Statement of Comprehensive Net Expenditure

	31 March 2023	31 March 2022
	£ million	**£ million**
Variable lease payments not included in lease liabilities	-	-
Sub-leasing income	-	-
Expenditure related to short term leases	4.9	-
Expenditure related to low-value asset leases (excluding short term leases)	-	-

14.3 Quantitative disclosures around cash outflow for leases

	31 March 2023	31 March 2022
	£ million	**£ million**
Total cash outflow for leases	11.8	-

14.4 Lease liability movement

The table below shows the movement between the opening and closing lease liability during the 2022-23 financial year.

	Land and buildings	Vehicles	Total
	£ million	**£ million**	**£ million**
At 1 April 2022	**39.2**	**6.9**	**46.1**
Additions	2.8	6.9	9.7
Payments	(6.7)	(5.1)	(11.8)
Interest	0.4	0.6	1.0
At 31 March 2023	**35.7**	**9.3**	**45.0**

14.5 Transition

On initial application of IFRS16 Leases the FReM requires government bodies to adopt the option of recognising the net cumulative effects of applying IFRS16 as an adjustment to the opening balance of taxpayers' equity at 1 April 2022. This means that prior year comparatives have not been re-stated in The Environment Agency's 2022-23 accounts. The opening cost of right of use assets equals lease liabilities, adjusted for any lease prepayments or accruals that existed immediately prior to 1 April 2022. Lease liabilities have been calculated as the present value of outstanding payments due under the lease.

The weighted average lessee incremental borrowing rate applied on transition is 1.46%, made up predominantly of the 0.95% HM Treasury rate used for land and buildings and a rate around 4% for the Group Fleet contract. In the comparison of the previous operating lease disclosure under IAS17 to the lease liabilities the average rate for the appropriate asset class has been used.

For land and buildings, the reduced commitment reflects leases coming closer to their end dates.

In the other category the outstanding liability has reduced since March 2022 reflecting the profile of lease terminates.

The following IFRS16 practical expedients have been applied:

- Reliance on the assessment of whether any leases are onerous immediately before the date of initial application as an alternative to performing an impairment review. No leases were onerous at 31 March 2022.
- Initial direct costs are excluded from the measurement of the right-of-use asset at the date of initial application.
- Hindsight in determining the lease term where the contract contains options to extend or terminate the lease will be used where appropriate.

14.5.1 Transition

The transition to IFRS 16 has added £48 million to right of use assets and lease liabilities in the SOFP for the Environment Agency. The change when compared to the previous reporting of operating lease commitments under IAS 17 is summarised in the table below.

	Land and buildings	Vehicles
	£ million	**£ million**
IAS 17 operating lease commitment at 31 March 2022	**37.3**	**7.9**
Discounting of future cash flows	(2.9)	(0.4)
Exemptions for:		
Short term leases	(0.1)	(0.6)
Low value leases	-	-
Adjustment for different lease term assumptions under IFRS16	9.5	-
Operating leases for the Corporate Estate previously reported in EA, but now reported in the core department where they are the legal leaseholder	(4.6)	-
IFRS 16 lease liability at 1 April 2022	**39.2**	**6.9**
Adjustment for accruals relating to rent free periods and stepped rents	(1.9)	-
Adjustment for prepayments	1.4	1.6
Asset reflects market value for peppercorns	1.0	-
Right of use asset value at 1 April 2022	**39.7**	**8.5**

15. Transfers between reserves

The transfer from the revaluation reserve to the general reserve reflects the difference between the depreciation charge based on the revalued carrying amount of the asset and the depreciation charge based on the original cost.

The transfer from the pension reserve is to ensure it reflects the cumulative position of the net assets or liabilities of the pension scheme.

15.1 For the year ended 31 March 2023

	Revaluation reserve	General reserve	Pension reserve	Total
	£ million	**£ million**	**£ million**	**£ million**
Realised revalued depreciation and disposals	(101.3)	101.3	-	**-**
Net pension charge	-	144.3	(144.3)	**-**
Total	**(101.3)**	**245.6**	**(144.3)**	**-**

15.2 For the year ended 31 March 2022

	Revaluation reserve	General reserve	Pension reserve	Total
	£ million	**£ million**	**£ million**	**£ million**
Realised revalued depreciation and disposals	(62.2)	62.2	-	-
Net pension charge	-	175.1	(175.1)	-
Total	**(62.2)**	**237.3**	**(175.1)**	**-**

16. Commitments

16.1 Capital commitments

	31 March 2023	31 March 2022*
	£ million	**£ million**
Contracted for but not provided in the financial statements	49.1	46.1

The amounts above relate to both property, plant and equipment, and intangible fixed assets.

Commitments on capital works expensed in year at 31 March 2023 totalled £165.3 million (31 March 2022 - £179.4 million*).

The majority of the significant commitments relate to the construction of flood defence schemes and the largest as at 31 March 2023 was for the flood risk management scheme at Preston for £21.2 million (31 March 2022 – flood risk management scheme at Preston, £27.6 million).

* The prior year comparative figures have been restated as the totals included amounts accrued and therefore included within trade and other payables. The amounts previously disclosed were £56.3 million for capital commitments and £209.8 million for capital works expensed in year commitments.

16.2 Financial commitments

The Environment Agency has entered into non-cancellable contracts (which are not leases).

Payments the Environment Agency is committed to	31 March 2023	31 March 2022
	£ million	**£ million**
Not more than one year	25.5	24.5
More than one year and not later than five years	2.2	4.6
More than five years	-	-
Total	**27.7**	**29.1**

The largest commitments relate to the Pevensey Bay beach maintenance contract (£4.4 million; 2021-22 - £5.7 million) and an outsourced IT service contract with Capgemini (£22.4 million; 2021-22 - £21.8 million).

16.3 Risk Management Authority grant commitments

Payments the Environment Agency is committed to	31 March 2023	31 March 2022
	£ million	**£ million**
Not more than one year	163.5	153.5
More than one year and not later than five years	393.8	322.0
More than five years	20.3	21.6
Total	**577.6**	**497.1**

The above amounts represent approved applications for grant payments to local councils, internal drainage boards and other risk management authorities on flood and coastal erosion risk management capital schemes, as per the expenditure type set out in note 5.4. Payment is dependent on completion of works on the approved schemes.

The largest approved scheme as at 31 March 2023 was £55.0 million for the Bispham Coast Protection Works (31 March 2022 - £79.4 million for coastal flood defences at Southsea).

17. Pension obligations

The Environment Agency pension fund and its financial statements

The Environment Agency operates a defined benefit pension scheme for current and former employees, and transferees from predecessor organisations. We are part of the Local Government Pension Scheme (LGPS), a statutory scheme primarily governed by the LGPS Regulations 2013 and the LGPS (Transitional Provisions, Savings and Amendment) Regulations 2014. These are subject to amendment over time. Further details on the Environment Agency Pension Fund (EAPF) including its annual report and financial statements, are on the Environment Agency Pension Fund website (www.eapf.org.uk).

The EAPF has three employers, the Environment Agency, Natural Resources Wales (NRW) and Shared Services Connected Limited (SSCL). NRW was admitted on 1 April 2013 and SSCL was admitted on 31 October 2013. NRW and SSCL are closed to new entrants and pay fixed contributions of a fixed sum and fixed percentage of pay respectively. The Environment Agency guarantees the SSCL contributions and so their position is modelled within the Environment Agency's for valuation and contribution setting.

The Environment Agency's funding arrangements are to pay 14.5% of the monthly gross salary of members to the Active Pension Fund each month, and then pay a lump sum each year to meet the equivalent employer contribution of 19%. This contribution rate is payable annually through from 2023 to 2026.

The Active Fund Funding Strategy Statement[28] sets out the funding strategy and objectives of the scheme.

The latest triennial actuarial valuation of the EAPF was at 31 March 2022. The assets taken at market value at that date (£4.5 billion) were sufficient to cover 103% (2019: 106%) of the value of liabilities in respect of past service benefits which had accrued to members.

Expectations about the future, which inform the assumptions used to value the liabilities, have changed since the last valuation. The most significant change is future inflation. This is expected to be on average higher than at 2019 due to the current level of high inflation. Despite changes to the Fund's investment strategy and movements in financial markets, future investment returns are expected to be similar to the assumptions set at the 2019 valuation.

The Environment Agency's pension expenditure and position under IAS 19

These financial statements include the disclosure requirements of IAS 19 for 2022-23 in relation to the EAPF. All calculations have been made by a qualified independent actuary and are based on the most recent actuarial valuation of the Active Fund at 31 March 2022. The assumptions underlying the calculation at 31 March 2023 are only used for accounting purposes as required under IAS 19.

The total pension charge for the Environment Agency, under IAS 19 financial reporting, was £184.5 million for the financial year 2022-23 (2021-22 - £206.3 million). The pension charge was assessed using the projected unit method of valuation to calculate the service costs.

The Environment Agency's share of the EAPF's liabilities as reported in these financial statements is calculated using different actuarial assumptions, required by IAS 19, to those used in the EAPF's annual report. This leads to a different funding level to that reported by the EAPF.

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[28] Policies | Publications | Resources | EAPF

The main difference in assumption is the discount rate used to value pension liabilities. The EAPF discount rate for funding purposes is based on a prudent expectation of the return generated from the portfolio of assets owned by the EAPF. The discount rate used in these financial statements, as required by IAS 19, is based on high quality corporate bond yields, with no additional asset performance assumption. As at 31 March 2023, the real discount rate (discount rate net of inflation) has risen compared to the previous year. This is due to the combination of a higher discount rate assumption and a lower pension increase (Consumer Price Index) assumption. This higher rate results in a lower value being placed on liabilities.

The sensitivity analysis in note 17.4 indicates the sensitivity of the Active Fund liabilities to a difference in discount rate.

A number of assumptions are made as part of the actuarial valuation process. The prudent actuarial assumptions used do not represent a view on what future pay movements may be. It has been assumed that present and future pensions in payment will increase at the rate of 2.5% per annum. The estimated contribution payable by the Environment Agency, excluding any discretionary lump sum payments, for the year to 31 March 2024 will be approximately £76.8 million.

Cash contributions paid by the Environment Agency to the EAPF will continue to be set by reference to assumptions agreed at each triennial actuarial valuation of the scheme. The next triennial valuation will be as at 31 March 2025. The results are reviewed by the Pensions Committee and, following consultations with employers, are provided for approval by the Environment Agency Board.

The Environment Agency is also the employing authority for the Environment Agency Closed Fund which provides benefits to members of the former Water Authorities Superannuation Fund who were either pensioners or deferred members on the privatisation of the water industry in 1989. However, Defra is the financial sponsor for the Closed Fund and accounts for it within its annual report andaccounts.

17.1 Financial and longevity assumptions

Financial assumptions for the Environment Agency Pension Fund

	% per annum 31 March 2023	% per annum 31 March 2022
Inflation and pension increase rate	2.95	3.15
Salary increase rate	3.45	3.65
Discount rate	4.75	2.75

As noted above, the assumptions used by actuaries in necessary financial modelling for a period of many decades ahead do not represent a view on what actual changes in pay may arise in the short term. At the most recent valuation the duration of the pensions funded liabilities was 20 years.

Longevity assumptions: average future life expectancy at age 65

Scheme member	31 March 2023		31 March 2022	
	Male (Years)	**Female (Years)**	**Male (Years)**	**Female (Years)**
Current pensioners	21.7	24.3	21.9	24.1
Future pensioners (people aged 65 in 20 years)	22.7	26.0	23.1	26.0

17.2 Fair value of employer assets

Fair value of employer assets at 31 March 2023

Asset category	Level	Active market quoted prices	Non-active market quoted prices	Total	% of total
		£ million	£ million	£ million	%
Equity securities:					
Common stock	1	467.3	-	467.3	12
Other equity assets	1	3.2	-	3.2	-
Debt securities:					
UK government bonds		-	-	-	-
Corporate bonds		-	-	-	-
Other		-	-	-	-
Pooled investment vehicles:					
Equities	3	-	1,049.8	1,049.8	27
Bonds	2	-	1,487.6	1,487.6	39
Funds - real estate		-	-	-	-
Funds - venture capital		-	-	-	-
Venture capital and partnerships:					
Partnerships and real estate	2	-	721.8	721.8	19
Derivative contracts:					
Equity derivatives	1	0.3	-	0.3	-
Forward foreign exchange contracts	2	-	9.7	9.7	-
Cash and cash equivalents	1	-	129.8	129.8	3
Total		**470.8**	**3,398.7**	**3,869.5**	**100**

Fair value of employer assets at 31 March 2022

Asset category	Level	Active market quoted prices	Non-active market quoted prices	Total	% of total
		£ million	**£ million**	**£ million**	**%**
Equity securities:					
Common stock	1	586.2	-	586.2	14
Other equity assets	1	11.4	-	11.4	-
Debt securities:					
UK government bonds		-	-	-	-
Corporate bonds		-	-	-	-
Other		-	-	-	-
Pooled investment vehicles:					
Equities	3	-	1,259.6	1,259.6	30
Bonds	2	-	1,430.4	1,430.4	35
Funds - real estate		-	-	-	-
Funds - venture capital		-	-	-	-
Venture capital and partnerships:					
Partnerships and real estate	2	-	648.3	648.3	16
Derivative contracts:					
Forward foreign exchange contracts	1	-	(1.1)	(1.1)	-
Cash and cash equivalents	2	-	198.5	198.5	5
Total		**597.6**	**3,535.7**	**4,133.3**	**100**

17.3 Change in fair value of employer assets, defined benefit obligation and net liability

Year ended 31 March 2023	Fair value of employer assets	Funded defined benefit obligations	Net asset / (liability
	£ million	**£ million**	**£ million**
Opening position as at 1 April 2022	**4,133.3**	**(4,788.0)**	**(654.7)**
Pension benefits accrued by members during the year*	-	(184.4)	(184.4)
Change in cost of pensions from previous years' service		(0.1)	(0.1)
Total service cost (recognised in SOCNE)	**-**	**(184.5)**	**(184.5)**
Interest income on plan assets	113.6	-	113.6
Interest cost on defined benefit obligation	-	(133.3)	(133.3)
Total net interest (recognised in SOCNE)	**113.6**	**(133.3)**	**(19.7)**
Plan participants' contributions	28.5	(28.5)	-
Employer contributions	59.9	-	59.9
Benefits paid	(84.5)	84.5	-
Total cash flows	**3.9**	**56.0**	**59.9**
Expected closing position	**4,250.8**	**(5,049.8)**	**(799.0)**
Change in financial assumptions	-	2,017.7	2,017.7
Change in demographic assumptions	-	(27.0)	(27.0)
Other experience**	(41.1)	(307.0)	(348.1)
Return on assets excluding amounts included in net interest	(340.2)	-	(340.2)
Total remeasurements recognised in Other Comprehensive Expenditure	**(381.3)**	**1,683.7**	**1,302.4**
Closing position as at 31 March 2023	**3,869.5**	**(3,366.1)**	**503.4**

*The current service cost includes an allowance for administration expenses of 0.6% of payroll.
**The other experience on obligations includes an allowance for the pension increase order applied to the funded obligations at April 2023 being different to the pension increase assumption adopted in the Employer's Schedule of results at the start of the period. Within this other experience item, the funded obligations have increased by £255,681,000 as a result of the pension increase order being different to the previous assumption.

The defined benefit obligations comprised approximately £1.5 billion for employee members, £0.5 billion for deferred pensioners and £1.2 billion for pensioners as at 31 March 2023 (31 March 2022 - £2.7 billion, £0.8 billion and £1.2 billion). There are no current unfunded obligations.

Year ended 31 March 2022	Fair value of employer assets	Funded defined benefit obligations	Net asset / (liability
	£ million	**£ million**	**£ million**
Opening position as at 1 April 2021	**3,893.8**	**(4,954.1)**	**(1,060.3)**
Pension benefits accrued by members during the year*	-	(206.1)	(206.1)
Change in cost of pensions from previous years' service	-	(0.2)	(0.2)
Total service cost (recognised in SOCNE)	**-**	**(206.3)**	**(206.3)**
Interest income on plan assets	79.6	-	79.6
Interest cost on defined benefit obligation	-	(103.0)	(103.0)
Total net interest (recognised in SOCNE)	**79.6**	**(103.0)**	**(23.4)**
Plan participants' contributions	25.9	(25.9)	-
Employer contributions	54.6	-	54.6
Benefits paid	(81.6)	81.6	-
Total cash flows	**(1.1)**	**55.7**	**54.6**
Expected closing position	**3,972.3**	**(5,207.7)**	**(1,235.4)**
Change in financial assumptions	-	401.8	401.8
Change in demographic assumptions	-	28.5	28.5
Other experience**	-	(10.6)	(10.6)
Return on assets excluding amounts included in net interest	161.0	-	161.0
Total remeasurements recognised in Other Comprehensive Expenditure	**161.0**	**419.7**	**580.7**
Closing position as at 31 March 2022	**4,133.3**	**(4,788.0)**	**(654.7)**

17.4 Sensitivity analysis

Sensitivities regarding the principal assumptions used to measure the Funds liabilities

Change in assumption	Approximate % increase in employer liability	Approximate monetary amount
		£ million
0.1% decrease in real discount rate	2%	68.3
0.1% increase in salary increase rate	0%	11.6
0.1% increase in pension increase rate	2%	57.7

The approach taken to quantify the impact of a change in financial assumptions is to calculate and compare the value of fund liabilities at 31 March 2023 on varying bases. The approach taken is consistent with the approach to derive the other figures in this note.

Uncertainty over life expectancy was modelled considering an increase in life expectancy of one year. This is assumed to increase costs by broadly 4%. The actual cost would depend on the structure of the revised assumption (i.e. if the change affects younger or older members). The sensitivity approach is consistent with the previous year.

17.5 IAS 19 provisions

When the LGPS was reformed in 2014, transitional protections were applied to certain older members within ten years of normal retirement age. The benefits accrued from 1 April 2014 by these members are subject to an ‘underpin’ which means that they cannot be lower than what they would have received under the previous benefit structure. The underpin ensures that these members do not lose out from the introduction of the new Career Average Revalued Earnings (CARE) scheme by effectively giving them the better of the benefits from the old final salary scheme and new CARE scheme.

In December 2018, the Court of Appeal upheld a ruling (McCloud) that similar transitional protections in the Judges’ and Firefighters’ Pension Schemes were unlawful on the grounds of age discrimination. The implications of the ruling are expected to apply to the LGPS (and other public service schemes) as well.

At the end of 2018-19, an initial liability was recognised within the IAS 19 report of £28.3 million. In 2019-20 this reduced to £13.4 million following Ministry of Housing, Communities and Local Government (now called the Department for Levelling Up, Housing and Communities) consultation which set out qualifying member criteria. No further adjustment has been made.

In June 2020, a legal discrimination case (Goodwin) which related to unequal death benefit provision for male dependents of female scheme members was deemed successful. Whilst this case occurred in the Teachers’ Pension Scheme, it is relevant to other public sector schemes including the LGPS. Initial analysis suggests this will affect a very small population of our membership and may result in an increase in the cost of pensions from previous years’ service, estimated at around £3.4 million. For completeness this was included in our 2019-20 IAS 19 valuation with no further adjustment made since as there are no new details on the potential remedy for the Goodwin case.

There are two further court cases which may impact on the benefits of the scheme (Walker and O’Brien). Our current understanding is that these are unlikely to be significant judgements in terms of the impact on the pension obligations. As a result, and until further guidance is released, we have not made any allowance for the potential remedies to these judgements, or no changes have been made to the existing benefits structure.

17.6 Pension surplus and interpretation of IFRIC 14

As the above shows, the Environment Agency’s IAS 19 report received for 2022-23 showed a surplus (asset) of £0.5 billion, compared to a deficit (provision) of £0.7 billion in 2021-22.

We have considered under IFRIC 14 whether the asset should be recognised in full or capped at an asset ceiling, and if there are any additional liabilities to raise based on the Minimum Funding Requirement.

We note that in forming this view we have reviewed the Pensions Act and sought professional advice which noted that this legislation is not relevant to the LGPS scheme because it only applies to occupational pension schemes established under trust.

Our judgement is that while the Environment Agency lacks a unilateral right to a refund of surplus via a scheme exit because of its status as a Scheduled body, but that economic benefit is available through potential reductions in future employer contributions based on the current snapshot of funding conditions. (We note that rate-setting is done with a view to both solvency and short-term stability, and that analysis of current funding conditions was performed for the purposes of analysing the asset ceiling rather than being binding on future rate-setting decisions.)

In analysing the extent of economic benefit available through this route, we have considered as required by IFRIC 14, the difference between service cost and future contributions for future service. Due to the ongoing and Scheduled nature of the scheme we have analysed the effect of this difference in perpetuity. Again, as instructed in IFRIC 14, where available (future contribution rates) we have analysed these factors using the funding regime basis, through a hypothetical re-basing of the primary contribution rate based on advice from our actuaries; otherwise (service costs) we have relied on IAS 19 assumptions for consistency with the DBO accounting.

Based on this analysis we have concluded that the economic benefit available through the future rate-setting regime is at least sufficient to cover the existing IAS 19 surplus, and we have therefore concluded that it is appropriate for the Environment Agency to recognise the full value of the net IAS 19 surplus. Were more prudent alternative assumptions to be adopted (e.g. higher future rates of contribution relevant to the Minimum Funding Requirement) the asset ceiling would be decreased, leading to a maximum effect of a full constraint of the surplus to £nil and the full amount of the surplus passing through Other Comprehensive Expenditure.

18. Financial instruments

These comprise financial assets and financial liabilities.

Financial assets

Loans, receivables, and assets available for sale are classified as financial assets.

Loans and receivables are non-derivative financial assets with fixed or determinable payments that are not quoted in an active market, and which are not classified as available for sale. Loans and receivables are initially recognised at fair value and subsequently held at amortised cost using the effective interest method. Fair value is usually the original invoiced amount.

Following the transition to IFRS 9, the financial assets are categorised as “fair value through statement of comprehensive net expenditure”.

Financial liabilities

Financial liabilities are any contractual obligations to deliver cash or financial assets to a third party. The Environment Agency only has financial liabilities which are recognised initially at fair value and are subsequently held at amortised cost using the effective interest method. Financial liabilities are derecognised when the obligation has expired.

The Environment Agency holds certain financial instrument liabilities as a result of operating agreements with a number of water companies entered into at their privatisation. These liabilities are treated as perpetuities and recorded in the statement of financial position at amortised cost. The annual payments arising from these liabilities increase annually in line with the RPI.

The Environment Agency is exposed to the risk of changes in the rate of inflation. The RPI has fluctuated significantly over the life of these financial liabilities. This is a macro-economic risk that the Environment Agency cannot manage in any way. However, the Environment Agency is able to recover the cost of reservoir operating agreement payments through its charges on water abstraction. HM Treasury have approved the increase in the liability as a result of accounting treatment (i.e. the element of the liability that will not result in a payment) as being non-recoverable.

Due to the largely non-trading nature of its activities and the way in which government bodies are financed, the Environment Agency is not exposed to the degree of financial risk faced by many business entities. Moreover, financial instruments play a much more limited role in creating or changing risk than would be typical of listed companies. The Environment Agency has very limited powers to borrow or invest surplus funds. Financial assets and liabilities are generated by day-to-day operational activities and are not held to manage the risks facing the Environment Agency in undertaking its activities.

IFRS 9 requires entities to estimate and account for expected credit losses for all relevant financial assets (trade, contract, and other receivables), starting from when they first acquire a financial instrument.

The Environment Agency estimate is based on our historic experience of credit losses by charge scheme over the past four financial years, updated for any known future credit issues. See Note 11 for an explanation of our debt recovery process. In recent years, where the Covid-19 pandemic led to higher levels of default on more recent invoices, the expected credit loss calculation was increased to reflect the increased expected credit loss on those charge schemes on current and future debt. In 2021-22, the estimate returned to being based on historic credit losses by funding stream. There has not been a material change in the expected credit losses for any charge scheme.

18.1 Financial liability - reservoir operating agreements

In 1989 a predecessor body to the Environment Agency, the National Rivers Authority, entered into a number of reservoir operating agreements with water companies, under section 126 of the Water Act 1989, re-enacted by section 20 of the Water Resources Act 1991.

These agreements contained two financial components. The first was for payment to the water companies of their operating costs for the reservoirs, net of income generated thereon by the companies, such as on hydroelectric power. The second was for payments for a return on investment in the reservoir assets, indexed upwards annually based on the RPI, which are payable in perpetuity. The terms of these agreements were negotiated between HM Government and the water companies and were made to enable privatisation to occur.

The return on asset component payable to the water companies is accounted for as a financial liability. The financial liability represents the contractual liability the Environment Agency has to the water companies. The cash payments for reservoir operating agreements are recoverable under legislation through water resources abstraction licences. Water companies who receive payments for operating reservoirs also pay the majority of the charges for water abstraction. Net increases to the liability (i.e. the extent the finance charge exceeds the cash payments) have been approved by HM Treasury as being non-recoverable from charge payers.

Details of the financial liability reported on the statement of financial position

Counterparty	Liability at 1 April 2021	Finance charge 2021-22	Amounts paid 2021-22	Liability at 31 March 2022	Finance charge 2022-23	Amounts paid 2022-23	Liability at 31 March 2023	Liability at 31 March 2023 Due within 1 year	Liability at 31 March 2023 Due later than 1 year
	£ million	**£ million**	**£ million**	**£ million**	**£ million**	**£ million**	**£ million**	**£ million**	**£ million**
Northumbrian Water	(321.8)	(40.5)	20.4	(341.9)	(35.4)	23.3	(354.0)	(22.1)	(331.9)
Severn Trent Water	(87.7)	(5.8)	2.0	(91.5)	(4.7)	2.2	(94.0)	(2.2)	(91.8)
Total	**(409.5)**	**(46.3)**	**22.4**	**(433.4)**	**(40.1)**	**25.5**	**(448.0)**	**(24.3)**	**(423.7)**

The fair value of the liability, calculated using the real discount rate from HMT Public Expenditure System, would be £3.4 billion. The difference between fair value and carrying value is due to the prevailing discount rate (around 1%, being the rate applicable to RPI-linked cash flows stated in current cost) being significantly lower than the Effective Interest Rate set at initial recognition of the instrument, as well as inherent differences between amortised cost accounting and a snapshot of fair value.

The largest payments are payable to Northumbrian Water (in relation to Kielder and Cow Green reservoirs) and Severn Trent Water (in relation to Lake Clywedog and Lake Vyrnwy reservoirs).The liabilities are initially recognised at fair value and subsequently measured at amortised cost and are measured as perpetuities. The effective interest rate method is used to calculate the amortised cost and the interest expense (the finance charge in the table above). The method involves calculating the net present value of the estimated future cash flows discounted at the internal rate of return. The effective interest rate is recalculated each year which reduces the impact of variation in the RPI.

Historically, the current RPI has been used as an estimate for the future RPI, in order to estimate the future cash flows relating to the agreements. We consider the current levels of inflation in the UK to not be indicative of the expected future levels of inflation. For this reason, we have opted to use the OBR five year forecast rates of RPI instead and assumed the rate at the end of five years will be representative of RPI beyond this point in time. This change in accounting estimate is being applied prospectively and not retrospectively, in line with accounting standards. Had we continued to apply our previous judgement in relation to future RPI, the balance as at 31 March 2023 would have been £492.5 million (a difference of £44.5 million).

The Environment Agency does not bear liquidity, credit, or interest rate risk on these financial instruments, other than the fact that annual payments are linked to the RPI. We have carried out a sensitivity analysis to ascertain the responsiveness of the liability to changes in the RPI index. If we change the RPI assumption for every year in the future by +1% or -1% then the value of the liability (and the cost in 2022-23) increases or decreases by £4 million (2021-22 - £4 million).

18.2 Permitting deposits

The Environment Agency holds security for permit holders as described in note 12.

Security can be provided by permit holders by way of cash (note 12) or by way of bond agreement. These are triparty bond agreements between the permit holder, the Environment Agency and banking organisations. Under the bond agreements, the Environment Agency can only call on the banks to provide cash in the event of environmental incidents.

The bonds are financial guarantees under IFRS 9 but unless and until they crystallise, they do not meet the recognition criteria because they are contingent on uncertain future events. On the event of an environmental incident and call of the bond, the cash received would be recognised as a liability and released to income once the required actions had been completed, in line with IFRS 15.

The value of bond agreements in the Environment Agency's favour on 31 March 2023 was £606 million and £641 million on 31 March 2022. Whilst the value of bonds has decreased by 5.5% during 2022-23, the value of cash and escrow deposits increased by 202.9%. As the cost of setting up bond agreements has increased, permit holders have been opting to deposit security in cash or via escrow accounts.

These amounts were not previously disclosed in the financial statements as the Environment Agency did not believe they were financial instruments. This is purely a disclosure omission as controls were in place to ensure security was obtained from permit holders to limit environmental risk.

During both 2022-23 and 2021-22 the value of bond agreements for which the Agency called upon the bond issuer were trivial.

The Environment Agency is required by statute to check that waste importers and exporters have sufficient financial guarantees in place when it processes relevant applications for consent. This guarantee is designed to remediate any non-compliance with delivery & processing or due to waste being illegal. The year end value of the guarantees which could be called upon is immaterial and as with other guarantees disclosed above, these do not meet the criteria for recognition and the possibility of conversion is extremely remote; no calls have been made in recent years to convert the guarantees.

19. Related parties

IAS 24 requires the Environment Agency to provide information on its transactions with related parties and further guidance has also been given by HM Treasury.

19.1 Controlling parties

The Environment Agency is a non-departmental public body of Defra. Defra and other bodies within the Defra group are regarded as a related party and the results of the Environment Agency are consolidated into Defra's annual report and accounts.

Funding received from Defra	2022-23	2021-22
	£ million	**£ million**
Defra environment protection grant-in-aid	(193.1)	(154.8)
Defra flood defence grant-in-aid	(927.9)	(854.3)
Defra IDB or local authority grant-in-aid	(179.0)	(210.9)
Total	**(1,300.0)**	**(1,220.0)**

19.2 Defra group Corporate Services

The property portfolio of the Defra group was managed centrally by Defra during the whole of 2022-23 in a manner to maximise the efficient use of the space available. As a result, a number of properties owned by the Environment Agency were used by employees of Defra, Natural England (NE), the Rural Payments Agency (RPA) and the Animal and Plant Health Agency (APHA).

Similarly, Environment Agency employees worked from offices owned by Defra. The net charge made by Defra to the Environment Agency for this property use was included within the Defra group Corporate Services charge (note 5.1).

On 1 November 2017, a partnership agreement was made between Defra and the Environment Agency, whereby corporate services functions of the Environment Agency were transferred to Defra as part of a transformation programme intended to reduce duplication and improve effectiveness.

The functions transferred were:
- Digital, data and technology services
- Estates
- Corporate strategy
- Shared services
- Finance
- Human resources
- Communications
- Commercial

In 2022-23, Defra charged the Environment Agency £85.9 million (2021-22 - £71.5 million) for expenditure incurred in the provision of corporate services to the Environment Agency (note 5.1). This comprised mostly of staff costs for transferred former employees as well as some supplier expenditure.

The fleet function of the Environment Agency in 2022-23 received £6.4 million of income from other Defra arm's length bodies (ALBs) for the provision of fleet management services. At the 31 March 2023, the amount owed to the Environment Agency was £1.5 million.

19.3 Grant-in-aid

The Environment Agency receives grants that are treated as financing received from Defra, its controlling entity. The receipts are recorded as a financing transaction and are credited directly to the general reserve in the statement of financial position and not through the statement of comprehensive net expenditure.

19.4 Other related parties

The Environment Agency keeps a fully updated register of interests.

There were no transactions during the year with organisations for which Board members or Executive Directors have declared a related party interest.

No Board member or Executive Director has undertaken any material transaction with the Environment Agency for which they have not declared an interest. The remuneration and staff report provides further information on Board members and Executive Directors.

In addition to the above disclosures, Alan Lovell, the Environment Agency's Chair is an ex-officio member of the Defra board, our parent department which provides the majority of the Environment Agency's funding.

Mark Suthern is also a non-executive member of the Audit and Risk Assurance Committee for the Rural Payments Agency, an arm's length body under the control of Defra.

The Environment Agency is the administering authority responsible for maintaining and managing the Environment Agency Pension Fund. The Environment Agency charged the fund £1.0 million for expenses incurred in administering the Fund.

Following Government recommendations to pool the management and investment of pension scheme assets, the Environment Agency and nine other partner LGPS funds are shareholders in and working together with, Brunel Pension Partnership Ltd to realise savings and efficiencies. Environment Agency Board member Robert Gould is also Chair of the Brunel Oversight Board.

The Environment Agency has one Internal Drainage Board which is under common control (see note 1.4).

In addition, the Environment Agency has had various material transactions with other government departments and other public bodies. The majority of the value of these transactions have been with HM Revenue and Customs, Leeds City Council and Portsmouth City Council.

20. Events after the reporting date

Date of authorisation for issue

There are no events after the reporting date to be disclosed.

The Environment Agency's financial statements are laid before the Houses of Parliament by the Secretary of State for Environment, Food and Rural Affairs.

IAS 10 requires the Accounting Officer to disclose the date on which the financial statements are authorised for issue. The authorised for issue date is the date of the Comptroller and Auditor General's audit certificate and report on pages 117 to 137.

Appendix A: History of the Environment Agency (Not subject to audit)

The Environment Agency was established on 8 August 1995 following Royal Assent for the Environment Act 1995. We took up our statutory powers and duties on 1 April 1996, when the functions of the National Rivers Authority, Her Majesty's Inspectorate of Pollution, the Waste Regulation Authorities, and several smaller units of the Department of the Environment were transferred to us.

Our registered office is Horizon House, Deanery Road, Bristol, BS1 5AH.

The Environment Agency is a non-departmental public body (NDPB). NDPBs are public bodies that, although not part of government departments, carry out functions on behalf of sponsor departments who fund them and monitor their performance. NDPBs are independent of the department that sponsors them and are managed as ‘at arm’s length’ bodies.

During the year to 31 March 2023, our principal government sponsor remained Defra. However, the Environment Agency also works closely with other principal government departments. Defra oversees the environmental policy framework within which the Environment Agency operates in England.

Appendix B: Sustainability data (Not subject to audit)

Emissions	Unit	2020-21	2021-22	2022-23
Direct emissions (Scope 1)	tCO_2e	7,000	11,000	9,000
Gas consumption as part of Scope 1 *	kWh	-	-	6,578,692
Indirect emissions from purchased energy (Scope 2)	tCO_2e	13,000	9,000	13,500
Energy consumption as part of Scope 2 *	kWh	-	-	48,670,361
Indirect emissions produced by our suppliers (Scope 3)	tCO_2e	5,000	8,000	3,500
Total gross emissions	tCO_2e	25,000	28,000	26,000
Carbon intensity (per £ million expenditure)	tCO_2e	16	18	14
Business travel	**Unit**	**2020-21**	**2021-22**	**2022-23**
Car and motorbike	tCO_2e	4,539	6,180	6,962
% of the Environment Agency's car fleet classed as ultra-low emissions vehicles		-	25.1%	30.4%
Rail	tCO_2e	50	41	289
Air	tCO_2e	2	5	54
Domestic air travel *	Miles	-	-	1,590
International air travel – short haul – economy *	Miles	-	-	121,251
International air travel – short haul – business *	Miles	-	-	467
International air travel – long haul – economy *	Miles	-	-	101,712
International air travel – long haul – premium economy*	Miles	-	-	8,918
International air travel – long haul – business *		-	-	6,213
Total business travel	tCO_2e	4,591	6,226	7,305
	£ million	1.4	1.7	4.2
Travel carbon intensity per full-time employee	tCO_2e	0.4	0.6	0.6

Office waste	Unit	2020-21	2021-22	2022-23
Landfill	Tonnes	0.1	0.1	8.5
	£	13,000	5,000	1,088,331
Reused or recycled	Tonnes	57	88.7	112.5
Of which is total food waste composted from offices	Tonnes	-	4.3	0.9
Of which is food waste sent externally for composting or anaerobic digestion	Tonnes	-	34.4	8.2
Incinerated to produce energy	Tonnes	20	17.7	0.8
Incinerated without energy recovery	Tonnes	-	-	-
Reused, recycled, or incinerated	£	180,000	156,000	141,719
Reused or recycled electronic or electrical equipment	Tonnes	2	0.3	0.2
Total office waste	Tonnes	79	107	125
	£	193,000	161,000	1,230,050
Pension fund investment	**Unit**	**2020-21**	**2021-22**	**2022-23**
Pension fund assets	£ million	3,887	4,133	4,284
Investment in sustainable and climate solutions	%	18	26	(i)
Carbon footprint	tCO2e per £ million	162	174	185 (ii)
Resource consumption	**Unit**	**2020-21**	**2021-22**	**2022-23**
Purchased gas and purchased renewable electricity	million kWh	58	64	55
	£ million	7.3	7.0	9.9
Self-generated renewable energy	million kWh	0.4	0.38	0.34 (iii)
Water supplied	Cubic metres	23,065	33,349.25	30,0780
	£	139,000	226,000	263,771
Paper from renewable or recycled sources	Reams	2,000	4,046	2,126

** New measures for 2022-23*

Notes

i) This year we are using a new hybrid approach for calculating investment in sustainable and climate solutions in line with best practice. As a result, it is not possible to give a total percentage for our portfolio but the breakdown is available on page 50 of our submission to the UK Stewardship Code.

ii) Scope 1 and Scope 2, as at 31 December 2022. Weighted Average Carbon Intensity (WACI).

Coverage approximately 58% of total Fund value. Increase in footprint over prior year partly due to change of some investments to a different Sustainable Fund which contains some higher emitters that are committed to transitioning to lower carbon.

The EAPF has a separate Net Zero target and separate monitoring arrangements to the Environment Agency, due to the differing financial, legal, and operational considerations. See (our Net Zero strategy).

iii) The information provided is reliant on us obtaining meter readings from sites, and we do not estimate missing readings if reports aren't provided. This may explain variances in the reported values between years.

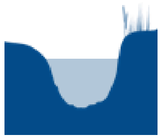
iv) Paper usage has reduced by 92% compared to 2017-18 baseline.

Appendix C: Performance data (Not subject to audit)[29]

We hold ourselves to high standards and have a policy of compliance with the law. We received a warning letter requiring us to bring ourselves back into compliance with one area of law.

Infographic	Primary SDG	Success measure	Units	2022-23 target	2022-23 actual
	13 CLIMATE ACTION	A1a/PO3.1 We reduce the risk of flooding for more households	Number of households better protected	60,000	59,351
	13 CLIMATE ACTION	A1b/PO3.1 We maintain our flood and coastal risk management assets at or above the target condition	% of high-risk assets at target condition	98%	94.5%
	13 CLIMATE ACTION	A2 We will deliver our strategic adaptation actions to tackle the climate emergency	% of adaptation actions on track	90%	93%
	3 GOOD HEALTH AND WELL-BEING	A3 We have a first-class incident response capability Proportion of trained staff utilised in core incident roles	% trained staff utilised in core incident roles	80%	74%

[29] https://www.gov.uk/government/collections/environment-agency-corporate-scorecard

Infographic	Primary SDG	Success measure	Units	2022-23 target	2022-23 actual
	13 CLIMATE ACTION	A4 By 2025 our air will be cleaner and healthier 4 out of 4 pollutants showing a reduction on the previous year	Pollutants showing a reduction in emissions on the previous year	4 out of 4	4 out of 4
	14 LIFE BELOW WATER	A5/PO1.2 Our rivers and coasts have better water quality and are better places for wildlife. Measure: kilometres of the water environment enhanced	Kilometres	2,058km	2,300km
	15 LIFE ON LAND	A6a We increase biodiversity and promote an environmental net gain by creating more and better habitats for the benefit of people and wildlife	Hectares created and hectares restored	660	823
	15 LIFE ON LAND	A6b We protect people and the environment through effective regulation	% compliance of permitted sites	97%	97.6%
	11 SUSTAINABLE CITIES AND COMMUNITIES	A7 We successfully influence planning decisions by local authorities	% decision notices successfully influenced	97%	96.5%
	16 PEACE, JUSTICE AND STRONG INSTITUTIONS	A8/PO1.3 We reduce the number of high-risk illegal waste sites	Number of high-risk illegal waste sites	180	175

Infographic	Primary SDG	Success measure	Units	2022-23 target	2022-23 actual
	13 CLIMATE ACTION	A9 Net Zero by 2030	Tonnes of carbon dioxide	246,363	295,382
	8 DECENT WORK AND ECONOMIC GROWTH	EO1 We manage our money efficiently to deliver our outcomes	% spend to budget	100%	99.5%
	10 REDUCED INEQUALITIES	EO2 We have a diverse workforce: a) The proportion of our staff who are from a Black, Asian and Minority Ethnic (BAME) background	% of workforce	14%	5.3%
	10 REDUCED INEQUALITIES	EO2 We have a diverse workforce: b) The proportion of our executive managers who are female	% of workforce	50%	48%
	3 GOOD HEALTH AND WELL-BEING	EO3 We have the lowest possible lost time incident (LTI) frequency rate	LTI frequency rate per 100,000 hours worked	0.11	0.10

Appendix D: Board members' attendance (Not subject to audit)

Member	Board	ARAC	PC	PCISC	FCERM	EB	PPC
Emma Howard Boyd (Chair) (i)	4 of 4	-	-	-	-	-	2 of 2
Alan Lovell (Chair) (ii)	5 of 5	-	-	-	-	-	2 of 2
Judith Batchelar (Deputy Chair) (iii)	8 of 9	3 of 4	-	-	-	5 of 5	3 of 4
Maria Adebowale-Schwarte (iv)	1 of 2	-	-	-	-	1 of 1	2 of 2
Stewart Davies	9 of 9	4 of 4	-	-	-	5 of 5	4 of 4
Ines Faden da Silva	9 of 9	4 of 4	-	-	5 of 6	-	-
Lynne Frostick (v)	3 of 3	-	-	-	2 of 2	-	-
Robert Gould	9 of 9	4 of 4	5 of 5	5 of 6	6 of 6	-	4 of 4
John Lelliott	9 of 9	4 of 4	4 of 5	-	6 of 6	-	-
Caroline Mason	8 of 9	-	5 of 5	4 of 6	-	4 of 5	-
Lilli Matson	6 of 9	-	4 of 5	-	4 of 6	-	-
Sarah Mukherjee	7 of 9	-	-	-	6 of 6	5 of 5	4 of 4
Mark Suthern	8 of 9	3 of 4	-	-	5 of 6	5 of 5	-

Board - Nine meetings in 2022-23

ARAC - Member of Audit and Risk Assurance Committee – Four meetings in 2022-23

PC - Member of Pensions Committee – Five meetings in 2022-23

PCISC - Member of Pensions Investment Sub Committee – Six meetings in 2022-23

FCERM - Member of Flood & Coastal Erosion Risk Management Committee – Six meetings in 2022-23

EB - Member of Environment & Business Committee – Five meetings in 2022-23

PPC - Member of People and Pay Committee – Four meetings in 2021-22

Notes:

i) Emma Howard Boyd's final term ended in September 2022.
ii) Alan Lovell commenced his role in September 2022.
iii) Judith Batchelar commenced as a member of the People and Pay Committee in April 2022.
iv) Maria Adebowale-Schwarte's final term ended in June 2022.
v) Lynne Frostick's final term ended in July 2022.

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