Environment Agency

Annual report and accounts for the financial year 2021 to 2022

HC 749

Environment Agency

Annual report and accounts 2021-2022

For the period 1 April 2021 to 31 March 2022

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We are the Environment Agency (EA). We protect and improve the environment.

We help people and wildlife adapt to climate change and reduce its impacts, including flooding, drought, sea level rise and coastal erosion.

We improve the quality of our air, land, and water by tackling pollution. We work with businesses to help them comply with environmental regulations. A healthy and diverse environment enhances people's lives and contributes to economic growth.

We cannot do this alone. We work as part of the Defra group (Department for Environment, Food and Rural Affairs), with the rest of government, local councils, businesses, civil society groups and local communities to create a better place for people and wildlife.

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Chair's Foreword

This is my last annual report as Chair[1] of the Environment Agency (EA). It is a fantastic organisation of committed public servants who, day in, day out, deliver for people, the environment and the economy. They save lives, protect nature, tackle environmental crime, and support legitimate businesses.

I was asked to become acting Chair shortly after the 2015 Boxing Day floods. Events like that and this year's droughts and heatwaves mean the biggest challenges for the EA's work are the climate and nature emergencies. Last year, more than 76,000 incidents were reported to our incident management service, including flood, drought, fires, fish kills and pollution incidents. One every seven minutes, 24 hours a day. These events are increasing in severity, frequency, and duration.

We are helping the country to adapt. Our third Adaptation Report[2] under the Climate Change Act was published just before COP26[3] and described the need for a greater emphasis on adaptation. Last year, 200 people died in Germany's floods. It was reported that people did not know what to do when they heard warnings. Following that tragedy, we reviewed the situation in England. Here, 61 percent of people living at flood risk do not understand that they are. We must learn from this and do more to ensure people are well informed.

Our net zero 2030 target is helping others find the way towards the national 2050 goal. The Hythe Ranges Flood Defence scheme in Kent, developed with the Ministry of Defence, represents our largest volume of low carbon concrete used in a flood defence scheme. The refurbishment of Bentley Ings pumping station delivered a 60 percent carbon reduction in construction by reusing many of the existing structures. It is an example of what you can achieve by applying a state-of-the-art approach to foundations that are already there.

We have increased joint working with other departments including Business, Energy & Industrial Strategy (BEIS), Education and Transport as well as with other Arm's-Length Bodies (ALBs), particularly Natural England and Ofwat. As Chair I was asked to join the Cabinet Office's Infrastructure Steering Group to help government departments deliver climate resilient, net zero and nature positive infrastructure. Colleagues also sit on the Government Construction Board, the Major Projects Association and the Infrastructure Client Group among others.

The United Nation's (UN) Sustainable Development Goals naturally align with our goals and the need to deliver multiple integrated outcomes. The Boston Barrier was our first major construction project where we mapped work against the Goals. The learning from this will help to steer large and small infrastructure projects so they produce multiple societal and economic benefits.

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[1] Emma Howard Boyd was the Chair of the Environment Agency from 19 September 2016 to 19 September 2022. The Secretary of State confirmed Alan Lovell DL as the new Chair of the Environment Agency on 19 July 2022. Alan Lovell started the position from 26 September 2022. For the five days between the two chair appointments Judith Batchelar (Deputy Chair) covered.

[2] https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1025955/environment-agency-climate-change-adaptation-report.pdf

[3] COP26 is the 2021 edition of the United Nations Annual Climate Change Conference. COP stands for Conference of the Parties. Parties are the signatories of the United Nations Framework Convention on Climate Change (UNFCCC) - a treaty agreed in 1994 which has 197 Parties (196 countries and the EU). The 2021 conference, hosted by the UK in Glasgow, in partnership with Italy, is the 26th meeting of the Parties.

This year, together with Ofwat, we launched Operation Standard, a major investigation into potential widespread non-compliance by water and sewerage companies at wastewater treatment works. I also called for the directors of all companies, including in the waste sector, that are guilty of repeated, deliberate, or reckless breaches of environmental law to be struck off or face custodial sentences. As I prepare to leave the EA I was pleased to meet Defra’s new Secretary of State on his first day and hear that the government will be prioritising action on water quality as the status quo is not good enough. I know my colleagues are looking forward to working with government, businesses and communities to deliver change.

The EA is a public service, place based organisation so it is crucial that it is inclusive and representative of the communities it serves. I am pleased that we have managed to improve diversity particularly the number of women in senior roles, both in the Executive and on the Board, but the organisation still has a long way to go.

Looking to the future, the National Framework for Water Resources shows that if we continue to operate as usual by 2050, some rivers could have between 50 and 80 percent less water during the summer; around 3,435 million extra litres of water per day will be needed to address future pressures and we will not be able to meet the demands of people, industry, and agriculture.

Water, whether too much, too little or its quality, is one of the challenges of our time. To deliver resilience in the next decade, action must be prioritised by all businesses, government departments and agencies, not only those with specific environmental responsibilities.

I would like to welcome the new Chair Alan Lovell and thank all members of the Board, past and present, who have made such a great contribution to the organisation and its achievements while I have been Chair. I also want to thank James Bevan, who as Chief Executive during this time has been a great colleague and friend during the highs and lows.

Thank you and good luck.

Emma Howard Boyd

Emma Howard Boyd, Chair

19 September 2022

Performance Report

Chief Executive's statement

The last financial year was one of the toughest many of us have experienced, with the Covid-19 pandemic, rising inflation and the cost-of-living crisis, the war in Ukraine, along with massive national and international uncertainty. Despite all that our staff sustained our critical operations, our incident response, and delivery of the outcomes on which the country depends.

Our mission is to create a better place for people and wildlife. Over the year covered by this report Environment Agency staff have done that. Among many other achievements we:

- protected another 33,000 homes and businesses in the first year of the new capital flood defence building programme.
- kept our thousands of flood assets maintained, with mitigations where necessary to ensure all communities remain protected.
- were active, effective and highly professional in our response to flooding and other environmental incidents. In February 2022, with three named storms in one week, our actions and our flood defences protected the vast majority of properties at risk.
- improved air quality, including by regulating down the emissions that threaten it and reducing pollutants from the refineries sector.
- enhanced water quality in many of our rivers and coasts and made them better places for wildlife, with over 1,500 kilometres improved.
- helped design better, greener, safer places for people and wildlife through our placemaking work, with over 98% of planning decisions in line with our advice.
- reduced the number of high-risk illegal waste sites and tackled many other sites which blight communities.
- helped the country adapt to the changing climate, by implementing the main actions in our Flood Strategy and Climate Adaptation Report.
- made strides towards our goal of becoming a Net Zero organisation by 2030 by further reducing our carbon emissions.
- spent our money well, delivering the outcomes we are funded for.
- made progress towards our diversity targets, with 43% of executive managers now women and successful recruitment of more black, Asian, and ethnic minority staff.

Accomplishing everything our people did over the twelve months covered by this report would have been tough enough in normal times. Achieving them against the background of what was happening over the last year is doubly impressive. The achievements of 2021-22 are a testament to the professionalism, commitment, and can-do approach of the EA's staff. They are not only a credit to the Environment Agency but a credit to the whole country. I pay tribute to all of them.

J.D. Bevan

Sir James Bevan, Chief Executive and Accounting Officer

19 October 2022

About the Environment Agency

The Environment Agency is the leading public body for protecting and improving the environment in England. Our vision is to create a better place for people and wildlife. We have two main business areas:

- Flood and coastal erosion risk management.
- Environment and business, which comprises
  - Water, land, and biodiversity
  - Regulation of industry.

We work with government, local councils, businesses, civil society groups and communities. Staff in our local offices work closely with organisations and communities to improve the local environment and encourage sustainable development. Appendix A provides more information about the history of the Environment Agency.

On the 31 March 2022, we had 10,924 full time equivalent employees. Our annual expenditure for the financial year ended 31 March 2022 was £1.9 billion. The Department for Environment, Food and Rural Affairs (Defra) is the government department that is responsible for our activities and provides most of our funding. However, approximately one third of our funding is from other parties.

What we do

The 2021-22 year marked the second year of our five-year action plan: EA2025: Creating a better place[4] (EA2025) which sets out what we want to achieve from 2020 to 2025.

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 three 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.

The long-term goals at the heart of our plan remain unchanged: a nation resilient to climate change; healthy air, land, and water; green growth and a sustainable future. These will drive everything we do today, tomorrow and to 2025 and beyond.

[4] 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

The Government Strategic Framework and Defra Outcome Delivery Plan

Our vision is set by EA2025, the Defra group outcome framework and the government's 25 Year Environment Plan (25YEP). 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 a range of planning provisions, including notably the mandatory requirement for new developments to provide a 10% biodiversity net gain.

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

The Environment Agency has a crucial role to play in helping to deliver priority outcomes as set out in the Defra group Outcome Delivery Plan (ODP). Key metrics have been agreed with Defra to show the Environment Agency's contribution to the delivery of this plan. The Environment Agency's priorities and associated ODP metrics for 2022-23 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:

Environment Agency priorities 2022-2023

Priority Outcome 1: Environment

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

2.1 Restored peatland and wetland habitats

Priority Outcome 3: Floods, Resilience and Climate adaptation

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 flood defence assets at required condition
3.2 Rapid response to flooding, drought and other water supply incidents and a safe recovery from Chemical, Biological, Radiological and Nuclear (CBRN) incidents

Cross cutting

4.1 Environmental licencing and permitting
4.2 Green finance
4.3 Sustainable fisheries management
4.4 Soil health

Sustainability in the Environment Agency

Sustainable development lies at the heart of what we do. We aim to carry out our activities, and encourage those of our partners, to be as sustainable as possible, minimising the impacts on people and the environment associated with them whilst taking opportunities to enhance the natural environment.

We include environmental performance measures in our corporate reporting cycle. We have included our sustainability data in Appendix B. This gives a comprehensive overview of important environmental factors such as greenhouse gas emissions and waste figures. This reporting is required to be 'fair, balanced and understandable', therefore we show the past three years to give a transparent view of our performance against these measures. This three-year perspective also allows for a comparison against a year prior to the Covid-19 pandemic that so affected 2020-21 and 2021-22.

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'.

We have designed and implemented a new approach which integrates SDG targets into our benefits management system, 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 will be able to collate quantitative and qualitative evidence on the contribution of our capital flood risk management spend to wider environmental and social value.

The framework recognises the interconnectivity of the targets and the importance of our efforts on community and environmental needs and our ability to address those 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. All projects will report on the 'given' aim of reducing risk to life, plus targets to address resources, nature, climate and health and wellbeing. We also recognise that one action can (and should) contribute to several targets.

The mindset shift from 'problem' to 'opportunity' helps identify potential partnerships, through alignment of the objectives of different organisations using the sustainable development goals. 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: [https://www.un.org/sustainabledevelopment.](https://www.un.org/sustainabledevelopment)

In our performance report, we link the SDGs to each of our 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

Having committed to an organisational net zero target in October 2019, this year we developed a detailed delivery plan/roadmap to secure the necessary deep emissions cuts (of 45%). This carbon reduction plan is fully integrated into the Environment Agency's operations and each action is owned by a director. The plan was recognised by edie (the industry leading sustainability network) and won net zero strategy of the year in March 2022. We have been building net zero considerations into our decision making processes. We are integrating carbon emissions into business case templates, starting to develop a carbon data dashboard, and developing new carbon literacy training for all our staff. Low carbon technologies are being incorporated into the design of our flood risk management schemes; and we are looking to use nature-based solutions that also lock up carbon. We have also started to explore the other side of the net zero equation – emissions removals – and have modelled how we might deliver the necessary absorption of carbon in the future.

A review has been undertaken to consider the potential impacts on the financial statements – both for the current financial year and going forwards – of the drive towards net zero. At present, we do not believe there will be a significant impact on the financial statements as we make progress towards our net zero goal. Our focus is on embedding net zero into our projects and considering how we can lower our carbon impact from the outset. However, we do expect climate change to have a physical impact on our operational assets and their maintenance, as described further on page 48.

Sustainable Construction

More than half 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.

Starting in 2021, the Environment Agency has been using the lowest carbon concrete in our flood defences that meet our performance requirements. 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[5] - Environment Agency: reaching net zero by 2030.

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.

[5] https://www.gov.uk/government/publications/environment-agency-reaching-net-zero-by-2030

Natural Capital

Within the 25 Year Environment Plan, the government commits to protecting and growing our nation's natural capital; putting it at the heart of decision making. The Environment Agency is meeting this commitment by using a natural capital approach to deliver 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.

This is an evolving area of work, and the Environment Agency is committed to supporting the development of our natural capital understanding and capability. Some of our recent work has revealed that an additional 6,000 tonnes of carbon dioxide equivalent will be removed from the atmosphere each year because of our work in 2021-22 to create and restore woodland, saltmarsh, and peatland habitats. This removal of greenhouse gases is worth £27 million over the next 40 years to our economy. On page 34 you can find more information on the value of the Environment Agency's natural capital assets and the work we have been doing to support the enhancement of natural capital.

Rural Proofing

The Environment Agency considers the rural aspects of its work in a variety of ways, in particular in relation to agriculture, river restoration and flood and coastal erosion risk management. Whenever we engage through regulation, advice and guidance or physical activity in rural areas, we take steps to ensure we engage with the relevant communities and representatives and seek joint outcomes wherever possible. This comes naturally: most of our office and depot locations are outside cities and we are present in rural areas across England.

Some examples of this include:

- Working with the agriculture sector to understand future water and flood risk management requirements
- Working with the National Farmers Union (NFU) on fly-tipping. Both the Environment Agency and NFU are members of the National Fly-Tipping Prevention Group chaired by Defra, along with many partners and representatives of local authorities, government, and police
- The development of new regulatory and voluntary approaches such as the Farming Rules for Water and the government's Environmental Land Management Scheme (ELM) is being undertaken with key representatives from the agriculture sector. Defra are responsible for the three new ELM schemes, and we are working closely with Defra and other Arm's Length Bodies (ALB) to help shape these schemes to ensure they achieve good environmental and climate outcomes. Landowners and farmers are represented by the Practitioner Working Groups

In the last year, we have secured more responsibility, new regulatory targets, and new legal powers. New regulatory targets are the number of farm inspections we have committed to HM Treasury and Defra to deliver: 1,500 farm inspections in 2021-22 and 4,000 farm inspections per annum from 2022-23 onwards. In relation to Farming Rules for Water (FRfW) our regulatory powers have not changed but we have new regulations to enforce. The Reduction and Prevention of Agricultural Diffuse Pollution (England) Regulations 2018, sets out requirements for land managers. The Environment Agency is responsible for the enforcement of these regulations. We continue to work collaboratively with Defra and its other ALBs as a valued contributor to the Future Farming and Countryside Programme (FFCP). Our increased role in this programme and the evidence we have put forward has also been reflected in the funding we now receive from government for this work. Our 2022-23 funding settlement of £11.2 million is an increase from £6 million in 2021-22 and from less than £1 million at the outset of the programme in 2017.

This will fund:

- Agricultural Regulation Taskforce - £4.2 million
- FFCP delivery - £3.2 million including Catchment Sensitive Farming (CSF) and new roles secured in 2021-22 delivering the Slurry Grant Scheme and landscape recovery
- FFCP design - £3.2 million includes Environmental Land Management (ELM), Regulation and Enforcement, ELM Monitoring and Evaluation, Remote Sensing and Programme Leadership
- Wider policy design - £0.6 million includes bringing the intensive Dairy and Beef sector into the environmental protection regulatory (EPR) framework and co-designing the Soil Health Action Plan for England (SHAPE)

Green Information and Communications Technology (ICT)

As a part of the Defra group, the Environment Agency has adopted the Greening Government ICT and Digital Services Strategy (2020-2025).

As part of the strategy, Defra reports the Green House 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[6].

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

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

Performance measures

This performance report outlines the Environment Agency's performance against our priorities for the financial year from 1 April 2021 to 31 March 2022 ('the financial year'). It follows the structure of our 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[7] and corporate scorecard[8] are published online. Previous versions of the scorecard are available on gov.uk 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. One example is that most of our regulatory activity is not reflected in these measures. Our 2022-23 corporate scoreboard will include a measure for regulatory compliance.

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

We reduce the risk of flooding for more households

Number of properties better protected:

Target - 45,000

Actual - 32,908

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

2021-22 was the first year of a new long term (2021-2027) Flood and Coastal Risk Management (FCRM) capital programme. Through investment of £5.2 billion of government funding in around 2,000 schemes, hundreds of thousands of properties will be better protected from flooding and coastal erosion.

[7] https://www.gov.uk/government/publications/environment-agency-ea2025-creating-a-better-place

[8] https://www.gov.uk/government/collections/environment-agency-corporate-scorecard

The total number of properties better protected in 2021-22 is 32,908. The biggest contributors included:

- Team 2100 Programme – Thames Delivery (3,218)
- Pevensey Bay Sea Defences (3,101)
- Exmouth Tidal defence scheme (1,417)
- Islington (Norfolk) Catchment Flood Risk Management Scheme (1,974)

This is below the target of 45,000 properties set at the start of the 2021-22 year. The main reasons for being behind are:

- Continued impacts of Covid-19, 2020-21 winter flood events, and Storm Arwen
- Supply chain disruption, cost pressures and inflation across the construction sector
- Challenges on resources for both the Environment Agency and other Risk Management Authorities (linked to recruitment and retention issues and, in certain cases, supplier capacity)
- A more complex programme of projects with greater reliance on securing partnership funding

The previously announced six year target (2021-22 to 2026-27) is under review. We anticipate a new target to be confirmed in the Autumn of 2022. The delivery of properties protected delayed from 2021-22 will remain in the six-year programme and still count towards our corporate target but in future years following this reprofiling.

Case Study: **Exmouth tidal defence scheme**

The Exmouth Tidal Defence Scheme is a £12 million scheme to improve flood defences in Exmouth.

The Environment Agency worked in partnership with East Devon District Council to deliver the scheme which will reduce the risk of tidal flooding to over 1,400 residential and 400 commercial properties.

The Environment Agency has been working in collaboration with East Devon District Council since 2015 to develop the scheme and build the business case for funding; this culminated in approval of £12 million of government funding in 2017.

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

% of high-risk assets at target condition:

Target - 98%
Actual - 91.8%

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

Reported asset condition dropped to the year-end reported figure of 92% of key assets in the desired condition. There are data quality issues with this figure: we believe the actual figure to be higher. The 92% figure continues to reflect some errors resulting from the transition to a new asset management system including the impact of a backlog of inspections meaning some assets having out-of-date condition data. We are taking a cautious approach over whether the asset condition figure is an accurate representation due to the issues identified above. We anticipate that once these are addressed the figure will be closer to 94%.

Where assets are below their required condition this means that work is required: it does not mean that they have structurally failed or that performance in a flood will be compromised. If the performance of an asset is reduced, we will take action to ensure that flood risk is effectively managed until the asset is fully repaired or replaced.

Asset condition is directly related to maintenance funding, which is currently stretched: while it is sufficient to maintain most of our assets in their current condition it is not currently enough to restore them to our target of 98% of high consequence assets being at their required condition. This target is a level considered to enable delivery of a value for money programme of maintenance, repairs, and refurbishment.

The challenge of maintaining our assets at the required condition is compounded by an ageing asset stock, the increasing frequency and severity of loading due to the impacts of a changing climate leading to increased deterioration rates, and the increasing number of assets to be maintained as we build more in our multi-year capital programme. 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 any risk until any necessary repairs and maintenance are complete.

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

We will deliver our strategic adaptation actions to tackle the climate emergency

% of adaption actions on track:

Target - 90%
Actual - 78%

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

Our third Adaptation Report was published in October 2021. It emphasises the urgent need for a step change to manage climate realities and identifies eight themes for action. We will use the report to increase public and government attention and action on adaptation and we are already carrying out commitments from it. For example, we have:

- Updated climate change allowances for peak river flows so that our advice for schemes, strategies and spatial planning uses the latest climate data
- Launched the £150 million Flood and Coastal Resilience Innovation programme (part of the £200 million Flood and Coastal Resilience Innovation fund)
- Received funding to develop adaptation pathways for flooding and coastal change in four locations across the country
- Commissioned expert reviews on how river ecosystems may respond to climate change
- Prepared draft River Basin Management Plan public consultation documents, which highlight measures to protect England's waters from a changing climate
- We have recruited volunteer champions to address climate change inequalities and are helping government to shape its approach to Green Finance

There were some notable successes including providing Natural Capital training to water companies and Environment Agency teams and a suite of notable publications such as the blue carbon restoration handbooks, enhanced Environment Agency appraisal guidance for flooding and coastal change projects, and the launch of the EA Pension Fund-led international report on managing physical risk in investments.

We continue to improve our own processes to better consider climate adaptation, for example developing a process to embed public health and inequality considerations into major projects.

Case Study: Sizewell nuclear power station

For over ten years the Environment Agency has provided regulatory advice and technical guidance on a project to build a new nuclear power station at Sizewell on the Suffolk coast.

Colleagues in Agriculture, Fisheries and Natural Environment (AFNE) have provided technical support to area teams working on the project since 2016. In the summer of 2021, the Environment Agency provided evidence at a public hearing with the Planning Inspectorate, advising on climate change risk over the station's 140-year lifecycle and the efficacy of the applicant's approach to mitigating coastal process impacts.

Working closely with area specialists and partners from Natural England and the Local Authority, we have successfully influenced the applicant's approach to managing flood and erosion risk to the site, as well as its environmental impacts.

Subject to the Secretary of State issuing a Development Consent Order for the project, the result will be a multi-billion-pound major infrastructure development which will use nature-based solutions and adaptive management principles to manage climate change risks into the next century.

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

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

% of trained staff utilised in core incident roles:

Target - 80%
Actual - 77%

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

Over 2021-22, there were 3,440 trained staff who have responded to flood and other environmental emergencies in core out-of-hours roles for Command and Control, First Responders and Escalated Response.

We have changed our performance measure from last year, to have a metric that focuses on the key roles that we want our people to have greater expertise in. Last year's metric measured the number of trained and capable people ready to respond to incidents. The 2021-22 metric focuses on the percentage of people who have been trained for specified key roles (Command and Control, First Responders and Escalated Response) and who have undertaken training for these specific roles at least once in a twelve month period, thus keeping those skills current.

This is 77% of the total pool trained to carry out these roles which provide a critical service to reduce the impacts of environmental incidents each year.

There have been fewer serious - category 1 and 2 National Incident Recording System (NIRS) incidents recorded this year. We know there have been limited major incidents this winter meaning the opportunities for the larger numbers of staff to be involved in our response have reduced.

We continue to ensure all staff on incident rosters can work flexibly and feel supported and confident to volunteer particularly during escalated response periods.

Healthy Air, Land and Water

By 2025, our air will be cleaner and healthier

Air quality is improving – Monitor the reductions across five priority pollutants: NOx (Oxides of Nitrogen), SOx (Oxides of Sulphur), NMVOC (Non-methane volatile organic compound), NH3 (Ammonia) and particulates in the refineries sector

Grams of pollutant per tonne:

Targets -	<431 SOx	<203 NOx
Actuals -	414.21 SOx	236.55 NOx

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

Total emissions of sulphur dioxide and nitrogen oxides are trending below the 2017 baseline and have reduced due to revised limits in environmental permits during 2018.

Emissions of sulphur dioxide per tonne of oil processed have met the target.

Although the total mass of nitrogen oxide emissions has reduced, relative to the quantity of crude oil processed, this has not significantly changed. The complexity of oil refineries means that they perform best at steady state, particularly in relation to nitrogen oxide emissions. The impact of the Covid-19 pandemic on the demand for petroleum fuels has led to a period of two years of instability as demand has fluctuated across successive lockdowns. Some nitrogen oxides reduction capital projects have also been delayed due to equipment supply and lack of available personnel, also caused by the pandemic.

Limitations on access to data and availability of personnel, also caused by the pandemic, have meant that our audit programme on these emissions has been pushed back into 2022-23.

Case Study: Chemical sector ammonia reduction plans

The National Emission Ceilings Regulations 2018 set target reduction commitments for the UK for five key pollutants (nitrogen oxides, sulphur oxides, non-methane volatile organic compounds, ammonia and fine particulate matter) to meet emissions ceilings set for 2020 and 2030.

We are reviewing the contribution that the industries, we regulate, make to these five pollutants. We have focused on ammonia from the chemicals sector because the 2030 target for this pollutant is ambitious and the sector is the second most significant industrial emitter of ammonia, of the industries regulated by the EA, after intensive pig and poultry farming.

We looked at all of our chemical sites to identify the top emitters, taking into account the industrial process releasing ammonia; the types of emissions (channelled/fugitive); the abatement applied and the relevant best available technologies. Fourteen installations, with 2019 ammonia emissions ranging from 24 tonnes to 1,100 tonnes, now have an ammonia reduction plan and a strategy for projected investment in new technologies.

The result is a contribution towards the national emission ceiling target with potential reduction in sector ammonia emissions of approximately 287 tonnes.

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

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

Kilometres (kms) of waterbodies enhanced:

Target - 1,650 kms

Actual - 1,528 kms

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

We have achieved 93% of our 2021-22 target to enhance 1,650 kms of waterbodies, enhancing a total of 1,528 kms across the year. This is equivalent to four times the length of the River Thames.

This measure brings together a broad range of activities that have been carried out by us and our partners to enhance the environment. This year, we have delivered:

- Habitat creation projects
- Saltmarsh restoration
- Improvements to fish passage
- Actions to reduce the effect of invasive species
- Significant water company investments and other partnership projects

Collaborative working between our Environment Officers and local landowners has brought 85 kms of enhancements following improvements made to farm infrastructure, reducing point and diffuse source pollution.

Notable enhancements have also been recorded in Drinking Water Protected Areas:

- In Brighton, the Aquifer Partnership worked with local children to build a rain garden, enhancing local groundwaters, which include a chalk aquifer
- In Lincolnshire and Northamptonshire, the equivalent of 17 kms of lakes (including Rutland Water) have benefited from reduced metaldehyde levels

Additionally, 245 kms of groundwaters and rivers were protected from deterioration including:

- Measures to control Floating Pennywort (an invasive non-native species) have protected 53 kms on the River Witham, near Lincoln
- In Watford, Thames Water worked to connect misconnected properties up to the sewerage network, ensuring wastewater is treated appropriately and ensuring better water quality to prevent future deterioration
- Near Lincoln, eel passes have been installed on sluice gates on the River Witham, protecting 75 kms of watercourse and maintaining access for eels

Case Study: Eller, Wath, Whit, and Wood Becks

We are removing or reducing culverted lengths, installing eel tiles, restoring river function, improving adjacent habitat, and improving fish access across West Cumbria.

The reasons for doing this include climate change adaptation, the objectives of the 25 Year Environment Plan, Habitats Regulations, sites of special scientific interest, the Water Framework Directive, the Eel Management Plan, and priority salmon actions.

The benefits this project gives include increased biodiversity, the wider landscape and hazard management.

Some of the specific outcomes are listed below:

- Priority species – habitat works at four sites benefitting Atlantic salmon, brown/sea trout, eels, and otters and one site benefitting lampreys
- Creating 0.02 ha of new priority river habitats
- Restoring 0.12 ha of priority habitat features
- Restoring 0.8 kms of river
- Fisheries management
  - Improving fish passage in four locations
  - Improving river habitat across 0.5 kms
  - Making existing habitat available across 14 kms




Case Study: DNAire

We are completing four fish passes at Armley, Kirkstall, Newlay, and Saltaire in Yorkshire to allow fish passage over the four weirs. Community engagement activity helped to reconnect local people to the river. We also aim to enable the Aire Rivers Trust to deliver similar projects in future.

The reasons for doing this included climate change adaptation, 25 Year Environment Plan, Water Framework Directive, Eel Management Plan, recreation, and priority salmon actions.

The benefits this project gives include those to biodiversity and community engagement. Some of the specific outcomes are listed below:

- Creation of 6.5 ha of new priority habitat (lowland mixed deciduous woodland)
- Habitat works on four sites for priority species: Atlantic salmon, brown/sea trout, and European eel
- 8,410 trees planted
- Fisheries management: making 60 kms of existing habitat available and improving fish passage in four locations

We are working with the local rivers trust, local authorities, and the local water company.

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

Hectares (ha) created or restored

Target - 620 ha
Actual - 1,111 ha

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

We created 629 ha and restored 482 ha of priority habitat. The total of 1,111 ha, equivalent to over 1,600 football pitches, greatly exceeded our target of 620 ha. We also planted over 248,000 trees.

The creation, restoration, and maintenance of peatland along with the creation of saltmarsh and broadleaved woodland will remove an additional 6,099 tonnes of carbon dioxide equivalent a year.

An additional 150,561 visits per year are predicted. The estimated value of recreation from these visits over 40 years at present value is £21 million.

Case Study: Bishop's Marsh – Hickling reedbed creation

We are increasing the area of wetland to attract birds such as bittern, marsh harrier and bearded tit by creating a 22 ha reedbed.

The reasons for doing this include climate change adaptation, sites of special scientific interest, Habitats Regulations, Water Framework Directive, Eel Management Plan, and the 25 Year Environment Plan.

The benefits this project gives include biodiversity, recreation, and hazard management. Some of the specific outcomes are listed below:

- Creation of 22 ha new priority reedbed habitats
- Priority species – Habitat works delivering 22 ha for eels, otters, and water voles

Organisations we are working with include the local Wildlife Trust.

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

We successfully influence planning decisions made by local authorities

% of planning decision notices successfully influenced

Target - 97%
Actual - 98.2%

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

This measure considers how successful we are at influencing local planning authorities' (LPAs) decisions on development proposals. The advice we provide as a planning consultee helps LPAs make informed decisions on planning applications. Using our knowledge and expertise we assess the potential harm and risk from environmental factors to life and property. Where proposals are likely to have adverse impacts on people or the environment, we will make suggestions to improve the proposed development and mitigate or negate potential harm. We often request planning conditions to make proposals acceptable. But where the environmental harm is too great, we object to planning applications.

During 2021-22, we successfully influenced 98.2% of planning decisions where we were notified of the outcome of the planning applications. There were 31 planning applications that were not determined in line with our advice.

A notable success has been the dismissal, on appeal, of three planning applications at a vulnerable location on the East Coast to which we objected on flood risk grounds. These sought to extend caravan park opening times over the winter period when the risk of dangerous flooding is highest. The local planning authority (LPA) was prepared to approve the applications, but because of our sustained objection the Secretary of State (SoS) requested the applications to allow him to make the decision. The SoS agreed with the Environment Agency view of flood risk on this stretch of coast. He refused two of the cases and was ready to refuse the third, subject to the resolution of a legal matter, on which further representations were sought. A further 30 similar planning applications regarding winter occupancy where the LPA was inclined to grant permission, which were due to go to public inquiry, have now subsequently been withdrawn by the applicants. By providing strong planning advice, based on good quality data and evidence we have reduced the risk of flooding to over 1,800 caravans and their occupants. The risk and consequence of flooding on the East Coast must not be underestimated. Allowing people to stay in particularly vulnerable caravans, below sea level, during the winter's riskiest months, would have presented an unacceptable threat to life.

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

We reduce the number of high-risk illegal waste sites

Number of high-risk illegal waste sites:

Target - 200
Actual - 194

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

At the end of the financial year, we achieved our target with the number of high-risk illegal waste sites reduced to 194 against the target of 200.

During the year the Environment Agency, along with Defra and HM Revenue and Customs (HMRC), was asked to contribute to an investigation into the government's actions to combat waste crime in England, being undertaken by the National Audit Office (NAO). The NAO's report was published in April 2022 and makes some recommendations for all parties. The main recommendations for the Environment Agency relate to improved metrics. This is an area that we were already working on, and we shall continue to do so in 2022-23. More information can be found here: Investigation into government's actions to combat waste crime in England – National Audit Office (NAO) Report[9]

Whilst the performance status remains green, we continue to be cautious about these results due to the transition out of the pandemic which has impacted on reporting levels and site substantiation. The true number of illegal sites is likely to be greater and we anticipate it to increase over the coming year.

[9] https://www.nao.org.uk/report/investigation-into-governments-actions-to-combat-waste-crime-in-england/

Case Study: **Tackling persistent waste criminals**

Waste crime causes widespread and significant harm to the environment, and legitimate business and disproportionately affects disadvantaged communities. We estimate around 34 million tonnes of waste is illegally managed every year, enough to fill Wembley Stadium 30 times. It costs our economy an estimated £1 billion a year with perpetrators involved in other serious crimes like drug dealing. Our goal for waste crime is very simple, to stop it. At the end of this financial year we had reduced the number of active high-risk illegal waste sites to 194, against a target of 200, stopping a total of 561 sites during the 12-month period. These are just a few of our successes during 2021:

- In April 2021, as part of a major investigation into an organised crime group dumping and burying thousands of tonnes of illegal waste at sites across the Midlands, we conducted a joint operation with the police; five search warrants were executed at properties belonging to the group; significant amounts of evidence and cash were recovered; all five suspects were arrested; and the police are investigating several other offences, including firearms and drugs

- Five years after we secured the conviction of a Darlington man for illegal dumping of waste at a farm in County Durham, we went back to court to challenge his failure to pay back £350,000 under the Proceeds of Crime Act. He has now been jailed for three years

- Our enforcement officers swooped on a farm in Worcestershire where a man received a 26-month prison sentence in 2018 for operating an illegal waste site where he dumped, buried, or burned 25,000 tonnes of waste. This time we found and seized several stolen vehicles, now the subject of a criminal investigation by West Mercia Police

- The operator of an illegal waste site in the North East was given a 12-month custodial sentence and served with a Notice by the courts to clear all remaining waste. This followed an investigation in 2020 in response to numerous fires and the dumping of large quantities of waste. We stopped activity on site using a Restriction Order, one of our newer powers issued by the courts



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

Tonnes of carbon dioxide:

Target - 27,342
Actual - 20,485

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

We achieved 75% of the annual target. There was a 4% reduction in overall carbon emissions compared to 2020-21.

The 2021-22 year has seen Covid-19 restrictions ease and staff starting to return to offices. Carbon emissions from business travel has increased from last year by 36% but remains below 2019-20 levels. Rail travel is showing an increasing trend and other travel types have remained at a steady level. We will need to continue to embrace and encourage hybrid working, to prevent a significant bounce-back in business travel emissions in 2022-23.

All 14 operations areas met or exceeded their end of year carbon emission targets. We have seen a 40% decrease in our emissions from operational electricity compared to last year. This was due to less usage requirement by groundwater schemes, and field assets (flood risk and water resources) electricity reduced by 48%.

Carbon emissions from our national laboratories remain similar to last year, with a slight increase of 6%. Our operational fuel use increased at the laboratories whilst heating repairs were carried out. Both the National Laboratory Service and Facilities Management reported major fluorinated greenhouse gas (F-gas) releases due to a cold store failure and pipe maintenance failure.

Buildings related carbon emission has slightly reduced compared to last year. We have continued to deliver on the Government Property Agency net zero programme. Energy efficient light -emitting diode (LED) lighting was installed at several of our offices including Blandford, Chichester and Teesdale House, and also at depots including Chippenham and Rye Scots Float. Feasibility studies were completed for rooftop solar panels at our Ceres, Chichester, Iceni and Teesdale offices. In March 2022, planning permission was granted for the proposed 2-megawatt Lea Marston solar farm.

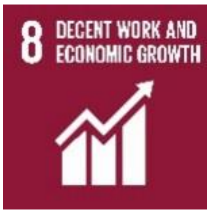
Life Enhancing Organisation

We manage our money efficiently

Spend to budget:

Target - £1,635 million
Actual - £1,640 million

Primary



Secondary

The measure is used to report on effective management of our money to achieve our outcomes and is based on the percentage of our full year funding that we have invested. The Environment Agency has a major capital and resource programme of investment projects and conducts a very detailed planning process in order to ensure appropriate prioritisation of these investments. We are subject to a series of strong financial and governance controls that both protect this investment and provide a logistical challenge in delivering the programme of expenditure. This is considered an appropriate measure, with expenditure being a proxy for delivery of environmental outcomes and this measure is therefore inextricably linked to most of the other scorecard measures.

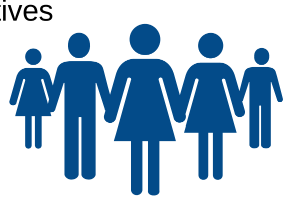
This measure is also used because any material under-spend against available funding for a year means missed opportunities to improve the environment. Meanwhile any over-spend could mean Defra breaching its budgetary control totals as sponsoring department, given the Defra group accounts include the Environment Agency's accounts. Such a breach would trigger a NAO audit qualification.

The Environment Agency invested £1.9 billion in the environment in 2021-22. Investment accelerated on programmes as planned in the final quarter, with final spend very close to allocated funding. Actual spend has been delivered slightly above the budget in agreement with Defra in order to help manage the overall Defra group capital budget position, enabling us to deliver more for the environment. The performance is therefore reported as green since the spend beyond funding was sought by Defra and will help Defra's own financial investment measures with HM Treasury.

We have a diverse workforce

a) The proportion of our staff who are from a Black, Asian and Minority Ethnic (BAME) background
b) The proportion of our executive managers who are female

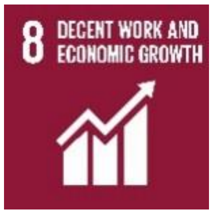
% of workforce who are (a) from a BAME background and (b) Female Executives



Target - a) 14% b) 50%
Actual - a) 4.6% b) 43%

This measure contributes to the United Nations Sustainable Development Goal 10: Reduce inequality within and among countries and Goal 5: Achieve gender equality and empower all women and girls. Target 10.2.

Primary | Secondary



Our target is that 14% of all employees are Black, Asian, or Minority Ethnic (BAME). By the end of the year the proportion of BAME employees in the Environment Agency stood at 4.6%.

We are progressing our Race Action Plan, embedding, actions from the Plan within our overall Equality, Diversity and Inclusion (EDI) Plan. We will continue to use learning to ensure wider Equality, Diversity and Inclusion benefits across the organisation. As part of our Big Conversation on Race, we have focused on the issues we need to tackle to ensure everyone feels welcome and at home in the EA.

We have wider diversity initiatives, an updated resource library with revamped candidate packs and better resources to support more inclusive recruitment. We will conduct a recruitment pilot to improve the way we recruit especially for people who think and learn in a different way. We will also pilot a program to help us improve our attraction to those from the LGBTQ+ community. We will continue to build and develop a more inclusive culture, increase the diversity of our workforce, and ensure equity of opportunity in performance, development, progression and pay. We will improve our ability to tackle the climate emergency by increasing our ability to improve and protect the environment for all communities. Work is continuing to ensure all capability and development frameworks are consistent through a critical review, and that we act on the insight from exit interviews. Our current investment in Equality, Diversity and Inclusion resources and action provides positive momentum.

We have a target for 50% of Executive Managers to be female. The percentage of Executive Managers who are female is currently 43%. The percentage of Grade 7 employees who are female has risen from 34% to 38% (212 women). This has enabled an increase in the internal talent pipeline for Executive Manager roles.

We launched our new Equality, Diversity and Inclusion Strategy and Action Plan (2022-2025) in May. There are four objectives focusing on inclusive cultures, increasing the diversity of our workforce, ensuring equity in pay, progression, development, and performance, and increasing our ability to protect the environment for all communities. These objectives will drive wider Equality, Diversity and Inclusion benefits across the organisation.

We have the lowest possible lost time incident frequency rate

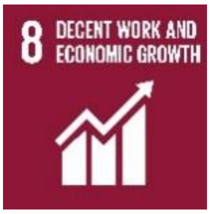
Lost Time Incident Frequency Rates (LTIFR) per 100,000 hours worked

Target – 0.11
Actual – 0.05

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



Lost Time Incident Frequency Rate (LTIFR) is a universally accepted lagging indicator of health and safety performance. We define lost time incidents as work related injuries resulting in a day or more lost time. This conservative definition, plus a very low ceiling of 0.11 injuries per 100,000 hours worked, sets a challenging ambition.

During 2021-22, we maintained our downward pressure on health and safety incidents, implementing the lessons from the review into the tragic fatality we experienced in 2021 and wider initiatives. The resonance in the organisation of the impact of the incident and the action taken to address hazardous activities is having a positive effect on culture and behaviours. The number of LTIs is no longer influenced by Covid-19 safe working since we are undertaking normal levels of activity in the field. We can therefore compare the data with pre-pandemic data and consider the trends as truly representative of our performance.

Regulating for People, Environment and Growth (RPEG) 2021

RPEG is an annual report which presents evidence on how our regulation and the performance of those we regulated is meeting the EA2025 goals. It includes how our regulatory work and the activities of those we regulate are tackling the climate emergency. The main points that go beyond the corporate scorecard 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

- Through reviewing, changing and revoking abstraction licences, we have removed the risk of the over-abstraction of 900 billion litres of water from the environment

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 98.3% 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 unsuitable waste

Natural Capital (not subject to audit)

Natural capital is the stock of natural assets – ecosystems, species, freshwater, soils, minerals, natural processes – that directly or indirectly provide value to people. Our natural capital, and the services they perform, provide us with clean air to breathe, food to eat, reduce flood risk, and regulate the climate. As the Dasgupta Review into the 'Economics of Biodiversity' reflects, our livelihoods, economy and well-being all depend on natural capital.

The Environment Agency uses 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.

The natural capital of the Environment Agency estate

The Environment Agency is fortunate to have a large stock of natural capital across our estate comprising of 17,181 ha of woodland, wetlands, grasslands, and coastal habitat. This natural capital sequesters carbon, it removes air pollutants, purifies water, and supports the physical and mental health of our communities. Using the Environment Agency's own Natural Capital Register and Account Tool we know that each year the ecosystem services provided by our estate's natural capital are worth £14.8 million to our society.

Delivering more outcomes through a natural capital approach

Every year we work with our partners to create and restore priority habitats – adding to the country's stock of natural capital assets. In 2021-22, we created and restored just over 1,100 hectares of priority habitat including peatland, saltmarsh, and broadleaved woodland as part of our Nature and Species Recovery programmes. This habitat work, alongside the creation of new recreational access to these areas, will result in approximately 6,000 tonnes of carbon dioxide equivalents being sequestered each year and an additional 150,000 recreational visits.

- Additional carbon storage (tonnes CO_2 equivalent per year) by woodland, peatland, and saltmarsh = 6,099 tCO_2e
- Present value over 40 years = £27.3 million

- Additional recreational benefits (visits per year) = 150,000 visits
- Present value over 40 years = £20.7 million

We are also working with the water industry to support their adoption of the natural capital approach by providing a suite of natural capital metrics to support options development that will help to deliver priority outcomes for the natural environment, net zero, catchment resilience and access.

Within our Estates department we are using a natural capital approach to influence and inform our decision making so that we fully understand the natural capital value of our land holdings before we make decisions about their future.

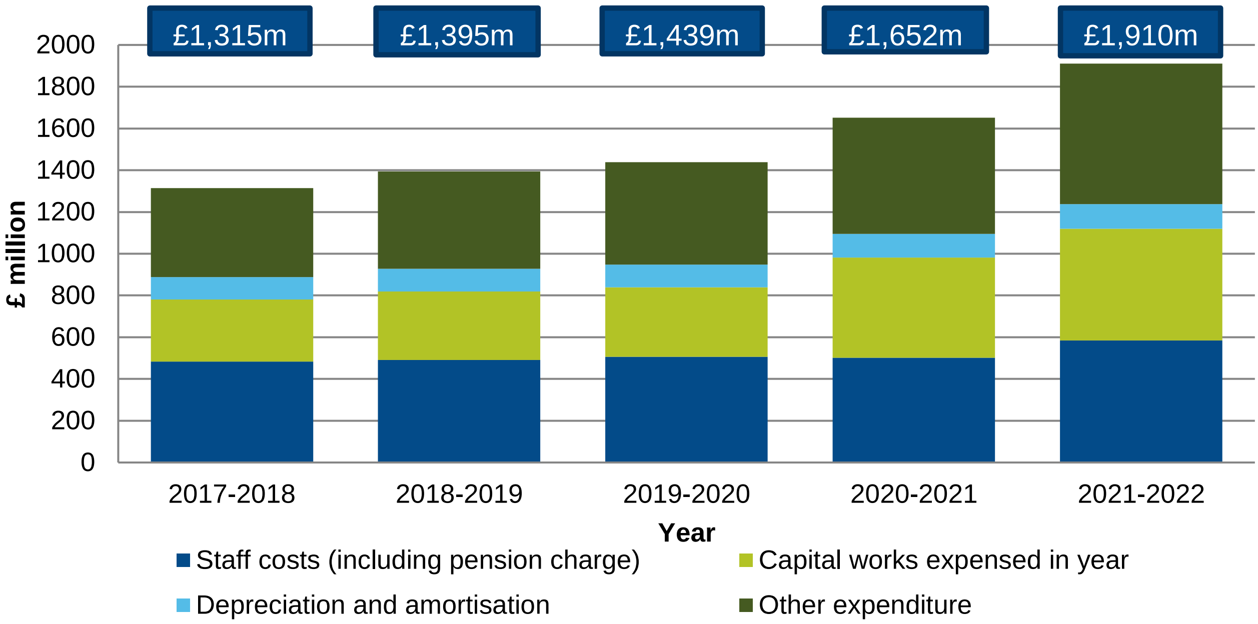
In addition, each local area has created natural capital registers and accounts which provide a strategic overview of the key ecosystem services within their area. This information is being used to better engage with stakeholders, to encourage investment in nature, and to inform decision making. As part of this work, we have also worked with a number of Local Enterprise Partnerships in the Midlands to create natural capital accounts that have been used to inform the development of their local industrial strategies.

Review of Financial Performance and Funding

Our total gross expenditure for the financial year ended 31 March 2022 was £1,910 million, higher than the £1,652 million in the previous year. Of our total funding, 72% (prior year 68%) came in the form of funding from Defra. The other 28% (prior year 32%) largely came from fees and charges. We received resource funding for £0.9 million relating to EU exit work relating to air quality, best available techniques for agriculture and a marine data collection framework. The marine element, £0.3 million, was part of a HM Treasury ring-fenced fund. We also spent £11.8 million on Covid-19 wastewater analysis work which was recharged to the Department for Health and Social care. This was predominantly resource spend with less than £0.1 million capital.

Net expenditure for the year after deducting income was £1,444 million. We are required to treat grant-in-aid cash receipts of £1,220 million from Defra as a financing contribution rather than income as it was provided by our sponsoring body. Therefore, we credit this directly to the general reserve and do not include it in our net expenditure in the financial statements.

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



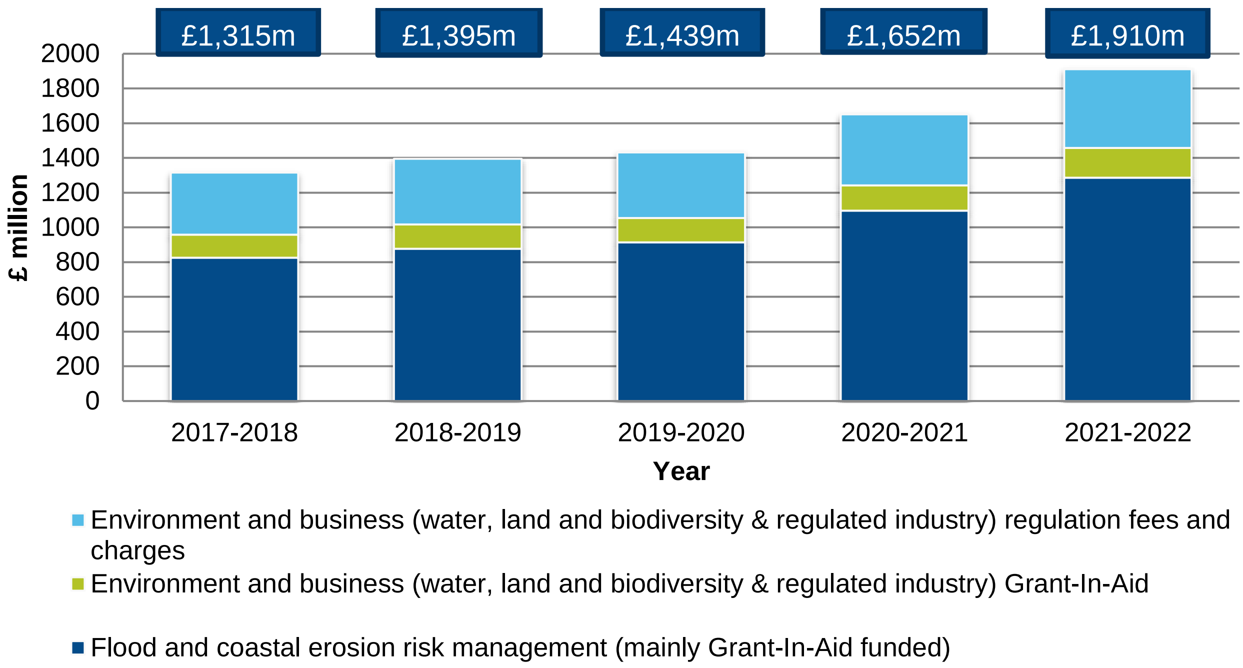
More detail on staff costs, capital works expensed in year and other expenditure is provided in the financial statements in notes 3, 4 and 5 respectively.

Expenditure

Our expenditure by funding stream is shown in Figure 2. 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 21 of 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.

During 2021-22, £150 million of flood risk management capital funding originally intended to be invested in the year was by agreement with HM Treasury re-profiled to be invested in later years in the long-term programme ending 2026-27.

The Parliamentary Accountability and Audit report details the activities funded by fees and charges and grant-in-aid. In 2021-22, we achieved our best income collection performance with 98% of billed income collected within the financial year.

Non-current assets

Non-current assets have increased in value by £0.5 billion compared to 31 March 2021. 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 particularly large this year at £0.5 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 2022 was £3.9 billion.

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, and we have used indices to revalue assets to March 2022 values.

The government's financial reporting manual requires operational assets which are relatively unique in nature and function to be accounted for at Depreciated Replacement Cost (DRC) to give the most appropriate valuation. Due to the significant logistical and technical challenge, as well as the substantial expenditure, related to the DRC approach when owning as many assets as we do, we currently use a modified historic cost as a proxy for DRC. However, we are in the process of designing a new valuation methodology in response to a qualified audit opinion.

We have sought to address the other limitations in the valuation carried out in March 2021 which contributed to the qualified audit opinion, correcting the application of the valuations where appropriate and improving the data quality of the underlying property, plant and equipment records in order to allow valuations to be applied to the correct asset base. We have also sought to obtain valuations for properties that were excluded from the revaluation exercise in error in 2020-21.

There was a management-imposed limitation on the 2021-22 audit in respect of assets under construction, resulting in a qualified audit opinion in this area. It was clear from the early stages of the NAO testing that it would be an enormous task to undertake and deliver to the NAO the substantial analysis and reworking needed for the accounts of all sample tested projects. This work would require that all project costs be re-presented in an entirely new manner, different to the system design, by project component, to consider whether the financial accounting judgment for all components could be deemed to be correct under the financial reporting framework.

We recognised that it would be logistically impossible to do in the time available, and the results of NAO's initial testing indicated a very high likelihood 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 its testing in this area. We therefore reluctantly chose to limit the scope of NAO's audit in this area for practical and value for money reasons.

Going concern

The statement of financial position as at 31 March 2022 shows taxpayers' equity of £2.5 billion (31 March 2021, £1.7 billion). The increase is due to a decrease in our pension fund liability. 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 2022-23, 72% of funding is from grant-in-aid and 28% is from other income, based on our opening budgets.

We have received approval for our grant-in-aid resource funding for 2022-23. Our funding for the following two years 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.

Following our successful work with charge payers to maintain levels of billed income collection during the pandemic, we continued that success and increased our collection levels in 2021-22. 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 the Environment Agency's status as a going concern.

We have the same prudent view on bad debt within our budget allocations and will manage our spend through 2022-23 based on our income collection and bad debt experience.

During 2022, Defra started a review of the responsibilities and structures of Defra group's Arms' Length Bodies, including the Environment Agency. No decisions have yet been made and any changes would require a consultation and legislation.

We have therefore based on all these considerations prepared the financial statements on a going concern basis.

Climate-related Financial Disclosures

The Financial Stability Board in 2017 created the Task Force on Climate-related Financial Disclosures (TCFD) to improve and increase reporting of climate-related financial information. Its recommendations provide a framework for understanding and communicating the financial risks to an organisation from a changing climate, including the transition to a low carbon economy, so that it can:

- Understand its climate risks in material and financial terms
- Have developed actions to address those risks
- Have the governance aspects of climate change embedded in the boardroom rather than siloed in supporting functions

In 2019 the government established a UK Taskforce to explore the most effective approach to implementing the recommendations of the TCFD and set out its pathway to achieving that ambition in an interim report and roadmap. The government and regulators concluded that the UK should move towards mandatory TCFD-aligned disclosures across non-financial and financial sectors of the UK economy by 2025, with most action occurring over the first three years, to help accelerate progress.

The Environment Agency is not yet required to make a public statement on its climate-related financial risks by law, although many of our partners (including those we regulate) are. Choosing to do so helps our own governance, risk management and decision making activity and builds on our culture as a learning organisation. It also provides a sound platform when we advise others undertaking their own TCFD assessments. This first statement we have reported is incomplete, with the understanding from the TCFD that it is preferable to begin with a work in progress statement to be built on and improved, rather than to wait to have comprehensive disclosure.

The TCFD framework requires organisations to consider four interlinking themes: governance, strategy, risk management and metrics and targets. We used that framework to assess how well we are managing our internal climate change risks and how close we are to a TCFD-compliant disclosure. We have focussed on our ability to operate in a changing climate – how climate change may impact our revenues, reduce our productivity or simply how weather events may disrupt our services.

Governance

Section 2 of the Governance Statement sets out governance in the Environment Agency. Within these governance arrangements, the Climate Portfolio Board has oversight of our activity around preparing for climate impacts, enabling UK net zero and walking the walk, and reports into the Environment and Business (E&B) Business Board.

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 3: 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. Despite the internal launch of the Climate Ambition, feedback is consistent that the division of roles in relation to climate change is not clear enough amongst staff. The boundary between the Environment Agency's outputs and outcomes and the ways in which it delivers those outcomes is often blurred in our approach to managing climate risk.

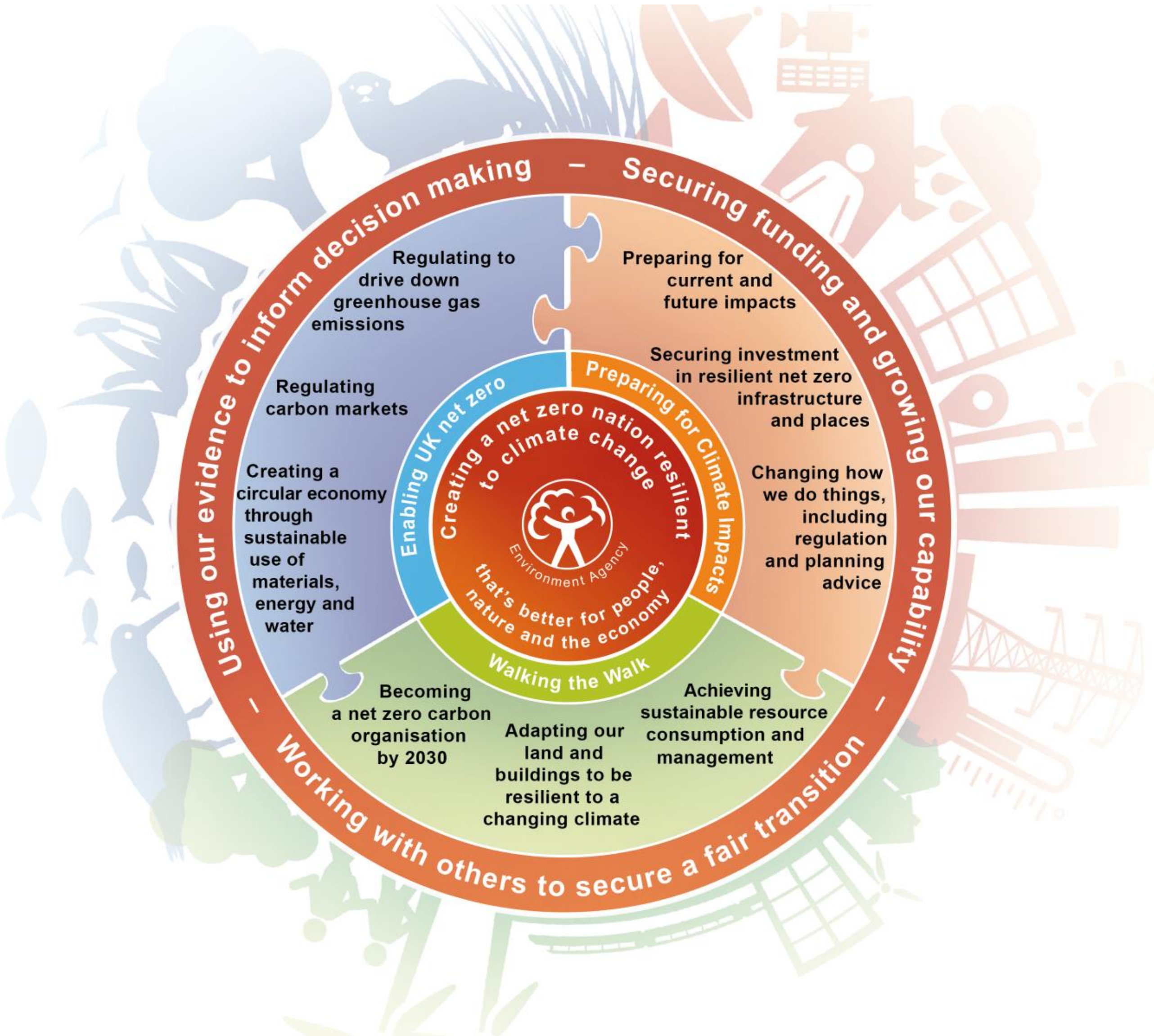


Figure 3 Our Climate Ambition

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 Executive Directors' Team (EDT).

Section 6 of the Governance Statement sets out the consideration of material issues. Climate change is considered a key material issue and played a prominent part in the October 2021 Audit and Risk Assurance Committee's review of material issues. Out of the 11 highest scoring material issues, climate change (net zero and adaptation) featured in the top three. These interrelated issues will be reviewed and tracked on an annual basis.

The corporate scorecard includes a total carbon emissions measure including the supply chain from the 2022-23 financial year. 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. We may need to improve the clarity of how that information is considered when making a decision, and how that flows through into the operation of the relevant Business Board and the degree to which the Business Boards are considering their specific climate risks. Following an internal audit report on the Environment Agency's Preparing for Climate Impacts Plans completed in May 2022, a number of actions have been agreed to strengthen the arrangements for delivering the plan. This includes reviewing the governance arrangements for climate change and how the Business Boards are engaged. The actions are scheduled for completion by 31 March 2023. The Preparing for Climate Impacts Plan is the action plan agreed as part of the Environment Agency's 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 Environment Agency in delivering its strategy and functions from the impacts of climate change. It is produced by the Environment Agency 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. Some include a costed plan.

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/green status each quarter. This is taken to the Operational Business Board and exceptions are raised up to EDT to progress.

The Environment Agency uses business critical models to underpin decision making for a range of activities. This includes managing flood incident response using flood forecasting models on a daily basis and sub daily basis during times of flooding, or our reservoir flood model in events such as the failure of Toddbrook reservoir in 2019. We also have detailed flood models used to help protect people and enhance the environment, to understand flood risk and feed Business Case Report (BCR) calculations at a project/program level when delivering our £5.2 billion six-year FCRM capital programme. Quality assurance for these flood models sits within the Modelling Quality Assurance Framework and is risk based. The modelling quality assurance process is built into the governance processes for commissioning and delivering flood modelling.

TCFD recommended disclosures on governance

The Board's oversight of climate-related risks and opportunities comprises of:

- On mitigation, monitoring the corporate scorecard measure for carbon emissions and EDT review of progress against actions within our net zero roadmap
- On adaptation, monitoring the corporate scorecard measure on climate change impact on our corporate objectives and statutory duties
- Every paper to EDT is required to consider the impact on addressing the climate emergency. Management's role in assessing and managing climate-related risks and opportunities comprises of:
    - Much of the Environment Agency's work being directly related to mitigation, resilience, and adaptation, and shaped by the changing climate. We are therefore relatively mature in understanding the climate-related risks and opportunities in relation to our outcomes
    - Many of our staff are leaders in different aspects of climate change, for example sitting on external boards or driving forward mitigation or adaptation action

In conclusion, we have high awareness and commitment at leadership levels and an acknowledgement of the criticality of climate risk and clear general governance structure and reporting mechanisms. We need to improve on:

- Consistency in driving the message of climate as 'the main thing' through all strategies and management communications (backed up by employee survey results)
- Clarity around the difference between outcomes (or the change that happens in the outside world), outputs (what we do and produce) and how we deliver those outcomes and outputs

Strategy

It is important to articulate with clarity what is climate-related and what is not. Cost-based climate change related shocks form part of planning, however other issues such as the incremental cost of staff will be not so tangible. Insights from all directorates feed into the understanding of what is climate-related. For example, FCERM Long Term Investment Scenarios[10] and commercial predictions indicate that replacing, refurbishing, and maintaining assets will be more expensive in the future.

Environment Agency government spending review bids are to a large degree driven by climate change, with a large focus on funding for flood risk management and water resources assets and incident management.

Our third Adaptation Report under the Climate Change Act is discussed in the risk section. It summarises our main actions towards 'living better with a changing climate':

- Deliver the national flood and coastal erosion risk management strategy
- Tackle pressures on England's water environment
- Improve the resilience of wildlife species and ecosystems
- Manage environmental climate risks to and from regulated industry
- Prepare for bigger, more frequent, and complex environmental incidents
- Reduce our corporate climate footprint and climate risks

The report focused on our outcomes, and more work could be done to better understand how this relates to Environment Agency outputs which support the delivery of those outcomes.

The Environment Agency's Net Zero Roadmap[11] outlines the actions we will take to cut carbon emissions by at least 45% by 2030. Our carbon footprint is around 273,000 tonnes per year and emissions mainly come from what we call 'the 4 Cs': construction, cars, computing and commuting.

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 by at least 45% 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.

[10] https://www.gov.uk/government/publications/flood-and-coastal-risk-management-in-england-long-term-investment/long-term-investment-scenarios-ltis-2019

[11] https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/989667/EA-net-zero-2030.pdf

Our shift to integrating cost and carbon planning will help us to monitor our progress to net zero. We are developing an integrated cost and carbon emission system to direct appropriate project appraisal. We will soon issue a carbon emission budget for each Area, set over a long-term horizon. This will be managed and rewarded in the same way as we manage other performance.

We have developed a draft Enabling UK Net Zero Plan with governance through the E&B Business Board. This sets out suggested strategic actions to support the UK Government in enabling decarbonisation.

FCERM strategy[12]

The Flood and Water Management Act 2010 places a statutory duty on the Environment Agency to develop a National Flood and Coastal Erosion Risk Management Strategy for England. This strategy describes what needs to be done by all risk management authorities (RMAs) involved in flood and coastal erosion risk management for the benefit of people and places. It supports the direction set by government policy which includes its FCERM policy statement[13] (Defra, 2020e). The strategy's long-term vision is for a nation ready for, and resilient to, flooding and coastal change – today, tomorrow and to the year 2100. It has three long-term ambitions, underpinned by evidence about future risk and investment needs. They are:

- Climate resilient places: working with partners to bolster resilience to flooding and coastal change across the nation, both now and in the face of climate change
- Today's growth and infrastructure resilient in tomorrow's climate: making the right investment and planning decisions to secure sustainable growth and environmental improvements, as well as infrastructure resilient to flooding and coastal change
- A nation ready to respond and adapt to flooding and coastal change: ensuring local people understand their risk to flooding and coastal change and know their responsibilities and how to take action

National drought plan[14]

The Environment Agency has a duty to safeguard water resources in England and to make sure there is enough water available for people and the environment. This will become increasingly challenging in the face of climate change, due to longer spells of hotter, drier summers, population growth and a trend for increasing per-person water use. The national drought framework sets out: how drought affects different parts of England in different ways; which organisations are involved in managing drought and how they work together; and how the Environment Agency and others make decisions, decide on actions to take, monitors, measures, reports and communicates on the impacts of drought.

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

[13] https://www.gov.uk/government/publications/flood-and-coastal-erosion-risk-management-policy-statement

[14] https://www.gov.uk/government/publications/drought-management-for-england

Regulatory strategy

In May 2022 the EA published its Regulatory Statement[15] which covers the strategic regulatory goals and how we will continue to improve regulation and adapt to future changes.

It states that we will:

- Be tough on activities that drive the climate emergency and make sure those we regulate are properly prepared for the unavoidable consequences of climate change and the transition to net zero
- Work with government to shape future environmental regulation outside the EU to ensure we have the flexibility we need to adapt and respond to future environmental challenges
- Make sure our regulation encourages and supports sustainable business and technologies and that all businesses take responsibility for the impact they have on the environment and the health and wellbeing of all communities
- Work with those we regulate to help them embrace eco-design, circular economy approaches and implement innovative technologies
- Develop our use of management systems at permitted sites, giving operators greater flexibility to manage risks, whilst maintaining appropriate controls to prevent and minimise harm to the environment
- Support the development of mechanisms to recognise those going beyond compliance

TCFD recommended disclosures on strategy

Climate-related risks and opportunities identified over the short, medium, and long term

EA2025 sets out in high level terms how we need to work to deliver our outcomes to support society to thrive within a changing climate. However, there is no clear strategy in place which sets out the cross-functional risks and opportunities to the organisation over the short, medium, and long term, nor actions to address these.

The functions which have climate change as their defining issues have assessed risks more thoroughly, for example in our ability to effectively manage floods and droughts. There are significant gaps elsewhere, however, particularly regarding skills, resources and in the regulation of industry.

More work is needed on climate-related opportunities, such as in relation to future funding or the opportunities to influence the organisation's supply chain. These range from new commercial opportunities from the information, advice, services, and innovative technologies we develop to potential carbon reduction approaches and technologies we deploy.

Climate-related risks and opportunities for our business, strategy, and financial planning

The risk of increasing frequency and severity of extreme weather events has driven business continuity planning and government spending review bids. Further work may be helpful to understand how high-level reviews on national technical skills or strength in place reviews can best help with the identification of management action on climate risks.

Climate change is impacting our productivity; our money will not go as far. In some parts of the organisation, this is quite well understood and in other areas, less so. These issues are complex, driven both by supply-side and demand-side pressures, and require an ongoing commitment to understand and manage.

[15] https://www.gov.uk/government/publications/environment-agency-regulatory-statement

The implications of the risks and opportunities on business functions, strategy and financial planning can only be assessed once those risks and opportunities are fully understood. Value chain analysis work has been commissioned to develop that understanding.

Resilience of the organisation's strategy, taking into consideration different climate-related scenarios, including a 2°C or lower scenario

The climate risk assessment of EA2025 has begun to consider strategic resilience. Use of the Long-Term Investment Scenarios as a platform for strategic planning provides a degree of prudence and resilience.

We have a plan for reducing emissions and supporting the UK to adapt to a changing climate, with climate change impacts weaved through our strategies because of the core purpose of the Environment Agency. Our FCERM capital projects to reduce future flood risk make allowances for climate change based on the official UK climate change projections (UKCP) published by the Met Office.

We need is to complete our value chain analysis work to develop a model of activities, outcomes and revenue flows, an assessment by each function of the climate change impacts on their services, under a centrally defined approach on a prioritised basis, and to develop a climate change opportunities plan.

Risk Management

The Adaptation Reporting Power of the Climate Change Act empowers ministers to ask organisations to report on their climate risks and plans for managing them. In our third Adaptation Report to ministers, Living Better with a Changing Climate, Table 2.2 sets out our risks. High severity risks are considered to be those with financial losses of at least 20% of total relevant budget. It concludes:

"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 findings align with the Climate Change Committee's evidence report on national climate risks."

The climate impacts tool[16] was developed in 2019 to help staff to understand potential risks and impacts from a changing climate in our high level strategies and plans.

Work across the Flood and Coastal Risk Management directorate on mitigation, adaptation and resilience is inextricably linked to the increase in flood risk and sea level rise, due to climate change. Identifying and assessing this specific climate-related risk is therefore part of the business function.

The Thames Estuary TE2100 Plan[17] was the first adaptive flood risk management strategy developed in England. It is a trailblazer of the adaptive pathways approach advocated in the National FCERM Strategy.

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16 https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/798032/Climate_impacts_tool.pdf

17 https://www.gov.uk/government/publications/thames-estuary-2100-te2100/thames-estuary-2100-te2100

Long-Term Investment Scenarios[18] (LTIS)

LTIS sets out the national level of investment needed in FCERM, taking into account climate change, how development on flood plains is managed and the future costs and benefits of managing flooding and coastal erosion. The latest set of scenarios were published in 2019 and includes a plausible extreme scenario (high++) in addition to the high, medium and no climate change scenarios of LTIS 2014. The scenarios include the risks of deterioration of existing assets due to increased climate change. The headline findings provide recommendations regarding the level of optimum investment in FCERM as well as an economic basis for adopting different approaches: in combination with conventional FCERM activities, investment in a wider range of activities to reduce risk gives better value.

Detailed information for spending reviews is drawn on to support the future funding needs arising from how climate change will affect our assets.

Climate change allowances[19]

This policy sets out allowances for different climate scenarios over different periods of time, over the coming century, for those conducting flood risk assessments. They include figures for extreme climate change scenarios. Using the allowances helps minimise vulnerability and provides resilience to flooding and coastal change. These allowances are built into business cases, making assumptions explicit about future impacts.

Asset Management Strategy

Our Asset Management Strategy is accredited to ISO55001. The June 2022 ISO audit was focused on climate change and work is being undertaken to embed cross-cutting outcomes, including asset resilience, sustainable choices, and multiple benefits, across the asset management system.

Business cases

Research to inform the infrastructure net zero roadmap has recently been concluded. This covered mechanisms to integrate carbon within appraisals to ensure the carbon impact of a project is fully considered within business cases. The business case template has been amended to ensure carbon emission impacts are made explicit. The Project Cost and Carbon Tool supports this, and carbon reports are required to accompany every business case. More work is required to improve this and also to ensure the strategic case demonstrates how every possible opportunity has been explored to avoid a ‘build’ option.

Supply chain – materials procurement

The availability of materials is of prime importance to flood risk management work. We will be recruiting a lead specialist to work on resource management and promoting and using the circular economy who can help progress this aspect of climate risk. We will face disruption due to the war in Ukraine and rising inflation. The first task will be to establish a baseline of our resource use. From there, we will be able to identify carbon emission hotspots and material risks, for example scarcity or security. This understanding will help prompt the consideration of material risk due to climate change within the design phase. Many of our suppliers are involved in the Major Infrastructure Resources Optimisation Group.

[18] https://www.gov.uk/government/publications/flood-and-coastal-risk-management-in-england-long-term-investment

[19] https://www.gov.uk/guidance/flood-risk-assessments-climate-change-allowances

Research and Development (R&D) Programme

The FCERM Research and Development Programme[20] is a collaborative approach to R&D, using academic led research to provide flood risk professionals with information to manage flood risk. For example, a report on the possible changes in coastal defence vulnerability caused by global climate change over the next 75 years was published in March 2021[21].

More specifically, a report giving information and methods to understand the possible impacts of a changing climate on deterioration of FCERM assets was published in 2020.

The study concludes with an initial high level estimate of the overall total impact of climate change upon FCERM asset deterioration, in terms of the possible level of additional investment required to address the issue. Based upon available data at the time of writing, it is estimated that current budgets for maintenance and repairs may need to increase annually by between 30% and 80%, some £30 million to £75 million per year, to address the greater potential for deterioration.

In addition, upgrading and improvements will be needed for the most affected assets, which could require investment of a further £2.5 billion to £4.5 billion over and above currently estimated rebuild or refurbishment costs. These figures are compared to a baseline estimated from understanding our asset types, their rate of deterioration and estimated costs of repair or replacement. Flood embankments, walls and bank protection make up most of the increased cost requirement. This is due to their specific vulnerability to the effects of climate change, the unit costs to maintain and repair these asset types, and the sheer number of those assets.[22]

An additional project to look at the factors influencing the rate of deterioration is also underway. This will shed more light on the assumptions behind these rates.

The above examples of current activity to understand and manage the impact of climate change on our FCERM work are not exhaustive. Our innovation team are working on low carbon materials, modern methods of construction and other such initiatives. Our understanding is also increased by different application of data, for example using Light Detection and Ranging (LIDAR) data to show asset deterioration curves against different factors over time. Activity towards reducing emissions is captured within the net zero roadmap and the FCERM strategy covers outcomes such as resilience and adaptation.

Water Resources

A new regional planning process aims to take a collaborative approach to planning sustainable and resilient water resources for the next 50 years, through the prediction of supply and demand from all sectors. This includes an assessment of how much water needs to stay in the environment. Underneath these five regional plans are the statutory Water Resource Management Plans and a programme of fast-tracked schemes to plug the gaps, under the Regulators' Alliance for

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20 https://www.gov.uk/government/organisations/flood-and-coastal-erosion-risk-management-research-and-development-programme

21 https://assets.publishing.service.gov.uk/media/602676e0e90e07055499e7e0/Coastal_Defence_Vulnerability_2075_summary.pdf

22 https://assets.publishing.service.gov.uk/media/6038cf198fa8f50494071e3b/Impact_of_climate_change_on_asset_deterioration_-_summary.pdf

Progressing Infrastructure Development (RAPID) process. Climate change is embedded into this planning process, which also includes drought planning.

The National Drought Framework[23] aligns with our operational area drought plans to provide a strategic overview for how we will manage a drought to minimise damage to the environment and to secure essential public water supply. It also provides information for our staff, government departments and the main stakeholders to use in planning for and managing drought which should complement their own drought plans and procedures.

The challenge for the organisation is resourcing input into this planning. Whilst staff can be funded through the RAPID process for input at a scheme level, there is an increasing demand for a more strategic input. We do not currently have sufficient capacity and capability to scrutinise the carbon assessments within those plans.

Sustainable Places

Our Sustainable Places team influence planning strategically, and locally through formal and pre-application informal advice.

Estates

Management of our land and buildings is overseen by both the Environment Agency and Defra. Defra Corporate Property manage our offices and manage all future investment. For assets such as pumping stations, we mainly own and manage these ourselves. The Environment Agency's estate comprises over 17,600 ha of registered land interest comprising of coastal plains, river corridors, farmland, woodlands, wetlands, and brownfield sites, with over a hundred commercial and residential properties and thousands of operational assets.

We also let large areas such as farmland. It is highly fragmented, with over 7,000 different parcels of land averaging 3.3 ha each creating small and often linear sites such as embankments. Approximately 90% of our land supports flood risk management.

Several projects or initiatives are underway which could help inform our understanding:

- The current database does not hold any information on sustainability or climate change, for example natural capital valuation or social value opportunities. EDT in January 2020 approved the development of a Sustainable Land Strategy, having recognised the scope for opportunity provided by our estate, for example in terms of carbon absorption, environmental net gain, public health, and wellbeing and also in terms of generating income and better outcomes by using our land to help others meet their sustainability ambitions
- A project to provide data and evidence to inform our property strategy and feed into the wider Defra group Property Strategy is in the commissioning phase. This will include climate resilience mapping to understand issues such as future flood risk of between two and four degrees Celsius temperature rises, water resource pressures, extreme weather impacts and financial impacts
- The organisational property review is looking at whether our property is fit for purpose, post Covid-19. Climate change will be built into that, as well as the re-run of the Sustainable Business carbon calculator

23 https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/625006/LIT_10104.pdf

- A Depot Strategy Review is looking at how to prioritise investment and climate risk is included in that assessment
- In addition, much of the data is in the form of paper deeds held in archives. A £2.5 million Environment Agency Estates Data Management and Digitisation project is underway to replace existing unsupported and unreliable software which records, maintains, and manages all Environment Agency Estates data relating to our land and property. The new software will meet our Estate function's current and future needs as well as those of our stakeholders; including wider Defra and Cabinet Office, to significantly improve the quality of our data, data sharing, reliability, and compatibility with other systems. It will enhance agile working and increase flexibility in day-to-day activities and the support of capital projects. It will also contribute to Environment Agency assets' carbon net zero ambitions. Through improved access and management of existing data, it will enhance our demonstration of contributions to Natural Capital and Biodiversity Net Gains

Fleet

The focus of climate action for fleet is more preventative rather than reactive, with impacts being more indirect given everything is mobile. Our fleet comprises a significant component of our emissions and is therefore given prominence in the Environment Agency's Net Zero Strategy. Performance measures include 'road to zero emissions' as the priority is to reduce emissions, including across the manufacturing supply chain, in addition to the more strategic business question of whether we can deliver with fewer vehicles or reduced mobility.

Ultra-low emitting vehicles across the fleet is a government requirement. Electrification of the fleet is therefore underway, with some concern regarding the transfer of the carbon risk to lithium batteries. Alternatives such as green hydrogen are also being explored. Ultra-low emissions vehicles that we own or lease represent 20% and zero emissions vehicles comprise 8% of the fleet.

The whole life cost of individual assets has been considered, although not collectively as a fleet. This has shown renewable energy to be cheaper, but the complete picture of the overall cost of the transition is currently unknown.

In addition to the 'zero tail pipe' ambition, climate change presents several challenges, for example limited consideration is being given to the impact of climate change on procurement of materials. More thinking will need to be undertaken around the financial and carbon impact of the types of plant and vehicles that will be needed operationally in a changing climate. An increase in extreme weather events will lead to an increase in certain types of fleet assets. Many pumps are shipped in at heavy carbon cost, for example those used on the Somerset Levels were brought in from the Netherlands. Staff may struggle to get to where they need to during more extreme weather events and may therefore require different types of vehicles.

A speedier transition than expected within fleet has been helped by both the immediacy of some of the extreme weather events highlighted recently across the media and the emphasis on public health and air quality in urban environments. This has led to significant achievements in a short space of time.

Summary on risk management

The TCFD included three recommendations related to disclosure of how the organisation identifies, assesses, and manages climate-related risks, which were to:

1. Describe the organisation's processes for identifying and assessing climate-related risks.
   The organisation processes are those set out in section 4 of the governance statement.

2. Describe the organisation's processes for managing climate-related risks.
   Whilst no specific separate risk management process is set out explicitly in policy or process in relation to climate risk, normal business management processes (such as business continuity, business risk management etc) apply. These are in turn monitored by internal mechanisms such as quality and internal audits.

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

   As noted above, the organisation is culturally focused on the climate emergency and so there is an awareness of the need to consider climate-related risks within daily activities and risk management, with the financial impacts to be raised as part of financial reporting. It is clear that climate change will in future leave us with new or increased liabilities, and these are potentially wide-ranging but not always well understood. Applying the TCFD can help identify those liabilities and consider how to manage those risks into the future.

   Overall, we have action to identify risks, for example scenarios for use in flood risk investment and R&D in this area, and some studies underway for Estates, and mature standard business processes that can be applied to TCFD requirements. We will need to:

   - Undertake a co-ordinated and consistent assessment between Environment Agency and Defra managed corporate enabling services and across different functions within the Environment Agency.
   - Incorporate a transition component into the Regulated Industry strategy
   - Undertake an organisational wide assessment of the skills needed for climate change transition with specific attention given to the services we provide
   - Consider our approach to resource deployment: incidents, legacy issues around oil and gas, new technologies, competing demands
   - Specific heightened consideration of liabilities
   - Invest in an updated National Flood Risk Assessment (NAFRA2), a new national model that will provide the tools to consider new climate change scenarios and query the impacts of potential investment options, build on and update the Long Term Investment Scenarios, revise Shoreline Management Plans, Water Resource Management Plans, and continue to provide updated advice to Ofwat and water companies as part of their regulatory investment price review cycle

Metrics and targets

The TCFD included two recommendations for disclosure of metrics and targets used to assess and manage relevant climate-related risks and opportunities:

1. Disclosure of the metrics used by the organisation to assess climate-related risks and opportunities in line with its strategy and risk management process - Four of the ten operational corporate scorecard measures as presented in the Performance Report are directly related to the climate emergency

2. Disclosure of 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

In some areas of our organisation climate risks accumulate, and our income and expenditure will be impacted by transition and physical climate change. As the country transitions to net zero, new demands will fall to those Environment Agency teams delivering regulation, both to respond to new technologies and to deal with legacy issues of industrial de-carbonisation. Funding for those teams is reliant on a charging model that historically has assumed little change and going forward may need to evolve more dynamically. Climate change will drive more incidents and as many of those teams are active in incidents, this will challenge their ability to provide regulatory advice to site owners, further impacting charge income tied to time and materials.

In other areas our expenditure will not go as far. We do not yet have a systematic understanding of risk within departments - how our income or our productivity is going to be affected and how to take that information into our business and financial planning or strategy development.

There is limited but growing evidence of the consideration of new climate-related opportunities within the Environment Agency, beyond the work of our future funding team and in the FCERM directorate. Examples could include new commercial opportunities from the information, advice, services, and innovative technologies we develop, potential new technologies we deploy or actions to address the reduction in our productivity. We need to develop plans to maximise these opportunities.

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 improving our case for future spending reviews. A more complete TCFD analysis in future will help us deliver more value from the information we already hold. It can provide the framework to help us ask the right questions, probe a little deeper and draw things together to inform the bigger picture.

J.D. Bevan

Sir James Bevan, Chief Executive and Accounting Officer

19 October 2022

Accountability Report

The Accountability report consists of the:

- Corporate Governance report – this sets out the Environment Agency's 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 the Environment Agency
- Parliamentary Accountability and Audit report – this covers the main activities of the Environment Agency, 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 the Environment Agency 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 March 2022, the same as in the previous year. The fee for the statutory audit is £265,000.

As far as the Accounting Officer is aware, there is no relevant audit information of which the Environment Agency’s 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 Environment Agency’s 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.

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
- The Environment Agency is an efficient and effective organisation

As at 31 March 2022, the Chief Executive and thirteen 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. This financial year, the topics discussed during ministerial meetings included:

- Water management
- Climate change
- Agriculture
- Fisheries
- Flood risk management
- Helping the country respond to the Covid-19 pandemic
- The Spending Review and the Environment Agency's funding

2.2 Board duties and responsibilities

The Board are responsible for:

- Agreeing strategic direction
- Agreeing objectives, policies and strategies and the performance of executive management.
- Agreeing internal governance arrangements and structure
- Controlling and monitoring the financial status of the Environment Agency and its performance
- Ensuring an adequate system of financial and other controls are in place and operating effectively
- Ensuring sound and proper policies in relation to risk management, health and safety and corporate governance are in place
- Ensuring adequate succession and remuneration arrangements are in place

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 4. 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

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:

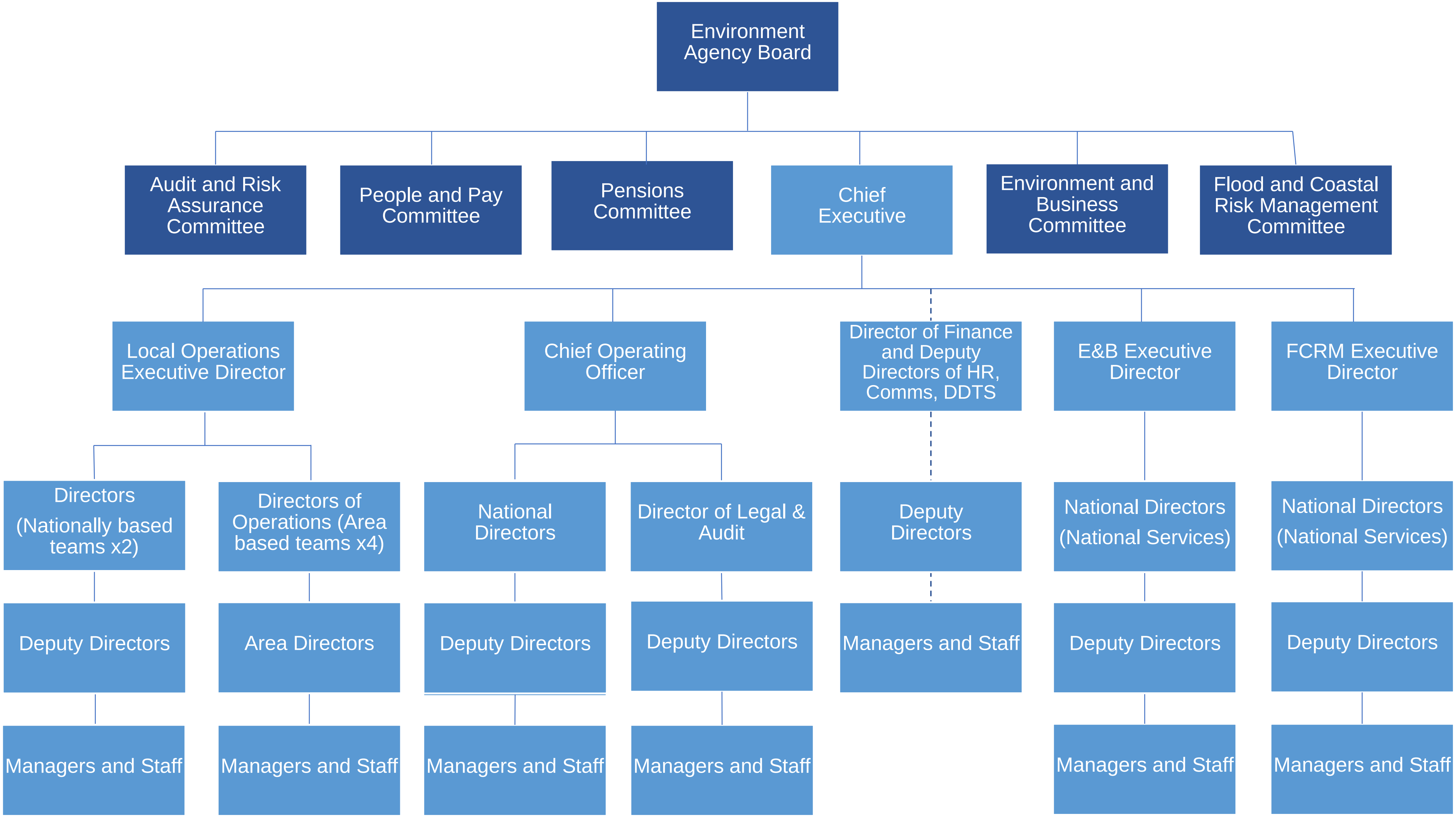
- Flood and Coastal Risk Management
- Environment and Business
- Local Operations
- Chief Operating Officer

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 Environment Agency. 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, Human Resources, and Digital, Data and Technology Services (DDTS). In addition, an Equality, Diversity, and Inclusion Co-ordinator joins EDT meetings. The team can be seen in Figure 4 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 4: Environment Agency organisational reporting lines, including committee board structure



2.5 Structures and governance

The Environment Agency has business boards which bring together national and operations directors to ensure national and operational teams work together effectively.

This is a key part of the Environment Agency's internal oversight processes. There are three business boards – Flood and Coastal Risk Management, Environment and Business, and the Organisational Business Board, with the first two boards focusing on specific activity relating to that business area, and they are all supported by portfolio working groups. The Organisational Business Board provides oversight and strategic direction on cross-cutting topics, delivering one-business leadership with representatives from across the Environment Agency.

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

Area, national operations, and 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.

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.

The Environment Agency has gained assurance from the Cabinet Office's 2021-22 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 2021-22 Audit Plan together with their knowledge of the business from the Government Internal Audit Agency (GIAA).

The assurance opinion provided by PwC for the 2021-22 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 2021-22 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 they are required to make an annual declaration of memberships of other organisations' boards and any conflicts of interest. 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 17.3 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 declarations, which is open to public inspection on gov.uk. The Board's Audit and Risk Assurance Committee (ARAC) review the details of the board and senior executive declarations annually.

3. Effectiveness of EDT and the Board

EDT held their annual evaluation exercise in January 2022 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 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 to further engage with Business Boards and Committees to provide a more efficient and swifter flow of strategic decisions through the business
- To focus on ensuring robustness around its record keeping and action tracking to give strong assurance, and to ensure that it is following good practice

In October 2021, the Board met to evaluate its collective effectiveness as a group. The Board considered successes and areas for improvement across the themes of: support and challenge; strategic focus; adding value; and ways of working post Covid-19 lockdown.

The Board discussed the key findings identified in the Board evaluation survey and agreed:

- The Board should be involved in the early shaping of strategic issues, allowing space for better challenge and support
- Board members would clearly and openly communicate offers of support and share expertise.
- The Chairs of Committees forum would be further developed to review governance of cross-cutting issues such as climate and water quality
- Formal meetings would be held in person, supported by operational visits where possible. Hybrid facilities would be provided for presenters to minimise travel
- Board visits would re-start, both at an individual and group level, with a focus on engagement, operational insights, cross-cutting issues and gathering intelligence

3.1 Data quality

The Board acknowledges that good data is fundamental for effective strategic and operational decision making. It recognises the opportunities and risks data quality brings to the efficient use of Environment Agency resources. Our approach is aligned to the Government Data Quality Framework[24].

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, the Environment Agency 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. Our ISO55001 re-certification audit was conducted between February and March 2020 and observed a need to improve data quality. The introduction of new IT including the Asset Information Management System: Operation and Maintenance (AIMS: OM) during 2021-22 is helping to improve asset data.

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.

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

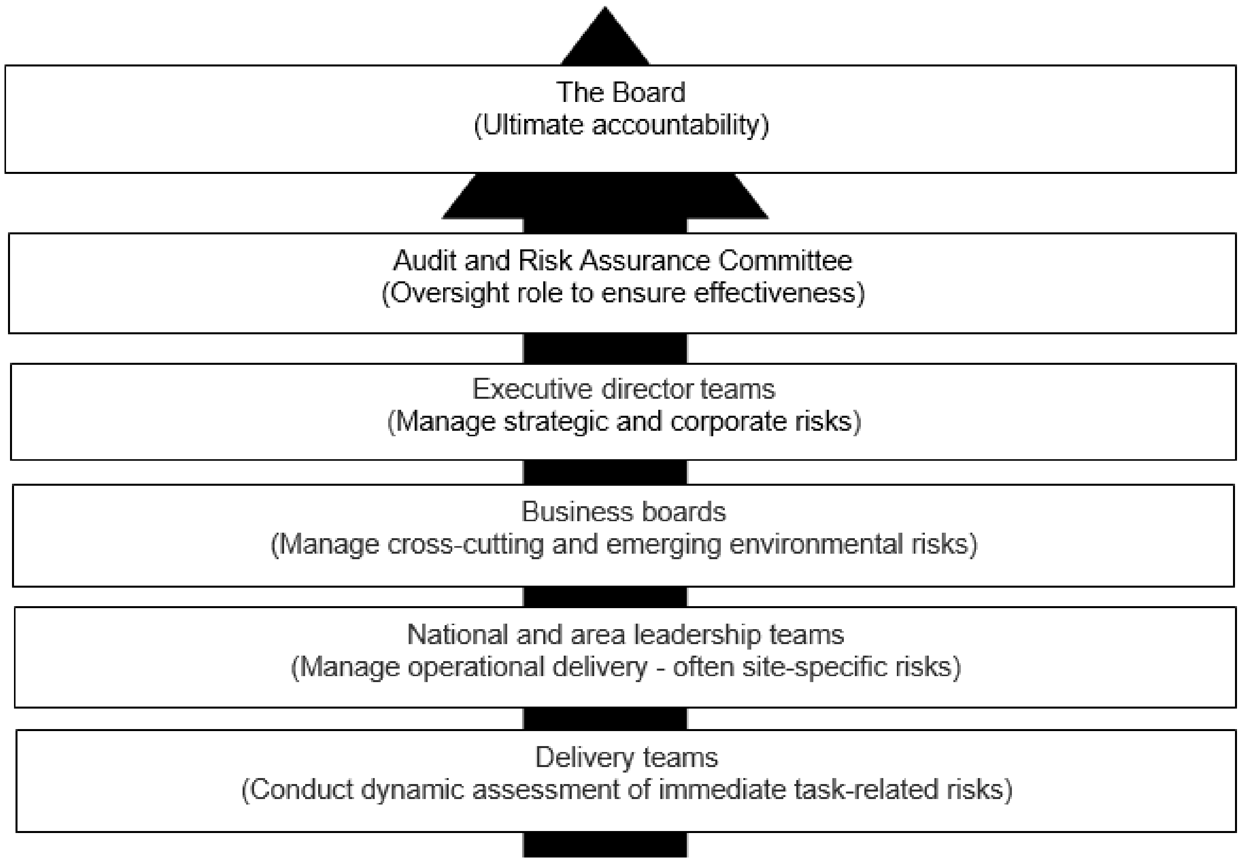
The ARAC Chair is a member of the Defra Audit and Risk Assurance Committee, supporting and advising the Defra Board and the Defra Principal Accounting Officer on issues of risk, control and governance.

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. 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.

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.



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

We have a consistent approach to risk management across the organisation. 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.

The Environment Agency’s risk management approach is dynamic and can flex according to changes in circumstances. For example, at the start of the 2020-21 financial year the focus shifted to risks associated with the Covid-19 pandemic and it was included on the corporate risk register. The emphasis has now changed, as we start to focus on our return to workplaces, and the new risks we are monitoring relate to the resilience, morale and wellbeing of our staff and the generally higher turnover, difficult recruitment environment and the high cost of living.

Other changes to the corporate risk register in the 2021-22 year included an alteration to the risk on water quality with the addition of water quantity, recognising the increased risk to future supplies and reflecting the additional challenges in achieving the government’s objectives for clean and plentiful water.

The climate emergency risk was split into two separate risks, reflecting the substance and differing nature of the two constituent risks previously captured as one overall risk. The specific risks are that we fail to achieve net zero within our organisation and that we fail in our climate adaptation work.

Following the changes to ways of working brought about by the pandemic, the organisation has been able to revert to the traditional approach of managing risks and those 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

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, and doing the right thing.

5.2 Internal Audit assurance

Each year, the Executive Directors' Team and the Audit and Risk Assurance Committee agree the annual internal audit plan, taking a risk-based and prioritised approach to identify aspects of the business that should be audited.

The Accounting Officer is advised on internal control matters through audit reports and other papers and presentations at EDT meetings. The ARAC also reviews and acts on our internal audit reports. A substantial number of audit reports within the annual audit plan consider matters of compliance and propriety and provide assurance on good governance.

The Head of Internal Audit submits an assurance statement to the Chief Executive each year, outlining the adequacy and effectiveness of our risk management, internal control, and governance processes, based primarily on our internal audits.

The Internal Audit team provided assurance on the management of risks associated with 32 business areas in 2021-22. The team reported an overall ‘oderate’ assurance rating on the adequacy and effectiveness of our arrangements for corporate governance, risk management and internal control. ‘Moderate’ means that some improvements are required to enhance the adequacy and effectiveness of the framework of governance, risk management and control.

Those subjects considered in the 2021-22 internal audit report to require specific consideration in the governance statement have been so reported in section 6 on risk management.

Internal Audit assurance opinions, compared with previous year

	2021-22	2020-21
Substantial	8%	9%
Moderate	59%	64%
Limited	33%	27%
Unsatisfactory	0%	0%

A total of 101 management actions were agreed during 2021-22 to address the issues identified during internal audits from 32 audit reports. Implementation of management actions is tracked and followed up to ensure that they have been properly implemented by their due dates. 54 of the 101 actions this year are Priority 1 management actions compared to 47 last year. The increase in the number of actions reflects a continuing focus on audit reviews within the highest risk areas, coupled with the organisation’s changing risk profile during the last financial year. There has been a marked increase in requests from the business to provide assurance or clarity around emerging issues as evidenced by our in-year consultancy work.

During 2020-21, we agreed a large number of management action date extensions due to the pandemic’s impact on the business, but no further date extensions have been agreed for this reason during the 2021-22 financial year. Currently, only one Priority 2 action is overdue.

An internal audit found two instances of non-compliance by River Arun Internal Drainage Board (IDB) during 2021-22. These concerned a failure to meet the publication requirements for the 2020-21 Annual Governance and Accountability Return. Management action was taken, and a timetable was developed and is held on the Arun IDB permanent management record to show the publication dates required. This will minimise the risk of non-compliance in future years.

Public sector internal audit standards require an external quality assurance (EQA) review of internal audit services to be undertaken at least once every five years. An EQA of the Environment Agency Internal Audit function was conducted by the Chartered Institute of Internal Auditors in October 2020. The review found that the Environment Agency Internal Audit function:

- is excellent in its
    - focus on performance, risk and adding value
    - operating with efficiency
- is good in its application of the internal audit standards
- is satisfactory in its
    - co-ordinating and maximising assurance and
    - quality assurance and improvement programme

The review report concluded "this is a very good result and the Head of Internal Audit, and the Internal Audit team should be proud of their service, its approach and - in particular - how key stakeholders value it".

The EQA Improvement Plan includes eight recommendations and seven minor improvement opportunities. The Internal Audit team have completed seven out of eight recommendations and four out of the seven opportunities have been addressed with assigned completion dates set for the three minor remaining opportunities. The ARAC has noted the results of the EQA review and is satisfied with the quality and value for money delivered by the Environment Agency's Internal Audit function.

5.3 National Audit Office value for money reviews

There were no published value for money reviews from the NAO that directly involved the Environment Agency in 2021-22. There was an exploratory analysis of Environment Agency data focussed on storm overflows, published in September 2021.

The purpose of this analysis was to provide contextual data to support the Environmental Audit Committee's inquiry into water quality in rivers and set out areas for further consideration. There were several points listed for further consideration by the committee:

- Insights from the monitoring of spills from storm overflows
- How this relates to the amenity of the receiving waterbody
- Insights from pollution incidents from storm overflows reported to Environment Agency and
- Summaries of water quality sampling, enforcement actions against water companies and Environment Agency's income and funding

5.4 External accreditation

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

In July and September 2021 and February 2022, the external ISO auditors, Société Générale de Surveillance UK Ltd (SGS) conducted an ongoing surveillance audit to show continued compliance with the 2015 version of the international standard for quality management (ISO9001) and environmental management (ISO14001). The audit focused on all elements of the ISO standards, particularly the demonstration of leadership and staff awareness of our corporate commitments to internal environmental management and a quality management system.

The Environment Agency 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 into the future, and progress was shown on improving on resources however these minor non-conformities continue. Two additional minor non-conformities were identified, regarding document management and internal audit. These four non-conformities are now part of an improvement plan. A surveillance audit is planned for June 2023.

6. Material issues, significant risks, and mitigation actions

6.1 Material issues

We recognise that focussing only on today's issues makes it more difficult to anticipate and be responsive to longer term risks and opportunities. It is evident that 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. The climate and biodiversity emergencies show how global environmental issues will affect every aspect of our lives, and the legacy of the Covid-19 pandemic will have philosophical and practical implications for the environment and our relationship with it.

In the past year, we have considered 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 for people and biodiversity. 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.

We considered 11 big, global issues that are relevant to the Environment Agency. These were:

- Climate Change
- Long-term Planning
- Government approaches to sustainable development
- Demand for water
- Changing public attitudes
- Urbanisation
- 4th (& 5th) industrial revolution
- Social inequality
- Disease
- Changing food systems
- Changing coastlines

We invited external stakeholders to rank these issues according to their importance and their potential to impact the Environment Agency and its work. Our internal experts and external stakeholders judged that climate change, long-term planning and government approaches to sustainable development are the issues that are likely to be the most important and the ones that would have the biggest impact for the Environment Agency. Our stakeholders shared insights on what businesses and the public expect from our organisation and the potential for that to conflict with our corporate strategies. We will need to work harder to explain our role, its limitations and where others need to partner with us to address new and emerging risks to the environment and people.

Stakeholders recognise that the three issues they have highlighted are highly related and interdependent. For example, our changing climate introduces new challenges for setting and achieving environmental and societal objectives over longer planning timescales.

Changing environmental conditions may mean that historical targets are no longer desirable or achievable, and we may need to balance new demands on the environment to achieve net zero and other objectives. As an organisation we will need to help inform and shape these discussions about the role and value of the environment in protecting nature and supporting essential services for people and society.

We are committed to reviewing our eleven global issues each year to track any changes to the internal and external context that could affect their impact and importance. 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.

Climate Change (Net Zero and Adaptation)

Achieving net zero requires decarbonisation across all sectors of industry including energy, transport, and health amongst others. However, many of the low carbon energy technologies that are currently available to these industries have not yet been proven at scale. Furthermore, we do not yet understand the potential environmental impacts of these technologies in the longer-term.

At the Environment Agency, we are particularly interested in any potential conflicts or trade-offs between net zero and other policy areas. For example, natural sequestration schemes such as tree planting, will reduce carbon emissions but whether this benefits functions such as biodiversity will depend on how they are planned and managed. For climate change adaptation, understanding when and how to initiate adaptation measures can be challenging because the outcomes of those measures are uncertain. Therefore, organisations need to develop flexible approaches that account for uncertainty.

Long-term planning

The UK has ambitious environmental goals, but these have yet to be matched with the practical actions in the shorter term that will put us on the right path to achieving them. The challenge for long-term planning is that the future is uncertain and limitations in scientific understanding mean that it is difficult to identify the size and timing of future impacts. New decision making approaches that accommodate this future uncertainty, like pathway approaches, are starting to be developed to address this problem.

Short-term planning makes it hard to create robust strategy and there is a significant risk that sectors will create their own long-term plans resulting in an uncoordinated approach that will not only be difficult to regulate but will not achieve the UK’s environmental goals.

However, it is difficult to create long-term plans when there is so much uncertainty around issues such as climate change. What we can control is how transparent we choose to be with those uncertainties. By acknowledging where we have vulnerabilities and highlighting unintended consequences, we can build-in more flexibility around regulation and targets. We are therefore more likely to meet our own environmental ambitions while providing more targeted advice to those we regulate.

Government approaches to sustainable development

The economic and social impacts of the pandemic have started a global conversation about "building back better". This is a strategy aimed at reducing the risk to the people of nations and communities in the wake of future disasters and shocks. Alongside this is the "levelling up" agenda that aims to provide equal opportunities for people and communities that feel they have been left behind.

As impacts to the economy continue to grow following Covid-19 and the war in Ukraine, the level of investment required for a green recovery may be difficult to achieve. Furthermore, the lack of a skilled workforce is a particular barrier to the building back better ambition. Currently, net zero is dominating the environmental agenda but this may change as other issues such as flooding, and biodiversity loss gain greater political and media attention.

Land use change and conflict is an important issue within the UK. For example, there is a conflict of interest between agriculture and land use for carbon capturing and storage. These conflicts of interest are already manifesting as cultural and social issues in predominately agricultural areas. This may require changes to land use policies.

In growth areas, tighter building regulations around carbon and water efficiency, biodiversity and net gain will provide good environmental outcomes. Delivering well thought out developments will help to reduce social inequality in line with the levelling up agenda.

Risk management

During 2021-22, 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.

A new risk for 2021-22 borne out of the need to split the previous single risk of climate change, to reflect the substance and differing nature of the two constituent risks.

Key mitigations

- An internal audit has been carried out during 2021-22, which identified the need to strengthen the governance and delivery arrangements for the Preparing for Climate Impacts Plan
- Recommended management actions will be implemented during 2022-23
- Benchmarking our corporate adaptation capability against the relevant international standard, ISO14090

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 includes 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 sets out 54 actions, the Preparing for Climate Impacts Plan, to be delivered over the next five years. Along with the actions in a separate Enabling UK Net Zero Plan, these actions form the basis of a corporate scorecard measure. The report also 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

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.

This is a new organisational risk in 2021-22. This risk has been split out from the previous single ‘Climate Change’ risk, to reflect the substance and differing nature of the two constituent parts.

Key mitigations

- Developing carbon budgets to integrate carbon emissions alongside cost in our decision making
- Net zero considerations are being woven into our business decision making processes such as through appraisal guidance and business case templates for FCERM construction schemes where most of our emissions lie
- Our corporate scorecard now includes 'Total Carbon Emissions' which includes our supply chain emissions

This risk focusses on the Environment Agency's ability to deliver organisational net zero by 2030: an ambition commissioned by EDT and the Board, in autumn 2019.

Achieving organisational net zero will enable the Environment Agency to "walk the walk" and play a 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. Risk mitigation activity in 2021-22 included:

- Production of a new net zero plan/roadmap containing actions to reduce emissions to our target 45%. Progress is being reported quarterly to the Organisation Business Board, with exceptions to EDT twice a year
- Construction (phase 1) of a new carbon emission data dashboard, to bring visibility of emissions down to team level and enable teams to see how they are doing against their new carbon budgets
- Enhancement of the visibility of carbon in 2022-23 within our corporate scorecard: which will now include total carbon emissions (across Scope 1, 2 and 3 i.e. including supply chain emissions) for the first time
- Delivery of a new package of carbon emission literacy training, which is now available to all staff, suppliers, and Defra colleagues

Exploration of the other side of the net zero equation – emissions removals – including modelling of how we might deliver the necessary absorption of carbon in the future.

6.2 Staff Health & Safety

Risk: The Environment Agency does not manage the health and safety risks to staff, leading to injury and failure to meet statutory duties.

No change in residual risk from 2020-21.

Key mitigations

- Enhanced leadership
- Review of risk controls for higher risk activities
- Extended training for line managers
- Improvements to risk management processes for asset maintenance and operations

The review into the tragic death of a colleague during the previous year identified some key actions to address issues in our ability to manage the hazardous activities that we undertake. The resulting plan led to some activities being stopped and others paused whilst their health and safety controls are revisited. Some activities have been re-started with improved controls 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 Staff resilience, morale and wellbeing

Risk: The impacts of the cost of living increases and issues with recruitment and retention affect the morale of staff and our ability to operationally deliver. A failure to manage these risks may also result in an impact on staff wellbeing.

This is a new risk for 2021-22.

Key mitigations

- We are progressing a range of both tactical and strategic interventions to recruit into our vacancies
- We are exploring opportunities for a transformation and future pay case for 2023
- We are reviewing the support available for colleagues with neuro-diverse conditions

The UK's post-Covid-19 economic recovery has been significantly impacted by the war in Ukraine, which has increased the scale of global inflation and the degree of uncertainty ahead. The highest rate of inflation in 40 years is, as for many others, causing a continued squeeze on staff's finances, as pay is unable to rise proportionately.

We currently have a vacancy gap of approximately 1,200 FTE, representing the difference between the number of people we have employed and the number of affordable posts we have. Once we factor in the impact of our increasing turnover, we estimate that this gap is likely to widen by an additional 800-1,000 FTE.

There are several reasons for this, including an increase in turnover over the year (currently standing at 6% compared to 4% at the same point last year) and the funding we have received for additional posts through SR21 and Water Resources Strategic Review of Charges. The current jobs market is very buoyant making it harder to attract and retain suitable staff.

As a result, EDT recently recognised these two factors as posing a significant risk to staff morale and our ability to deliver our targets and so elected to include a new risk on the corporate risk register for the last three months of 2021-22. This was supported by the Environment Agency's Audit and Risk Assurance Committee.

We have a programme plan in place and are progressing a range of both tactical and strategic interventions to recruit into our vacancies and look at our longer-term strategy for workforce planning, attraction, recruitment, and retention, as well as looking to improve the diversity and inclusion of our workforce. Given the challenge around our vacancies we are looking at innovative ways to address this given its size and scale. We are exploring solutions with HR and producing options for EDT to consider.

We are exploring opportunities for a transformation future pay case for 2023. We are also progressing work to ensure that our holistic employee offer is visible to staff so they can take full benefit from the offer, including employee roadshows to make these services more accessible.

We are mindful of the impacts the current challenges facing our staff both inside (workload and vacancies) and outside of work (cost of living and anxiety linked to world events) may have on their mental health and wellbeing. We have launched our new Wellbeing plan, but we also continue to re-shape and evolve the support we offer. For example, we are reviewing the support available for colleagues with neuro-diverse conditions: the pandemic led to a four-fold increase in occupational health referrals for these conditions.

Feedback from line managers tells us that this group are particularly impacted by these challenges with some reporting digital working is adding additional pressure. We have set up a small group to establish quick-win mitigations and commissioned a review to refresh the role and expectations of a team leader in Q3 2022-23.

We also recognise the impact that our recruitment gap has on the capacity of our existing workforce to both deliver our commitments (with less staff) and to recruit and induct new starters. We are looking to provide additional support, guidance, and mitigation to help bridge the capacity gap that we currently face, however, we should recognise that in the short to medium term this may impact upon our ambitions, as set out within EA2025.

We are accordingly needing to be wary of taking on any major new responsibilities.

6.4 Asset failure

Risk: Environment Agency assets fail, leading to not being able to fulfil our objectives, potentially resulting in harm to people, the environment, and critical infrastructure plus the loss of services.

No change to residual risk from 2020-21.

Key mitigations

- Internal audits ensure that there is a risk-based approach to asset management
- We have introduced a new asset information management system
- We are undertaking the following
    - Asset repair programmes – using available funding to repair assets damaged during floods over the last two years
    - Inspecting all assets impacted by the floods – this has been hampered by Covid-19 restrictions, but we are reducing the backlog of inspections
    - Mitigation and contingency plans to reduce the risk of asset failure while waiting for repair

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.

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.

During 2021-22, we introduced a new asset information management system for asset operation and maintenance (AIMS OM). This new IT system has combined data from multiple historic systems. It was initially implemented in 2021 for Flood and Coastal Erosion Risk Management assets and is being adopted for all other types and functions of infrastructure assets during 2022-23.

The transition of historic data into the new system has required significant data quality improvements and this affected the accuracy of our asset condition reporting at the end of 2021-22. We are working to improve asset data quality and are confident that future reporting will be both accurate and effective.

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.

A new Asset Management Strategy is being developed for implementation in 2022-23 which will align with the objectives of the FCERM strategy and enable an improved delivery plan.

FCERM assets in high consequence systems have been below the target of 98% at required condition for the past three years. 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.

The risk of asset failure increases when there is a greater number of assets below required condition and when assets are in poor condition. To address this, we are undertaking the following:

- Asset repair programmes – using available funding to repair assets damaged during floods over the last two years
- Inspecting all assets impacted by the floods – this has been hampered by Covid-19 restrictions, but we are reducing the backlog of inspections
- Mitigation and contingency plans to reduce the risk of asset failure while waiting for repair

To return assets to the required condition requires further funding over a longer term. The spending review 2021 (SR21) increased resource funding for asset maintenance and this will allow us to maintain 94-95% of Environment Agency assets in high consequence systems at their required condition until April 2025. This level of funding is however below the level we need to achieve and sustain our target of 98% of high consequence assets at required condition.

6.5 Information Technology (IT) stability and security

Risk: The ageing and increasingly obsolescent nature of the Environment Agency and Defra IT estate, the increasing external threat landscape from cyber-attacks, and shortfalls in security culture, could result in widespread failure of essential IT systems and services, impacting our ability to deliver outcomes.

This is an adjusted residual risk from 2020-21 for 2021-22.

Key mitigations

- An extensive rollout of modern IT devices
- Working with Defra group Corporate Services to develop and launch new Security and Data Protection training
- Significant investment in corporate and line of business IT

Although we retain accountability for our business capability and security management, we are reliant on Defra group Corporate Services for most of the practical mitigation measures that might be implemented.

During 2021-22, Defra's Digital, Data Technology Services (DDTS) function delivered a substantial, and ongoing, programme of modernisation, alongside Environment Agency led initiatives. This included extensive rollout of modern devices, and initiation of migration to secure hosting and replacement of corporate systems with modern alternatives. The Environment Agency is managing the impacts to the business through the Director-chaired IT, Data and Systems Group which reports into the Organisational Business Board.

The Environment Agency has continued to drive improvements in security culture, including working with Defra group Corporate Services to develop and launch new Security and Data Protection training. The Environment Agency has participated in group-wide and internal exercises to test our cyber security management and response plans. The Environment Agency continues to deliver regular security communications to colleagues with a specific focus on business continuity and individual actions, with a recent focus on increased risks due to events in Ukraine.

The Environment Agency worked closely with DDTS to secure significant investment in corporate and line of business IT from SR21. Subject to delivery risks, this investment will address the most critical areas of IT and cyber security risk over the next three years.

6.6 Regulation

Risk: The Environment Agency is at risk of failing to protect people and protect and/or improve the environment as required through our regulation.

The main areas at risk are:

1. That we fail to shape and then implement regulatory reform in response to government's ambitious regulatory agenda
2. That our funding pressures prevent us delivering our statutory regulatory powers and duties across four areas of regulatory risk: future strategy, permitting, compliance and enforcement.
3. That we fail to effectively communicate our funding position
4. That we fail to deliver our regulation to the level of quality and consistency required.

This is a new risk for 2021-22.

Key mitigations

- We are contributing to, and implementing the Better Regulation Initiative, Environmental Licensing & Permitting Review, major waste reforms, regulating innovative technologies, Future Farming Programme, Sludge Strategy, UK Best Available Techniques (UKBAT) guidance, and implementing our Regulatory Strategy, which sets the strategic direction
- We're progressing an end-to-end service review of grant-in-aid (GiA) allocation and the activities it funds using value for money and value chain analysis work to explore how we can secure a longer term sustainable financial position
- We have implemented a Funding & Investment Delivery Plan of the Water Resources charging scheme
- Our Business Boards are commissioning work to address regulatory pressures because of growing public awareness and interest in the environment and nature

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.

In 2019, methane emissions from landfill sites we regulate fell by 5%, whilst greenhouse gases from industries we regulate fell by 8%. We are also supporting the transition to low carbon electricity through our regulatory role on the nuclear new build programme.

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. We successfully delivered over 98% compliance for each.

Our regulation continues to successfully deliver outcomes for the environment, people, and wildlife, however there is more to do. This is the reason for regulation being identified as a new corporate risk. 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 and prosperity 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 through failing 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.

The Environment & Business (E&B) Directorate is working on several fronts across Defra and the Department for Business, Energy and Industrial Strategy (BEIS). We are contributing to, and implementing:

- The Better Regulation Initiative
- Environmental Licensing & Permitting Review
- Major waste reforms
- Regulating innovative technologies
- Future Farming Programme
- Sludge Strategy
- UK Best Available Techniques (UKBAT) guidance
- The Regulatory Strategy, which sets the strategic direction

Our E&B Business Board commissioned work to identify funding needs and opportunities whilst ensuring we deliver value for money:

- They secured funding through the latest spending review (SR21) to support our regulatory shaping work of major waste reforms, our UK Best Available Techniques (UKBAT) guidance, Air Quality work, and for the digital Regulatory Services Programme. We are however waiting for confirmation on the level of savings we will need to find during the SR21 period
- We are progressing an end-to-end service review of grant-in-aid (GiA) allocation and the activities it funds using value for money and value chain analysis work to explore how we can secure a longer term sustainable financial position
- We implemented a Funding & Investment Delivery Plan of the Water Resources charging scheme

Our E&B and Organisation Business Boards are commissioning work to address regulatory pressures because of growing public awareness and interest in the environment and nature, competing delivery priorities and changes in our sources of funding for regulatory activities

- We have conducted a review of our regulation, which encompassed funding, skills, workforce planning, governance, and performance assurance, including the Water Industry Regulation Taskforce. Actions from the review are now being delivered through business-as-usual teams
- We have established a Permissions Services Improvement Programme to bring about improvements
- We have set up a planning, performance, and assurance review through the Planning & Performance Improvement Programme & Operations Delivery Board
- We have created a new corporate scorecard measure for regulation that since April 2022 captures data on percentage compliance, our poorest performing sites and those not assessed. The Operations Delivery Board will oversee performance against the measure and so secure action to mitigate this risk
- Our business delivery groups are leading initiatives to prioritise activity against risk as well as aligning regulatory activity with available funding, such as for environmental incident management, enforcement, communications, and engagement

We continue to influence our strategic communications plan, emphasising the need for and role of regulation in delivering benefits and outcomes for the environment and communities.

7. Ministerial directions

The Environment Agency received no ministerial directions during 2021-22.

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 civil society groups and charities for work delivering Water Framework Directive objectives. In 2021-22, grants were made available to each catchment partnership to support the maintenance of partnerships across England's catchments to deliver a catchment-based approach to water, land, and flood management. These host organisations were selected following an open bidding process as part of setting up the original Catchment Restoration Fund. The grant manager for the fund is responsible for its assurance. We require summary reports each year to ensure that hosting and capacity building has been delivered within the financial year.

Since 2017, we have administered Catchment Partnership Grants on behalf of Defra under section 70 of the Charities Act 2006. Catchment Partnership Grants fund interventions which:

- Manage rural pollution
- Manage pollution from towns, cities, and transport
- Improve modified physical habitats
- Manage non-native invasive species
- Improve coastal and estuarine waters

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

9. Data security

The Environment Agency's Data Protection Officer, data protection practitioners and legal advisors are available to provide advice and guidance to all staff across the organisation and to respond to customer enquiries where necessary. New and updated policies and compliance tools are published throughout the year, supported by staff training and awareness-raising.

In 2021-22, we were not required to report any breaches of the data protection legislation to the Information Commissioner's Office (ICO), which regulates the legislation. However, in May 2022, there was a breach reportable to the ICO. This involved an accidental disclosure in response to a freedom of information request. We also discovered a non-reportable breach in the same month.

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, very few (12%) were live email accounts, and access to our systems could not be gained with this information.

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 2021-22 total 44,379 (2020-21, 42,059), an increase of 2,320 (6%). The average response rate for FOI requests was 20 working days against an average response rate of 29 working days in 2020-21. The ICO requirement for FOI responses is 20 working days.

Executive correspondence Our Chief Executive and Accounting Officer and Chair continued to receive similar amounts of correspondence for 2021-22 which was 777 compared to 796 in the previous year. The top three issues raised to our executive team, through these enquiries, were Planning & Development, Flood and Coastal Risk Management, and Waste Management. Compliance to our own internal standards for response rates was 74% compared to 70% for 2020-21.

Complaints received also remain at a similar level for 2021-22, which was 2,364 compared to 2,303 complaints in the previous year. The top three areas of complaint were Waste Management, Flood and Coastal Risk Management and Permitting. Compliance to our own internal standards for response, within 20 working days, was 83% compared to 87% for 2020-21.

Commendations reduced in 2021-22 to a total of 130 compared to 305 from the previous year (57% reduction).

Complaint handling at the Environment Agency

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 is still unhappy after completing our two-stage complaints process, we signpost them to the appropriate watchdog - Parliamentary and Health Service Ombudsman, Local Government Ombudsman, and more recently, the Office of Environmental Protection if it is a matter relating to environmental law. Details of our dealings with these bodies in 2021-22 is summarised below.

Our Customer Service Commitment outlines what customers can expect from the Environment Agency and what we expect of our customers.

Looking forward, the Environment Agency is working with central government and the Parliamentary and Health Service Ombudsman to introduce and embed new complaint standards which we expect to be finalised by the end of 2022. These standards 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.

11. Independent complaints bodies

11.1 Parliamentary and Health Service Ombudsman

Our work with the Parliamentary and Health Service Ombudsman was again protected throughout the continuation of the Covid-19 pandemic in 2021-22. However, the pandemic continues to impact the Ombudsman into 2022-23 with significant delays in processing a queue of complaints.

As the Ombudsman began to work through the backlog during 2021-22, the Environment Agency received 10 new enquiries, but none became investigations. Going into 2022-23 one complaint (from 2020-21) was the subject of an Ombudsman investigation.

Four investigations were closed during 2021-22: none upheld the complaint. At the year end, the Ombudsman took the unusual step of referring 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 the original Ombudsman investigation report. We have submitted a statement to the Public Accounts and Constitutional Affairs Committee (PACAC) stating why the recommendations have not been complied with in full and are awaiting a response.

During the year, a further digest of learning from Ombudsman cases was cascaded to the business. It briefly summarised recent activity as the Environment Agency continues to look to learn from its dealings with the Ombudsman.

11.2 Office for Environmental Protection (OEP)

The Interim Environmental Governance Secretariat (IEGS) was superseded by the Interim Office of Environmental Protection in the summer of 2021. The main function of the interim body was to start consulting on policy, establish offices and recruit staff. The Environment Bill gained Royal Ascent in September 2021, establishing the OEP on 17 November 2021.

During 2021-22, four complaints were referred to the Environment Agency. At the year end, we were waiting to hear if any would be taken to investigation once the OEP gains its full investigatory powers in May 2022. Since then, two of those four cases were closed with no further action, and we are still waiting the OEP's assessment on the other two.

The OEP continues to consult with us on matters relating to their scrutiny and advice functions. Their Enforcement Policy was published in 2022.

12. Whistleblowing

12.1 Internal whistleblowing

Our arrangements for whistleblowing regarding the Environment Agency's work remain unchanged. The Director of Legal and Audit Services has responsibility for managing whistleblowing disclosures. 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 ARAC on a regular basis. There is widespread awareness by all staff about the options available to them if they wish to raise concerns.

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 in both upheld and unsubstantiated cases including improved guidance, improved processes, and reinforced 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 2021 and 31 March 2022:

- Twelve cases were raised in the Environment Agency, six being received in quarter 4
- Nine are currently under investigation
- Two identified management actions and recommendations for the business and
- One identified learning points which have been fed back into the business

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 2021, we published our fourth annual report into external whistleblowing. We received ten qualifying disclosures between 1 April 2020 and 31 March 2021. Most disclosures were anonymous. Some of the disclosures were made by employees wishing to make qualifying disclosures 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

Further, if someone submits an Employment Tribunal claim including whistleblowing against their employer (or former employer) and that claim relates to environmental malpractice, under a separate set of regulations the Employment Tribunal is required to share the claim form with us so that we can take any necessary action.

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 dealing with any suspected incidents of fraud. This activity is supported by the Environment Agency Financial Compliance team in Defra Corporate Services and by a Fraud Steering Group made up of managers representing a cross section of relevant 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. The pandemic disrupted annual appraisals of our compliance however in March 2022 we provided a response to the Cabinet Office’s Workforce and Performance Review.

Building on the results of a fraud risk assessment workshop in early 2021, we have continued to develop our understanding of residual fraud risk and have had positive feedback on this. All fraud risks now have designated owners to help ensure we fully understand each risk and maintain appropriate controls. This is an area we will continue to refine. It is also a requirement that all of our grant schemes should develop fraud risk appraisals.

Many of our counter fraud controls are embedded in other processes, such as security checks for new staff, a revised code of conduct, procurement processes and schemes of delegation for both expenditure and authorising decisions.

We received 13 initial reports of concerns about fraud which have been resolved during the year. This excludes 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. One incident was reported before the fraud could take place, so was prevented. In another case the employee resigned before the investigation was completed. On investigation only one incident was considered to be a fraud. Ten cases were not considered fraudulent, nine requiring no action but the remaining two were matters for other disciplinary action.

The relatively small number of potentially fraudulent incidents identified makes it difficult to establish any real trends and small changes in numbers cannot be taken as either a real indicator of increases or decreases in fraud but one thing the analysis above does suggest is that our investigations are doing more to recognise incidents or behaviours which result in significant action.

Disciplinary action taken where fraud is found includes dismissal.

14. Money laundering reporting and compliance

Money laundering is a real (if low likelihood) risk for the Environment Agency.

The Director of Legal and Audit Services is the Anti-Money Laundering Compliance and Reporting Officer for the Accounting Officer. During 2021-22 we have continued to deliver against our action plan. Care is taken to help staff members avoid the accidental commission of tipping-off offences.

During the latter part of 2021-22 we extended our anti-money laundering oversight activities to include the economic sanctions imposed against Russia and Belarus following the Ukraine conflict, providing advice to the Operations teams and Environment Agency Pension Fund (EAPF). The effect of these sanctions has been to create a series of criminal offences that can be committed by individuals when dealing with a sanctioned person or entity, so of considerable significance to relevant teams.

The action plan reinforced the message that cunning criminals could use the Environment Agency as a mechanism to launder money and that the Environment Agency needs to be vigilant to prevent accidentally committing any connected criminal offences.

We have helped with a small number of cases which fell below the threshold for reporting and reported one matter this year to the National Crime Agency (NCA) by way of a Suspicious Activity Report.

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.

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 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 delve 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 £800 million with suppliers, about 50% of our total operating costs. 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 over 16 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[25] which was published in November 2021, as per the requirements under section 54 (Transparency in Supply Chains) of the Modern Slavery Act 2015.

16. NAO qualification of opinion on property, plant and equipment (PPE) valuation

In 2019-20, the National Audit Office (NAO) raised a qualification on operational asset balances on the basis that these were not valued using a Depreciated Replacement Cost (DRC) approach. A longstanding approach that was considered a cost-effective proxy for DRC has been applied since 1996. More information on this is available in the 2019-20 annual report and accounts. We are working to deliver a DRC valuation which is a considerable task with 8,000 operational assets and the requirement for specialist valuation skills. It is not possible to achieve this outcome until the end of the 2022-23 financial year. This means the NAO qualification on this matter remains for the 2021-22 accounts.

In 2020-21, the NAO expanded its qualification on the reported values of operational property to include to include those within the scope of the quinquennial revaluation of land and buildings

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

(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 and the absence of a DRC valuation on operational land. It represented a qualification over 87% of the 31 March 2021 net book value of overall property, plant and equipment.

Environment Agency quinquennial property valuations are complex, with over 5,000 often small property assets. In normal circumstances delivering the property valuation is challenging. In 2020-21, the finance function was very stretched as a result of the February 2020 floods followed by the impact of the COVID-19 pandemic on the Environment Agency. This meant there was not the necessary level of internal control between Finance and Estates over data quality and instructions to external valuers. This exacerbated shortcomings in the data quality of the fixed asset register.

We plan to improve the property assets data in the fixed asset register and move to a series of annual property asset valuations, delivered by RICS qualified valuers, which will deliver the same coverage of all assets within a given five-year period. This will be easier to manage and reduce the risk of errors with a large one-off quinquennial valuation. We are endeavouring to reach a situation where the qualification over the value of operational assets as well as freehold land, dwellings and freehold buildings can be removed together in the 2022-23 financial statements audit. Reaching this objective may however conflict with the objective of earlier audit completion, considered below in section 16.2.

16.1 NAO report on other audit findings

The NAO in its 2020-21 audit report identified three data quality issues in fixed asset accounting records, while also recognising that substantial work had been completed in this area from the previous year. Following a project to improve the data quality of fixed asset records, two of the matters raised are not included as reportable items in the NAO's report. One matter remains however: capitalisation of project expenditure that does not meet the criteria of the financial reporting framework. In a context of substantially increased project expenditure in the year, this has in the 2021-22 audit led to a new audit qualification, over assets under construction and those capitalised in year.

16.2 NAO qualification of opinion on project accounting (Assets Under Construction)

In the 2021-22 audit NAO identified in their sample testing of projects that some components:

- Within Assets Under Construction that did not meet the capitalisation criteria and therefore should have been expensed in year, and
- With costs expensed in year included some items which the Environment Agency either owns or can be deemed to own, and therefore should have been capitalised.

These two issues may offset each other however it has not been possible for the NAO to establish what the net position would be. NAO also considered that some assets under construction should have been commissioned into the fixed asset register. These matters are considered to be a weakness in the project accounting records and controls.

It was clear from the early stages of the NAO testing of project accounting that it would be an enormous task to undertake and deliver to the NAO the substantial analysis and reworking needed for the accounts of all sample tested projects. This work would require that all project costs be re-presented in an entirely new manner, different to the system design, by project component, to consider whether the financial accounting judgment for all components could be deemed to be correct under the financial reporting framework.

We recognised that it would be logistically impossible to do in the time available, and the results of NAO's initial testing indicated a very high likelihood 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 its testing in this area. We therefore reluctantly chose to limit the scope of NAO's audit in this area for practical and value for money reasons.

The Environment Agency's project accounting records are structured to achieve effective operational control over supplier and other cost, and delivery of value for money, not in a manner to achieve the best technical financial accounting and so audit outcomes. The Environment Agency's achievement in delivering a £2.6 billion multi-year (2021-27) capital programme on time and budget suggests that the framework used has been effective in supporting the delivery of value for money. The NAO's audit report for 2020-21 and audit opinion in 2021-22 indicates that our project accounting framework needs to change to enable a better basis for complying with government's financial reporting framework: making more precise financial accounting judgments on projects at their outset, together with an improved audit trail in subsequent project accounting, over the cost of individual project components based on their financial accounting classification.

The Environment Agency's capital works expensed in year (CWEIY) is unique across central government bodies and entails significant complexity over judgments in project accounting: a decision over three financial accounting classifications of expenditure where other bodies just have two. There has been no impact from the project accounting issue identified in the audit on the key objective of operating within the Environment Agency and Defra's resource and capital budgets.

Our project accounting has remained the same for many years. A decision was made at the outset of a project over whether it was resource or capital, and if it was capital, the project was usually all deemed to be either a capital asset to go on the balance sheet or CWEIY. The significant increase in project expenditure in 2021-22 has led to the audit indicating that to ensure the necessary level of accounting records to meet the accounting standards, there is a greater need for us to at the outset consider each individual component making-up a project and conclude whether each element will be classified as resource expenditure, a capital asset or be CWEIY. We have therefore begun this 2022-23 year to set up two projects in the SOP accounting system instead of one, for each new project: one resource project for resource expenditure and one capital project for capital balance sheet and CWEIY.

We are developing a plan to deliver further improvements in project structure and accounting audit trail. This needs to be done in a manner that best balances the accounting objectives with the business objective of delivering a large and complex programme of projects with constrained resources.

Our projects take on average five years to complete. It is not possible to rapidly undo what has been done on projects over the last several years. The legacy situation means future audits will also be affected until we are able to rework our project accounting for brought forward project spend.

The objective of correcting the legacy issue and changing processes and data to improve future project accounting will need considerable input from project managers. This work may require substantial resources invested in temporary additional skilled Finance staff.

16.3 Timescales for audit completion

As with many other government bodies, the time taken to complete the audits since 2019-20 has been far greater than previous years. For the decade prior to 2019-20 the Environment Agency accounts were all laid in parliament prior to the summer parliamentary recess. The reasons for the 2019-20 audit completion delay were issues with fixed asset register data quality and the DRC qualification. In 2020-21, the NAO's need to expand testing as a result of the 2019-20 audit findings and Covid-19 related staff absence severely impacted the time to complete the audit.

We are committed to working with the NAO to seek to deliver earlier audit completion and laying of accounts for future years, and the 2021-22 annual report is being laid a month earlier than for 2020-21. The objective for earlier completion in 2022-23 is heavily dependent on the successful delivery of the new DRC operational asset valuation. We are therefore regularly briefing the NAO on our DRC project progress, including all important judgments that we are making, as well as consulting with peer government infrastructure delivery and DRC users; National Highways, Network Rail and the Ministry of Defence.

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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 2021-22.

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 27,500 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 2021-22, 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 2019 valuation assessed the Active Fund's financial position with a funding level of 106% (31 March 2016,103%). Investment returns on the Active Fund's assets between 31 March 2016 and 31 March 2019 were 36% and increased the assets' value by £960 million. The 2019 valuation was positive with the Active Fund reporting an improvement in funding over the preceding three years, driven by asset outperformance. The estimated funding level remained constant as of 31 March 2022 at 110% (31 March 2021, 111%), with the Active Fund's assets growing by £240 million on the prior year.

There is a real recognition that Responsible Investment Funds have outperformed during the global pandemic and this trend has helped to protect the Active Fund's value. It must be remembered that the Active Fund employers are able to take a long-term outlook when considering the high level funding implications of external shocks. The financial markets were severely disrupted by Covid-19 in March 2020, but in the 2020-21 year they recovered strongly and continued to do so through 2021-22. No one knows what the long-term impact of Covid-19 may be on the economy and ultimately on the long-term cost of funding defined benefit pensions.

A new external event unfolded in Eastern Europe in February 2022, which will have consequences in many aspects of our lives both now and in the longer term. Whilst the focus is understandably on what the invasion means for the people of Ukraine and the geo-political situation in Europe, the pension fund has addressed its exposure to Russian assets. The Fund had very minimal exposure with just 0.01% of the Active Fund's asset portfolio invested in Russia. This was subsequently written down to nil value with instructions in place to sell these existing holdings when possible.

UK gilt market conditions since 31 March 2022 have put downward pressure on government bond valuations and increased the occurrence of recapitalisation events for pension schemes with leveraged Liability-Driven Investment (LDI) mandates. The EAPF has unlevered LDI so no collateral is required to maintain hedging positions, which are implemented through physical bonds. Despite difficulties within the market, the EAPF is confident that the fund is sufficiently liquid and has adequate cash to meet expected cashflow over the foreseeable future.

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 but will not need to revisit contribution rates for long term employers at this stage.

The EAPF has a strategy to integrate responsible investment into its decision making and is a global leader. 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 Funding Strategy, and retain control of its own assets, but will aim to benefit from reduced costs from pooling investments.

Throughout 2021-22, there was a large focus on transferring assets, where appropriate, to the Brunel Pension Partnership. Over the 12 months, the Fund completed its investments into the Brunel Sterling Corporate Bonds Fund, Brunel Multi Asset Credit Fund, Liability Driven Investments (via BlackRock), Brunel Global Sustainable Equity Fund and additionally, within the equity portfolio, the Fund transferred the passive equity holdings from Brunel Low Carbon Equity Fund to the Brunel Paris Aligned Benchmark Fund (PAB). PAB will provide a diversified exposure to equities whilst aligning to the Paris Agreement. The Fund also still holds its investment in the Brunel Low Volatility Fund. Around 60% of the Fund's assets are now managed by Brunel at 31 March 2022.

Outside of the Brunel pool, the Fund also made six new allocations to private debt (approximately £125 million) and seven new allocations to private equity managers (approximately £115 million) by 31 March 2022, to ensure the Fund can achieve and maintain the strategic asset allocations to these asset classes, which require ongoing commitments.

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 2021-22, the EAPF won the 'Best Climate Change Strategy' at the LAPF awards. LAPF Investments is the magazine for local authority pension investment specialists. 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 96% of invoices from suppliers within five days of receipt and registration, compared to 95% in the previous year. Creditor days, calculated on an average basis for the year, were four days during 2021-22 (2020-21, three 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 2021-22, we recorded £3.1 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 name and terms of reference were updated in May 2019 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 2021-22 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 twice during the financial year ended 31 March 2022. It agreed the Chief Executive's performance rating and objectives.

During the year, the committee also considered:

- 2021 pay review and pay remit
- Performance ratings and related pay for the Chief Executive and Executive Directors
- Gender pay gap and pay gap reporting
- Equal pay issues
- Equality, Diversity and Inclusion (EDI) Race Action Plan and Big Conversation

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

We employ four Executive Directors in addition to the Chief Executive. Detailed below are the Executive Directors and their period of service (including date of appointment).

Table 1: Executive Directors' periods of service

Position	Executive director	Period of appointment
Chief Executive	Sir James Bevan	30 November 2015 – present
Executive Director of Environment and Business	Harvey Bradshaw	26 September 2015 – 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 – present

*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.

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 2: 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 2021-22 (£)	Remuneration in 2020-21 (£)
Emma Howard Boyd (Chair)	PC, PCISC, PPC	19 September 2019	36	3 per week	100,000	100,000
Richard Macdonald (Deputy Chair) (i)	ARAC, FCERM, EB, PPC	1 June 2021	10	5 per month	25,201	25,201
Maria Adebowale-Schwarte	EB, PPC	1 July 2019	36	5 per month	21,002	21,002
Judith Batchelar (ii) (iii)	ARAC, EB	30 September 2021	42	4 per month	16,800	16,800
Robert Gould (iii)	ARAC, PC, PCISC, FCERM, PPC	30 September 2021	42	5 per month	21,002	21,002
John Lelliott (iv)	ARAC, PC, FCERM	30 September 2021	30	5 per month	21,002	21,002
Caroline Mason (iv)	PC, PCISC, EB	30 September 2021	30	4 per month	16,800	16,800
Lynne Frostick (v)	FCERM	16 July 2021	12	6 per month	25,344	25,056
Stewart Davies	ARAC, EB	1 February 2021	48	4 per month	16,800	2,800
Ines Faden da Silva	ARAC, FCERM	1 February 2021	48	4 per month	16,800	2,800
Lilli Matson	PC, FCERM	1 February 2021	48	4 per month	16,800	2,800
John Varley (vi)	EB	1 October 2020	6	3 per month	-	12,597
Gill Weeks (vii)	ARAC, EB, PPC	9 September 2020	6	5 per month	-	19,655
Mark Suthern (viii)	ARAC, FCERM, EB	10 January 2022	48	4 per month	3,813	-
Sarah Mukherjee (viii)	FCERM, EB	10 January 2022	48	4 per month	3,813	-
Total					**305,177**	**287,515**

Details of the attendance of Board members are provided in Appendix D. Non-executive Board members have no entitlement to performance-related pay. 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 2022

PC – Member of Pensions Committee at 31 March 2022

PCISC – Member of Pensions Investment Sub Committee at 31 March 2022

FCERM – Member of Flood and Coastal Erosion Risk Management Committee at 31 March 2022

EB – Member of Environment and Business Committee at 31 March 2022

PPC – Member of People and Pay Committee at 31 March 2022

Notes:

i. Richard Macdonald was reappointed for a further two months from 1 April 2021. He was subsequently reappointed for a final 10 months to 31 March 2022, when his term ended.
ii. Judith Batchelar was appointed as Deputy Chair from 1 April 2022, increasing her time commitment to five days per month.
iii. Judith Batchelar and Robert Gould were reappointed from 30 September 2021 to 31 March 2025.
iv. John Lelliott and Caroline Mason were reappointed from 30 September 2021 to 31 March 2024.
v. Lynne Frostick was reappointed for four months to 15 July 2021. She was reappointed for another 12 months to 15 July 2022, with no further reappointment.
vi. John Varley was reappointed for six months from 1 October 2020 to 31 March 2021 and was not subsequently reappointed.
vii. Gill Weeks was reappointed for six months from 8 September 2020 to 7 March 2021 and was not subsequently reappointed. Her full year equivalent pay was £21,002.
viii. Mark Suthern and Sarah Mukherjee were appointed on 10 January 2022 and their full year equivalent pay is £16,800.

Executive Directors’ emoluments (audited)

Table 3: 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)	
	2021-22	**2020-21**	**2021-22**	**2020-21**	**2021-22**	**2020-21**	**2021-22**	**2020-21**	**2021-22**	**2020-21**	**2021-22**	**2020-21**
Sir James Bevan (i)	190-195	185-190	10-15	-	-	-	(26,000)	28,000	20-25	-	**195-200**	**215-220**
Harvey Bradshaw (ii)	140-145	140-145	-	-	-	-	-	-	-	-	**140-145**	**140-145**
John Curtin (ii)	140-145	140-145	5-10	5-10	-	-	(9,000)	65,000	-	-	**140-145**	**215-220**
Caroline Douglass (iv)	130-135	-	-	-	-	-	33,000	-	-	-	**165-170**	**-**
Lucy Hunt (v)	120-125	35-40	5-10	-	-	-	54,000	17,000	-	-	**180-185**	**55-60**
Catherine Fileman-Wright (vi)	-	40-45	-	-	-	3,600	-	44,000	-	-	**-**	**85-90**
Toby Willison (vii)	-	100-105	-	-	-	-	-	(2,000)	-	-	**-**	**95-100**

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 is an employee of the Foreign, Commonwealth & Development Office (FCDO) who is seconded to the Environment Agency. The amounts shown above are the amounts reimbursed to the FCDO, exclusive of VAT which is recoverable by the Environment Agency. The pension benefits disclosed above represent the contributions the Environment Agency reimburses 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. He was awarded performance related pay for 2020-21 which was paid in August and November 2021.
ii. Harvey Bradshaw opted out of the pension scheme on 31 March 2020.
iii. John Curtin was awarded performance related pay for 2019-20 which was paid in November 2020 and performance related pay for 2020-21 which was paid in October 2021.
iv. Caroline Douglass started as Executive Director of Flood and Coastal Risk Management on 1 April 2021.
v. Lucy Hunt started as the Executive Director Chief Operating Officer on 1 December 2020. Her full year equivalent pay was in the range £125,000 - £130,000. She was awarded performance related pay for 2020-21 which was paid in October 2021.
vi. Catherine Fileman-Wright was the interim Executive Director of Flood and Coastal Risk Management from the 1 December 2020 to 31 March 2021. Full year equivalent pay was in the range £115,000 - £120,000. The benefit in kind received in 2020-21 relates to a car that she had access to for the full year.
vii. Toby Willison left the Environment Agency on 25 November 2020. His full year equivalent pay was in the range £145,000 - £150,000.

Performance related pay policy

We award performance related pay to our Executive Managers in line with the Civil Service Senior Civil Service Pay Guidance[26]. The approval process for this is through our People and Pay Committee.

[26] https://www.gov.uk/government/publications/senior-civil-service-pay-award-202021-practitioner-guidance

Table 4: Pension benefits of Executive Directors during the last two financial years (audited)

Executive Director	Accrued pension at 31 March 2022 (£5,000 range)	Increase/ (decrease) in accrued pension during year (£2,500 range)	Accrued lump sum at 31 March 2022 (£5,000 range)	Increase/ (decrease) in lump sum during year (£2,500 range)	CETV at 31 March 2021 (£000s)	CETV at 31 March 2022 (£000s)	Real increase/ (decrease) in CETV (£000s)
Sir James Bevan (i)	90-95	0-2.5	280-285	(0-2.5)	2,153	2,160	(26)
Harvey Bradshaw (ii)	-	-	-	-	-	-	-
Toby Willison (iii)	-	-	-	-	1,317	-	-
John Curtin	60-65	0-2.5	90-95	(0-2.5)	1,054	1,107	(13)
Catherine Fileman-Wright (iv)	-	-	-	-	1,282	-	-
Lucy Hunt	25-30	2.5-5	5-10	0-2.5	311	370	27
Caroline Douglass	10-15	0-2.5	-	-	-	192	18

The Environment Agency remunerates its employees in line with standard public sector pay and pension policies. The accrued pension at 31 March 2022 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 2022. 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.

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).

i. Sir James Bevan is on secondment from the FCDO since 30 November 2015 and therefore is a member of the Principal Civil Service Pension Scheme. His CETV as at 31 March 2021 reported in the 2020-21 Annual Report and Accounts was £2,073,000, this has been updated to £2,153,000 as a result of the adjustment for salary arrears. For further details see Table 3.
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.
iii. Toby Willison left his role as Executive Director of Operations in November 2020.
iv. Catherine Fileman-Wright left her interim role as Executive Director of Flood and Coastal Risk Management on 31 March 2021.

Staff Report

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

Table 5: Average number of full-time equivalent staff employed during the year (audited)

	2021-22			2020-21		
	Permanent	**Temporary**	**Total**	**Permanent**	**Temporary**	**Total**
Directly employed	9,902	237	**10,139**	9,964	306	**10,270**
Contractors	-	516	**516**	-	425	**425**
Total	**9,902**	**753**	**10,655**	**9,964**	**731**	**10,695**

Table 6: Staff seconded out

	2021-22		2020-21	
Grade	Seconded out	Average duration (years)	Seconded out	Average duration (years)
DD 1P	1	2	-	-
DD 1	1	4	3	2
SG7	5	2	11	2
SG6	10	1	10	2
SG5	10	2	17	2
SG4	1	2	13	2
SG3	1	4	1	2
EOB	-	-	5	1
Total	**29**		**60**	

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

Table 7: Staff seconded in

	2021-22		2020-21	
Grade	Seconded in	Average duration (years)	Seconded in	Average duration (years)
CEO	1	7	1	5
SG6	1	2	5	2
SG5	3	1	-	-
SG4	2	1	-	-
Total	**7**		**6**	

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

In March 2022, the Environment Agency employed 99 executive managers (equivalent to senior civil servant grades). A breakdown of these by level is shown in table 8, below.

Table 8: Executive manager breakdown on 31 March 2022

	Headcount		SCS Equivalent Payband	
	2021-22	2020-21	2021-22	2020-21
Chief Executive	1	1	3	3
Executive Directors	4	4	3	3
Directors	19	18	2	2
Deputy Directors	75	71	1	1
Total	**99**	**94**		

All of the above are Environment Agency employees with the exception of the Chief Executive who is 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 9, alongside the prior year comparison.

Table 9: Gender split

Headcount	2021-22		2020-21	
	Male	Female	Male	Female
Chief Executive, Executive Directors, Directors and Deputy Directors	57	42	53	41
All other staff	6,066	4,785	6,019	4,663
Total	**6,123**	**4,827**	**6,072**	**4,704**

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 2021 was 1.4%, no change from 31 March 2020. This is significantly lower than the civil service gender pay gap average of 7.8%.

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 2021-22 was 6.1% (2020-21, 4.0%).

Sickness absence data

We monitor staff sickness absences and have policies in place to minimise them. An average of 6.1 days per full time equivalent employee was lost to sickness absence in 2021-22 (2020-21, 4.1 days).

Staff engagement

We conducted our first full employee survey since 2018 in the autumn of 2021 with the results published in December 2021. Between these two full employee surveys, we ran regular pulse surveys to evaluate our key metrics for staff engagement. These were 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 is at 68% now compared to 72% in October 2018. Over 70% of staff surveyed said they are 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 2022 (1,603 respondents) produced results showing a minimal decrease in engagement; 66% 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 10 shows how much we have spent on consultants and temporary workers and contractors over the past two years (Table 5 shows the numbers employed under the category “contractors”).

Table 10: Expenditure on temporary workforce

	2021-22	2020-21
	£ million	£ million
Consultancy	8.2	8.5
Temporary workers and contractors	10	6.6
Total	**18.2**	**15.1**

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 11: Off-payroll appointments as at 31 March 2022, for more than £245 per day and that last longer than six months

Number of existing engagements as of 31 March 2022 that have existed for:	2021-22	2020-21
Less than one year	0	1
Between one and two years	1	0
Between two and three years	0	1
Between three and four years	0	0
Four years or more	1	1
Total	**2**	**3**

Table 12: All highly paid off-payroll workers engaged at any point during the year ended 31 March 2022, earning £245 per day or greater

	2021-22	2020-21
Number of off-payroll workers engaged during the year ended 31 March 2022		
Not subject to off-payroll legislation	2	3
Subject to off-payroll legislation and determined as in-scope of IR35	0	0
Subject to off-payroll legislation and determined as out-of-scope of IR35	0	0
Total	**2**	**3**
IR35		
Number of engagements reassessed for compliance or assurance purposes during the year	2	3
Of which: number of engagements that saw a change to IR35 status following review	0	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 2021-22. We did not pay any of them via off-payroll arrangements, other than the Chief Executive Officer, who is 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 13: 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**
Under £10,000	1	-	1	0.0	-	0.0
£10,000-25,000	-	-	-	-	-	-
£25,001-50,000	-	-	-	-	-	-
£50,001-100,000	-	-	-	-	-	-
£100,001-150,000	-	-	-	-	-	-
£150,001+	-	-	-	-	-	-
Total	**1**	**-**	**1**	**0.0**	**-**	**0.0**

Table 14: Exit packages for the financial year 2020-21 (audited)

Category	Compulsory redundancy	Other departures	Total	Compulsory redundancy	Other departures	Total
	Number	**Number**	**Number**	**£ million**	**£ million**	**£ million**
Under £10,000	-	1	1	-	0.0	0.0
£10,001-25,000	-	1	1	-	0.0	0.0
£25,001-50,000	-	-	-	-	-	-
£50,001-100,000	2	-	2	0.1	-	0.1
£100,001-150,000	-	-	-	-	-	-
£150,001+	-	-	-	-	-	-
Total	**2**	**2**	**4**	**0.1**	**0.0**	**0.1**

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 15: Highest paid director and the whole workforce

	Salary and benefits in kind		Performance related pay		Total	
	2021-22	2020-21	2021-22	2020-21	2021-22	2020-21
Highest paid director (£5,000 banded range)*	215-220	185-190	10-15	-	225-230	185-190
Average employee remuneration (£)	36,508	36,315	648	656	37,156	36,971

* The 2021-22 figures for the highest paid director include arrears of salary since 2016 which were paid in 2021-22. The 2020-21 figures do not include the arrears of salary for that year. For further details see Table 3.

Table 16: Percentage increase or decrease for highest paid director and the whole workforce – 2021-22 versus 2020-21

	Salary and benefits in kind	Performance related pay	Total
Highest paid director	16.0%	100%	21.3%
Highest paid director (excluding arrears of salary)*	2.7%	100%	8.0%
Average employee remuneration	0.5%	(1.2)%	0.5%

*The highest paid director received arrears of salary paid in August 2021. For further details see Table 3.

No employee received remuneration in excess of the highest-paid director (2020-21, none). The range of banded remuneration for employees was £15,000 to £20,000 up to £225,000 to £230,000 (2020-21, £15,000 to £20,000 up to £185,000 to £190,000).

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

	25th percentile		Median		75th percentile	
	2021-22 £	2020-21 £	2021-22 £	2020-21 £	2021-22 £	2020-21 £
Highest paid director (mid-point of pay band)	227,500	187,500	227,500	187,500	227,500	187,500
Highest paid director (mid-point of pay band)*	202,500	187,500	202,500	187,500	202,500	187,500
All employees (median remuneration)	29,217	29,230	37,012	36,854	43,411	43,001
Ratio	7.8	6.4	6.1	5.1	5.2	4.4
Ratio*	6.9	6.4	5.5	5.1	4.7	4.4

*excluding arrears of salary received by the highest paid director paid in August 2021. For further details see Table 3.

The banded remuneration of the highest paid Executive Director, as disclosed in the remuneration and staff report, for 2021-22 was £225,000-£230,000 (2020-21, £185,000-£190,000). This was 6.1 times (2020-21, 5.1 times) the median remuneration of the workforce, which was £37,012 (2020-21, £36,854).

In line with the public sector pay remit guidance, on 1 July 2021 annual pay increased by £250 for staff earning less than £24,000 full time equivalent per annum. The median pay ratio is consistent with the Environment Agency's pay, reward and progression policies. The majority of the increase in the median pay ratio is as a result of the timing of the payment of salary arrears explained above in relation to Table 15, and so is not based on the change in actual remuneration from 2020-21 to 2021-22. The increase in the adjusted median pay ratio is due to performance related pay received by the highest paid director in 2021-22.

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 2020-21 was 284 (2020-21, 235) with full-time equivalent employee numbers of 272 (2020-21, 225).

Table 18: Percentage of pay bill spent on facility time

Measures	Cost (£ million)	
	2021-22	2020-21
Total facility time by union officials	0.5	0.5
Total all staff	382.5	386.8
Percentage on facility time	0.1%	0.1%

Table 19: Percentage of staff time spent on facility time

Measures	Time (in hours)	
	2021-22	**2020-21**
Total facility time by union officials	7,784	7,859
Total working hours by union officials	523,985	433,363
Percentage on facility time	1.5%	1.8%

Table 20: Percentage of individual staff time spent on trade union activities

Percentage of time	Employee headcount	
	2021-22	**2020-21**
0% - 1%	214	173
1% - 50%	70	62
Total	**284**	**235**

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 continued in 2021-22
- 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

Environment and Business grant-in-aid

In addition, we receive grant-in-aid from Defra, 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)

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

Analysis of fees and charges (audited)

Table 21 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 note 1.13 of 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 disclosed in note 1.13. The cumulative surpluses and deficits are reported in notes 10 and 12 of the financial statements.

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 21: Fees and charges income

Type of charge	Expenditure	Income billed	Deficit or (surplus)
	£ million	£ million	£ million
Abstraction charges	122.4	(144.0)	(21.6)
Navigation licences	15.9	(9.6)	6.3
Fishing licences	22.2	(22.0)	0.2
EPR water quality	72.7	(72.9)	(0.2)
EPR installations	35.6	(32.3)	3.3
EPR waste	35.3	(30.2)	5.1
Hazardous waste	13.1	(17.0)	(3.9)
Emissions trading and carbon reduction commitment	4.8	(4.3)	0.5
Nuclear regulation	17.8	(19.8)	(2.0)
Other environmental protection charges	17.5	(18.3)	(0.8)
Total 2021-22	**357.3**	**(370.4)**	**(13.1)**
Total 2020-21	**375.4**	**(355.6)**	**19.8**

An agreement has been reached with HM Treasury to only recover the contractual lump-sum payment proportion of reservoir operating agreement finance charges with additional costs arising from the increase in the calculated liability not being recovered. This agreement covers the deficits that arose in 2020-21 and so the costs charged to the abstraction charge scheme in 2020-21 have been reversed in the above table. The resulting surplus corrects the balance carried forward position. The reservoir operating agreement liability is further described in note 16 of the accounts.

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 22: Losses and special payments by category

Category/type	2021-22		2020-21* Restated	
	Number	£ million	Number	£ million
Write-off of sundry debts	2,759	2.9	2,978	2.9
Loss of assets	21	-	37	-
Special payments	26	1.5	17	0.4
Other (cash losses, fruitless payments, unenforceable claims and gifts)	24	0.3	70	1.2
Total	**2,830**	**4.7**	**3,102**	**4.5**

*A restatement has been made to better reflect the number of debts being written off, rather than the number of approvals for debt write-offs being made. The value of the write-offs has not been affected.

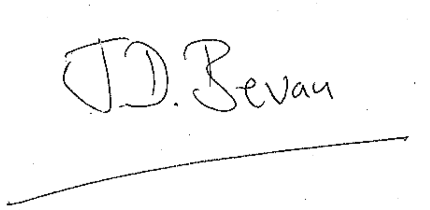
Losses are estimated at fair value and include costs incurred in previous years. We pursue all debts and refer unpaid invoices to a debt collection agency after a certain period. Some debts become irrecoverable and need to be written off such as those due from businesses and individuals which have become insolvent. There were no special severance payments in 2021-22. In 2020-21, we made two special severance payments totalling £32,000. The highest was £22,500 and the lowest £9,500.

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

There were no losses and one special payment in excess of £300,000 in 2021-22, (there was one loss and no special payments disclosed in 2020-21.) The special payment related to settlement of a dispute relating to maintenance of a small section of sea defence where the shoreline is eroding. The benefit of the payment is that future obligations under a private agreement entered into by our predecessor organisations to maintain the sea defence have been extinguished with regard to the landowner in this location, where a positive benefit to cost ratio or providing such maintenance cannot be demonstrated under the shoreline management plan. The value of the special payment, which was accrued but not paid in 2021-22, was £1.2 million. There were no gifts in excess of £300,000 in 2021-22 or 2020-21.

Contingent liabilities and remote contingent liabilities (audited)

There is a contract dispute case where the supplier has raised formal disputes which they allege may be valued at around £13 million; it is possible that further items may be disputed thereby increasing this value. The Environment Agency does not agree that it has an obligation, and the disputes will proceed through an adjudication process as per the contract. It is currently unclear whether there will be an economic outflow nor when an outflow, if any, would occur. There are no other contingent liabilities, remote or otherwise, that require disclosure in the annual report and accounts.



Sir James Bevan, Chief Executive and Accounting Officer **19 October 2022**

The Certificate of the Comptroller and Auditor General to the Houses of Parliament

Opinion on financial statements

I certify that I have audited the financial statements of the Environment Agency for the year ended 31 March 2022 under the Environment Act 1995.

The financial statements comprise the Environment Agency's:

- Statement of Financial Position as at 31 March 2022
- 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 effects of the matters described in the basis for the qualified audit opinion on the financial statement paragraph, the financial statements:

- give a true and fair view of the state of the Environment Agency's affairs as at 31 March 2022 and its net expenditure for the year then ended; and
- have been properly prepared in accordance with the Environment Act 1995 and Secretary of State directions issued thereunder.

Basis for qualified opinion on the financial statements

I have qualified my opinion on the financial statements in the following respects:

I am unable to obtain sufficient appropriate evidence that the value of Property, Plant and Equipment, the total capital expenditure and Assets Under Construction (both tangible and intangible) in the statement of financial position as at 31 March 2022 are free from material misstatement due to the following matters:

- The Environment Agency has not applied the Depreciated Replacement Cost method for valuing its Operational Assets as required by its financial reporting framework and instead used modified historic cost accounting as a proxy. Note 7 of the accounts shows operational assets of £3.2 billion at 31 March 2022 and of £2.8 billion at 31 March 2021. I am therefore qualifying my opinion on the 2021-22 accounts and comparative figures, in that the valuation approach adopted by the Environment Agency is not a materially accurate proxy for the measurement basis required by the financial reporting framework.
- My audit in 2020-21 identified errors and uncertainties within the quinquennial revaluation of property, plant and equipment, as presented in note 7, impacting freehold land, dwellings and freehold buildings with the net book value of £108 million at 31 March 2022 and of £87 million at 31 March 2021. I have been unable to quantify the uncertainties because the Environment Agency has not been able to rectify the weaknesses in the revaluation during 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) balance at 31 March 2022 of £414 million reported in note 7 and 8. We have been unable to conclude on the level of error due to the Environment Agency taking a decision to stop providing further evidence and responses to queries to support the balance included in the financial statements.
- I have also been unable to obtain sufficient evidence in respect of the capital expenditure and assets commissioned at 31 March 2022 of £149 million reported in note 7 and 8, leading to no assurance provided in respect of the split between capital expenditure to be classified on the statement of financial position and capital works expensed in year as the Environment Agency took a decision to stop providing sample listings and audit evidence.
- The Environment Agency's decisions to not provide all the evidence I needed to audit assets under construction, in year capital expenditure (asset additions) and assets commissioned is a limitation imposed by management on my audit, leading me to limit the scope of my audit opinion.

My report on pages 116-120 includes further details of the matters leading to my qualified opinion.

Opinion on regularity

In my opinion, in all material respects, 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 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 of Public Sector Entities in the United Kingdom. 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 have also elected to apply the ethical standards relevant to listed entities. 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 opinion.

Conclusions relating to going concern

In auditing the financial statements, I have concluded that the Environment Agency's 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 require entities to adopt the going concern basis of accounting in the preparation of the financial statements where it anticipated that the services which they provide will continue into the future.

Other Information

The other information comprises information included in the Annual Report but does not include the financial statements nor my auditor's certificate and report. 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.

In connection with my audit of the financial statements, 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.

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 Secretary of State directions issued 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 Secretary of State directions made under the Environment Act 1995; and
- 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 respect solely of the limitations in receiving sufficient appropriate evidence regarding the valuation of Property, Plant and Equipment, capital expenditure in 2021-22 and Assets Under Construction 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, 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 Report.

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;
- the preparation of the financial statements and Annual Report in accordance with the applicable financial reporting framework and for being satisfied that they give a true and fair view;
- ensuring that the Annual Report and accounts as a whole is fair, balanced and understandable;
- internal controls as the Accounting Officer determines are necessary to enable the preparation of financial statements to be free from material misstatement, whether due to fraud or error; 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, we considered the following:

- the nature of the sector, control environment and operational performance including the design of the Environment Agency's accounting policies, and key performance indicators;
- inquiring 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 relating to:
    - identifying, evaluating and complying with laws and regulations and whether they were aware of any instances of non-compliance;
    - detecting and responding to the risks of fraud and whether they have knowledge of any actual, suspected or alleged 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 the Environment Agency's compliance with the Environment Act 1995 and Managing Public Money.
- discussing among the engagement team and involving relevant internal and external specialists, including specialist advice on asset and pension valuations 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 also required to perform specific procedures to respond to the risk of management override of controls.

I also obtained an understanding of the Environment Agency's framework of authority as well as other legal and regulatory frameworks in which the Environment Agency operates, focusing 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 Environment Act 1995, Managing Public Money and relevant employment, taxation and pensions legislation.

Audit response to identified risk

As a result of performing the above, the procedures I implemented to respond to identified risks included the following:

- reviewing 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;
- enquiring of management, the Audit Committee and in-house legal counsel concerning actual and potential litigation and claims;
- reading and reviewing 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, testing the appropriateness of journal entries and other adjustments; assessing whether the judgements made in making accounting estimates are indicative of a potential bias; and evaluating the business rationale of any significant transactions that are unusual or outside the normal course of business; and

- substantive testing of income streams to address risk of fraud in revenue recognition and substantive testing of expenditure streams to address the risk of fraud and irregularity.

I also communicated relevant identified laws and regulations and potential fraud risks to all engagement team members including internal and external specialists 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 income and expenditure reported in the financial statements have been applied to the purposes intended by Parliament and the financial transactions 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 that I identify during my audit.

Gareth Davies **21 October 2022**
Comptroller and Auditor General

National Audit Office
157-197 Buckingham Palace Road
Victoria
London
SW1W 9SP

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. The Environment Agency has many responsibilities including: flood and coastal erosion risk management; water resource management; maintaining navigation of certain waterways; monitoring 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. The Environment Agency uses publicly funded assets to meet those responsibilities. At the end of the 2021-22 financial year the net book value of the Environment Agency's property, plant and equipment was £3.8 billion (2020-21: £3.3 billion) which included operational assets of £3.2 billion (2020-21: £2.8 billion) and intangible assets of £128 million. Net book value is a valuation of an asset that reflects its original cost and any later changes to it. The Environment Agency uses operational assets to manage water resources, waterways and flood and coastal erosion risks. These assets typically include barriers, pumping stations and water monitoring assets, such as telemetry stations and boreholes.

3. My audit approach is designed to obtain sufficient assurance that accounts are free from material error. I planned my audit to achieve this through sample testing of account areas alongside considering and evaluating work undertaken by management to support the valuations used to underpin the accounts.

Management of non-current asset records

4. In my report which accompanied my qualified opinion on the 2020-21 accounts I described the following data quality issues in the Environment Agency's underlying asset records.

   - assets recorded on the fixed asset register that are not owned by the Environment Agency;
   - capitalisation of expenditure that does not meet the criteria of the financial reporting framework; and
   - the inclusion of assets that have been decommissioned or demolished.

5. Although these errors were not material last year, they were significant and represented a worsening of the position over time. I noted that while the Environment Agency had made some attempts to cleanse its asset records, more still needed to be done and I had concerns that if unaddressed these issues could result in material error. This year's audit has been impacted by these issues and in particular the quality of the underlying project accounting records supporting the financial statement disclosures relating to assets particularly assets under construction. I identified the following issues in my work. Some items were capitalised when they did not meet the capitalisation criteria and therefore should have been expensed. Some items related to assets that are now in use and should therefore have been reclassified to other asset categories within the note and in doing so it would have also impacted upon amortisation and depreciation.

6. Management decided, after considering these issues and their impacts upon the business and the financial statements, not to provide me with all the evidence I sought in relation to areas of

the accounts affected by these problems. That management-imposed limitation to my audit necessarily means that I must qualify my opinion in that regard.

7. In 2019-20 and 2020-21 the Environment Agency's accounts were qualified on 87% of the tangible asset balance. I have further extended my qualification in 2021-22 to now include assets under construction and capital expenditure (additions) across both tangibles and intangibles. My qualification in 2021-22 now covers 99% (£3.7 billion) of the tangible asset balance and 57% (£73 million) of the intangible asset balance.

8. Because these issues are also material to the Department for Environment, Food and Rural Affairs (Defra) Group 2021-22 account, I will also qualify my opinion on those accounts.

9. In addition, through our initial capital works expensed in year (CWIEY) testing we identified items which the Environment Agency own and therefore should have capitalised per the financial reporting framework and included in the fixed asset register. This further indicates weaknesses in the underlying project accounting records and controls. Our additional CWEIY testing has concluded that there is a most likely error of £21 million which is below the level of materiality I set for this audit. I am therefore satisfied that the CWEIY disclosure is free from material misstatement but the weaknesses I identified demonstrate that the fixed asset register is not complete.

Impact upon my audit opinion for 2021-22

10. I have qualified my opinion for 2021-22 because I have been unable to obtain sufficient assurance that the disclosures in the Statement of Financial Position for the value of Property, Plant and Equipment, the total capital expenditure (including assets commissioned in year) and Assets Under Construction (both tangible and intangible) as at 31 March 2022 are free from material misstatement due to the following matters:

    - As was the case for 2019-20 and 2020-21 the valuation basis used for the Environment Agency's operational assets is incorrect and I consider the impact of this could be material.
    - As was the case in 2020-21, the lack of a DRC valuation for operational assets, and errors and control issues with the Environment Agency's Quinquennial review of its property plant and equipment, impacting freehold land, dwellings and freehold buildings mean that I cannot obtain assurance that the value of any other property, plant and equipment is not materially misstated.
    - I have been unable to complete my audit of assets under construction (tangible and intangible) as the Environment Agency did not provide all the evidence I needed to conclude that these assets were not materially misstated.
    - I have been unable to complete my audit of in year capital expenditure and assets commissioned (tangible and intangible) as the Environment Agency decided not to provide all the evidence I needed to conclude that the split between resource and capital expenditure was not materially misstated.

11. Management's decision in relation to the provision of evidence reflected underlying issues with the system of project accounting and the quality of the information held to support the disclosures in the accounts. Management could not resolve these problems in time to achieve the Defra Group accounts' timetable.

12. The Environment Agency's decision to not provide all the evidence I needed to audit assets under construction, in year capital expenditure (asset additions) and assets commissioned is a

limitation imposed by management on my audit, leading me to limit the scope of my audit opinion. This report sets out my reasons for the qualifications and progress the Environment Agency has made in working to remove prior year qualifications.

Operational Assets Valuation Methodology

13. Under the HM Treasury Financial Reporting Manual (FReM), the Environment Agency must value its specialised operational assets at current value in existing use to give a true and fair position of the assets at the reporting date. The specialist nature of the Environment Agency's operational assets means there is no active external market to provide such a valuation. The only suitable professional valuation methodology in such cases is Depreciated Replacement Cost (DRC) which requires assets to be valued based on a modern equivalent asset. This is a specialist technique often requiring expert support.

14. DRC valuation needs periodic professional valuations with the use of appropriate indices in intervening years. In its 2019-20 annual report and accounts, the Environment Agency stated in its accounting policies that it considered an alternative valuation approach known as modified historic cost accounting (MHCA) as a reasonable proxy for DRC. MHCA involves valuing these assets on a historic cost basis revalued annually using indices. I concluded in my audit of the 2019-20 annual report and accounts, that MHCA is not a materially accurate proxy for the DRC valuation required by the financial reporting framework. I therefore qualified my opinion on the 2019-20 annual report and accounts for that reason.

15. Last year I reported that the Environment Agency was developing a project to carry out a full DRC valuation of its operational assets but had not made enough progress to lift my qualification for 2020-21. This project is still underway as the Environment Agency is cleansing the data to ensure the asset register is complete and accurate before applying the new valuation to the c8,000 assets involved. The pilot study results were presented for audit in September 2022 with the expectation that the project will be finalised in March 2023 and has therefore not had any impact on the 2021-22 accounts. My view has not changed since 2019-20 and I am therefore qualifying my opinion on the 2021-22 accounts and comparative figures for the same reasons as I did the previous years, in that the valuation approach adopted by the Environment Agency is not a materially accurate proxy required by the financial reporting framework.

Quinquennial Revaluation

16. In 2020-21 the Environment Agency carried out a quinquennial review (QQR) of its freehold land, freehold buildings and dwellings. The QQR is a professional valuation which under FReM requirements is conducted at least every 5 years. It is a necessary exercise to demonstrate that assets are valued appropriately at year end.

17. My 2020-21 audit identified the following limitations in the way the QQR has been conducted:

- The Environment Agency was unable to provide a listing of land holdings that distinguished between the land which should be valued through the QQR and that which was infrastructure land which should be valued through DRC.
- Poor data quality of the underlying property, plant and equipment records has prevented the Environment Agency from obtaining a valuation for the correct asset base, impacting the resulting value presented within the financial statements. My audit identified data quality issues including properties revalued which should not have been and properties excluded

which should have been revalued.
- Errors in the application of the revaluation to the Environment Agency's property, plant and equipment records, including applying revaluations to the wrong assets.

18. The issues with the QQR are heavily linked to the DRC project which aims to ensure assets are within the correct asset category and therefore valued under an appropriate valuation technique. Because of this, management did not seek to resolve the issues with the QQR for 2021-22. These limitations mean I have been unable to obtain assurance over the value of assets covered by the QQR this year, and therefore I have limited the scope of my opinion in this respect.

Assets Under Construction

19. The Environment Agency's 2021-22 accounts show some £414 million of assets under construction (AUC) at 31 March 2022. AUC reflects the expenditure on assets which are not yet complete and in use (notes 7 and 8). AUC spend reflects both tangible and intangible assets. Overall, I completed less than half of my planned testing covering both areas. I nevertheless found a combined most likely level of error of £33 million against my audit materiality of £36 million for the samples where I was able to conclude, indicating significant levels of error.

20. The quality of the underlying records has meant significant intervention has been necessary by the Environment Agency and Defra staff to provide sample information ready for audit. Management informed me that having taken these difficulties into account it had decided to stop work on providing this evidence giving rise to a management-imposed limitation upon my audit. Because I cannot obtain sufficient appropriate audit evidence as to the material accuracy of the AUC disclosures, I must limit the scope of my audit opinion in this respect.

In year capital expenditure and assets commissioned

21. The Environment Agency's 2021-22 accounts show £149 million of capital expenditure and £99 million assets commissioned in year (note 7 and 8). I was unable to complete any of my planned testing on these areas. As described above the quality of the underlying records has created the need for significant work by the Environment Agency and Defra staff to provide sample information ready for audit. Management informed me that it had also decided not to provide this evidence and therefore I cannot obtain sufficient appropriate audit evidence as to the material accuracy of the disclosures relating to capital expenditure and assets commissioned in year.

Conclusion

22. In my opinion, the Environment Agency has not yet valued its operational assets in accordance with HM Treasury's financial reporting requirements set out in the FReM. I have therefore issued a qualified opinion again. My work has not identified problems with the operational management or general condition of the Environment Agency's flood defence assets.

23. The Environment Agency is in the process of obtaining a full DRC valuation of its operational assets. The Environment Agency has also agreed to carry out a review of the data quality including a review of the completeness of the fixed asset register. I will continue to monitor the Environment Agency's progress in both areas and will assess the impact of this work on my audit certificate and report next year.

24. I have also been unable to conclude that the QQR issues identified in the prior year have been rectified due to the ongoing DRC valuation project. I recommend that the Environment Agency carries out a review of the data quality and cleanse the property, plant and equipment records prior to embarking on a large revaluation exercise. I also recommend that the Environment Agency develops more robust controls over the input and maintenance of data in its property, plant and equipment records.

25. I have also not received sufficient and appropriate evidence to support the intangible and tangible AUC, capital expenditure and assets commissioned in year due to the Environment Agency not providing the audit evidence. This is a new qualification in 2021-22. Defra and the Environment Agency are developing plans to address the underlying issues driving the problems the Environment Agency found in providing the evidence I needed.

26. It is unusual for management to impose a limitation upon my audit and reflects the issues my audit has identified with the quality of the underlying project records upon which the Environment Agency relies in producing its accounts. These will need to be resolved through the plans now being developed before Defra and the Environment Agency can move to a timelier completion of the accounts. I will monitor the Environment Agency's progress on this, and I will continue to work with the Agency to return the accounts and audit timetable to one that supports effective parliamentary scrutiny.

Gareth Davies
Comptroller and Auditor General

21 October 2022

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 2022		2021-22	2020-21
	Note	£ million	£ million
Expenditure			
Staff costs	3	585.3	501.7
Capital works expensed in year	4	531.1	478.9
Depreciation and amortisation	7,8	117.6	113.6
Other expenditure	5	676.3	557.6
		1,910.3	**1,651.8**
Income			
Revenue from contracts with customers	6	(414.5)	(467.5)
Other operating income	6	(51.7)	(31.2)
		(466.2)	**(498.7)**
Net expenditure	2	1,444.1	1,153.1
Loss on sale of assets		18.6	36.8
Financing on pension scheme assets and liabilities	15.3	23.4	3.2
Net expenditure after interest		**1,486.1**	**1,193.1**
Other comprehensive expenditure			
Revaluation of property, plant and equipment	7,9	(537.7)	(131.3)
Revaluation of intangible assets	8	2.3	(13.0)
Actuarial (gain)/loss on pension scheme assets and obligations	15.3	(580.7)	916.0
Total Comprehensive Net Expenditure for the Year		**370.0**	**1,964.8**

All of the Environment Agency’s income and expenditure for the year was derived from continuing activities. The notes on pages 127 to 172 form part of these financial statements.

Statement of Financial Position

As at 31 March 2022		31 March 2022		31 March 2021	
	Note	£ million	£ million	£ million	£ million
Non-current assets					
Property, plant and equipment	7	3,775.7		3,254.2	
Intangible assets	8	128.2		146.4	
Total non-current assets			**3,903.9**		**3,400.6**
Current assets					
Assets classified as held for sale		8.7		8.6	
Trade, contract, and other receivables	10	110.5		116.0	
Cash and cash equivalents	11	119.5		72.4	
Total current assets			**238.7**		**197.0**
Total assets			**4,142.6**		**3,597.6**
Current liabilities					
Trade, other payables, and contract liabilities	12	(540.7)		(463.3)	
Reservoir operating agreements	16.1	(21.1)		(21.5)	
Total current liabilities			**(561.8)**		**(484.8)**
Total assets less current liabilities			**3,580.8**		**3,112.8**
Non-current liabilities					
Provisions		(10.6)		(11.0)	
Reservoir operating agreements	16.1	(412.3)		(388.0)	
Pension liabilities	15.3	(654.7)		(1,060.3)	
Trade, other payables, and contract liabilities	12	(3.2)		(3.5)	
Total non-current liabilities			**(1,080.8)**		**(1,462.8)**
Assets less liabilities			**2,500.0**		**1,650.0**
Taxpayers' equity					
Revaluation reserve		2,425.4		1,952.2	
General reserve		729.3		758.1	
Pension reserve		(654.7)		(1,060.3)	
Total taxpayers' equity			**2,500.0**		**1,650.0**

The notes on pages 127 to 172 form part of these financial statements. The financial statements on pages 121 to 126 were approved by the Board on 18 October 2022 and signed on its behalf by:

J.D. Bevan

Sir James Bevan, Chief Executive and Accounting Officer **19 October 2022**

Statement of cash flows

For the year ended 31 March 2022		2021-22		2020-21	
	Note	£million	£million	£million	£million
Cash flows from operating activities					
Net expenditure after interest		(1,486.1)		(1,193.1)	
Depreciation and amortisation	7,8	117.6		113.6	
Impairment of non-current assets	9	42.5		45.3	
Loss on sale of assets		18.6		36.8	
Decrease/(increase) in trade, contract, and other receivables	10	5.5		(22.1)	
Increase in trade, other payables, and contract liabilities	12	77.1		53.9	
Movement in capital payables	12	(9.4)		(0.1)	
Movement in reservoir operating agreement liabilities		23.9		5.2	
Movement in provisions		(0.4)		5.7	
Pension reserve transfer	13	175.1		11.0	
Net cash outflow from operating activities			**(1,035.6)**		**(943.8)**
Cash flows from investing activities					
Purchase of property, plant and equipment	7	(130.2)		(144.6)	
Purchase of intangible assets	8	(18.6)		(24.5)	
Movement in capital payables	12	9.4		0.1	
Proceeds of disposal of property, plant and equipment		2.1		3.8	
Net cash outflow from investing activities			**(137.3)**		**(165.2)**

Cash flows from financing activities			
Grants from Defra	17.1	1,220.0	1,050.0
Net financing		**1,220.0**	**1,050.0**
Net increase/(decrease) in cash and cash equivalents in the period	11	**47.1**	**(59.0)**
Cash and cash equivalents at the beginning of the period	11	72.4	131.4
Cash and cash equivalents at the end of the period	11	**119.5**	**72.4**

The notes on pages 127 to 172 form part of these financial statements.

Statement of Changes in Taxpayers' Equity

For the year ended 31 March 2022		Revaluation reserve	General reserve	Pension reserve	Total reserves
	Note	£ million	£ million	£ million	£ million
Changes in taxpayers' equity					
Balance at 1 April 2020		**1,896.3**	**801.8**	**(133.3)**	**2,564.8**
Net gain on revaluation of property, plant and equipment	7	131.3	-	-	131.3
Net gain on revaluation of intangible assets	8	13.0	-	-	13.0
Actuarial loss on pension scheme assets and obligations	15.3	-	-	(916.0)	(916.0)
Transfers between reserves	13.2	(88.4)	99.4	(11.0)	-
Retained deficit		-	(1,193.1)	-	(1,193.1)
Grants from Defra	17	-	1,050.0	-	1,050.0
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, 9	537.7	-	-	537.7
Net loss on revaluation of intangible assets	8	(2.3)	-	-	(2.3)
Actuarial gain on pension scheme assets and obligations	15.3	-	-	580.7	580.7
Transfers between reserves	13.1	(62.2)	237.3	(175.1)	-
Retained deficit		-	(1,486.1)	-	(1,486.1)
Total recognised income and expense		**2,425.4**	**(490.7)**	**(654.7)**	**1,280.0**
Grants from Defra	17	-	1,220.0	-	1,220.0
Balance at 31 March 2022		**2,425.4**	**729.3**	**(654.7)**	**2,500.0**

The notes on pages 127 to 172 form part of these financial statements.

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 2021-22 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 this statement of accounting policies. The Environment Agency has applied these judgements consistently in dealing with items that are considered material in relation to the accounts.

In the preparation of financial statements, 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 judgments that the Environment Agency has made in applying the accounting policies:

- Pension liabilities (reported in note 15). 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 notes 1.9 and 7)
- The selection of appropriate indices to assist with the valuation of property, plant and equipment and intangible assets (reported in notes 1.9, 7 and 8)
- The useful economic lives of assets that form the basis of periods over which property, plant and equipment is depreciated (reported in notes 1.9 and 7) and intangible assets are amortised (reported in notes 1.10 and 8)
- The impairment of property, plant and equipment, and intangible assets (reported in notes 7 and 8)
- Revenue recognition regarding satisfaction of performance obligations on capital works expensed in year income per IFRS 15 (reported in notes 1.3, 6, 10 and 12)
- Revenue recognition regarding satisfaction of performance obligations on fees and charges per IFRS 15 (reported in note 1.3). 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 1.13, 10 and 12)
- The classification of expenditure between property, plant and equipment or intangible assets and capital works expensed in year (reported in notes 1.8, 1.9 and 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 16).
- 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 16.1). 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 liabilityincluding 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).

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 Income

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) and operating lease rental income are recorded as other operating income.

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.

Charges income 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. 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. 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 1.13.

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.

Income reported in the accounts represents revenue received and receivable during the accounting period for the permitted functions of the Environment Agency.

The income from charges for regulating businesses to monitor and control their impact on the environment is derived from a combination of applications for licences and ongoing fees and charges. Income also arises from issuing licences for activities such as fishing or navigation on designated rivers. 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 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.

1.4 Grant-in-aid

The Environment Agency receives grants that are treated as financing received from its controlling entity, which is Defra. 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.

1.5 Grants and contributions received

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.

1.6 Expenditure

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.

1.7 Grant expenditure

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 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.

1.8 Capital works expensed in year

Where the Environment Agency undertakes work which is capital in nature but is in relation to assets that it does not have control over. The work will reduce national flood risk, for example by restoring an asset to target condition, or the Environment Agency cannot reliably estimate the useful life of the related asset so the expenditure is reported as capital works expensed in year.

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

1.9 Property, plant and equipment

The Environment Agency capitalises all land regardless of value. Other categories of property, plant and equipment are capitalised if the asset has a cost of £5,000 or more.

Where the Environment Agency incurs subsequent expenditure on previously commissioned property, plant and equipment, the spend is capitalised if it meets the criteria for capitalisation. It must be probable that the Environment Agency will receive continuing economic benefit from the asset and that the cost of the expenditure can be reliably measured.

The vast majority of the Environment Agency's property, plant and equipment value comprises of operational assets, as set out in note 7.

Operational assets are used to deliver environmental outcomes. These assets are often relatively unique in nature, and function. Typically, these assets include flood risk management works, such as barriers, pumping stations and flood risk management landholdings, water resource assets,such as weirs, sluices, gauging stations, pipelines and tunnels, and navigation assets such as locks.

The FReM requires these assets to be accounted for in the statement of financial position at their Depreciated Replacement Cost. Due to the logistical and technical challenge as well as substantial expenditure that would be required to obtain replacement cost professional valuations for over 8,000 operational assets, the Environment Agency currently uses a Modified Historic Cost method as a proxy for Depreciated Replacement Cost. This means that an appropriate annual cost inflation index is used to increase the gross book value of these assets each year. Section 16 of the governance statement covers action that is being taken to change the valuation methodology for operational assets in order to be compliant with the FReM, the non-compliance of which has resulted in a qualified audit opinion from 2019-20.

Freehold land, buildings and dwellings are reported at a 'fair value' which is assessed on an open market value for existing use, rather than simply market value. These assets are subject to independent professional revaluation in accordance with the Royal Institute of Chartered Surveyors valuation standards every five years. In the intervening years, the assets are revalued annually using suitable indices. The audit opinion in 2020-21 was qualified due to limitations in this quinquennial review process, the issues of which have not been fully resolved in 2021-22. Section 16 of the governance statement covers the actions being taken to rectify the issues identified with the quinquennial review process, part of which is linked to use of Depreciated Replacement Cost valuation methodology for land held for operational purposes.

Other plant and machinery, vehicles, furniture and fittings, and IT equipment are valued at cost with asuitable index applied in subsequent years.

Assets under construction are recorded at cost and are not revalued. There was a management-imposed limitation on the 2021-22 audit in respect of assets under construction, resulting in a qualified audit opinion in this area. Section 16 of the governance statement covers the rationale for the decision taken by management and future actions to resolve the issues identified.

Depreciation is calculated to write off the value of property, plant and equipment on a straight-line basis over the expected useful economic life of the asset concerned. Depreciation is charged in the month of disposal and in the month of capitalisation. It is not charged, on assets under construction.

Freehold land is not depreciated.

Useful economic lives applied for depreciation charge on asset creation

Asset type	Useful economic life (years)
Operational assets	15-100
Dwellings	10-60
Freehold buildings	10-60
Plant and machinery	3-25
Vehicles	3-25
Furniture and fittings	3-15
IT equipment	3-15

The range in the economic lives reflects the wide range of assets within each asset type, where individual assets remain in use after this expected life the asset will be extended accordingly on an individual basis.

Where the components of an asset are material in value to the fair value of the asset, the components are capitalised and depreciated separately. Components which are no longer used are written off.

1.10 Intangible assets

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 audit in respect of assets under construction, resulting in a qualified audit opinion in this area. Section 16 of the governance statement covers the rationale for the decision taken by management and future actions to resolve the identified issues.

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 theassets 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

1.11 Assets held for sale

Non-current assets are classified as held for sale if the carrying amount will be recovered principally through a sale transaction rather than through continuing use. Depreciation ceases immediately on the classification of the assets as being held for sale. Assets are stated at the lower of their carrying amount and fair value, less costs to sell. They are recorded in the current assets section of the statement of financial position.

Non-current assets are only deemed to be assets held for sale if management is committed to a plan to sell and if the asset is being actively marketed at a price which is reasonable in relation to its current condition. Assets that have been sold post year end and before approval of the Financial Statements are revalued to fair value where amounts are significant.

1.12 Impairment

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.

1.13 Trade, contract, and other receivables

Accumulated surpluses and deficits relating to water resources charges, flood risk management local levies and environmental protection charges are treated as deferred income or accrued income depending on whether the charging scheme is in surplus or deficit. These balances are only treated as deferred or accrued 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 per note 1.3.

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. The financial impact of the override is £1.2 million in 2021-22 and was £18.5 million in 2020-21, the difference mainly being due to an HM Treasury agreement not to fully cost recover in relation to the Reservoir Operating Agreement Financial Liability, further discussed in section 16.

The deferred and accrued 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.

Also included in deferred income, 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 deferred income.

1.14 Leases

A finance lease is one which transfers substantially all the risks and rewards of ownership to the lessee. An operating lease is a lease other than a finance lease.

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.

Operating leases and the rentals thereon are charged to the statement of comprehensive net expenditure on a straight-line basis over the term of the lease.

1.15 Cash and cash equivalents

Cash and cash equivalents include cash held in the bank with the Government Banking Service and other approved commercial bank accounts.

1.16 Provisions

The Environment Agency provides for obligations arising from past events where there is a present obligation at the date of the statement of financial position, if it is probable that it will be required to settle the obligation and a reliable estimate can be made.

1.17 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.

1.18 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.

1.19 Employee benefits

Pensions

The Environment 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 2019. 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.

Other employee benefits

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 as a liability 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.

1.20 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 £0.2 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 IDD remains under review.

1.21 Adoption of new and revised IFRS or FReM interpretations

IFRS

IAS 8 requires disclosures in respect of new IFRSs, amendments and interpretations that either are, or will be applicable after the reporting period. There are a number of IFRSs, amendments and interpretations that have been issued by the International Accounting Standards Board (IASB)that are effective for future reporting periods. The Environment Agency has not adopted any new IFRS standards early.

IFRS impacts

IFRSs not yet effective	Environment Agency impact
IFRS 16 – Leases (IAS 17 replacement)	IFRS 16 (Leases) has been effective since 1 January 2019 for the private sector. Due to the impact on government departments of Covid-19, HM Treasury agreed with the Financial Reporting Advisory Board (FRAB) to defer the implementation of IFRS 16 across central government to 1 April 2022. When implemented, IFRS 16 will replace IAS 17 (Leases) and related International Financial Reporting Interpretations Committee (IFRIC) and Standard Interpretations Committee (SIC) interpretations. For lessees, it will remove the previous distinction between finance leases and operating leases. Under IFRS 16, all qualifying leases will recognise a right of use (ROU) asset and lease liability. As a result, former operating leases will come on to the Statement of Financial Position. The Statement of Comprehensive Net Expenditure will reflect related charges for the depreciation of the right of use asset and interest on the lease liability in place of rental expenses and continue to reflect VAT as cost where applicable on any leases as HM Treasury guidance on the application of IFRS 16 Leases states this should not form part of the initial measurement of the right of use asset. Within government, the scope of the standard has been extended to include lease-like arrangements that are not legally binding, for example Memorandum of Terms of Occupation (MOTOs). As mandated by the FReM, exemptions will be applied to short term leases with full terms or outstanding terms on transition of less than 12 months. The Defra group has set a value of £5,000 as the low value exemption threshold applied to the cost of the underlying asset when new, although may still choose to treat specific low value leases as ROU assets. The Environment Agency has reviewed its arrangements and will apply the low value exemption to many of its operational estate leases where the underlying asset is under £5,000 rather than apply the practical expedient to transition those previously reflected as operating leases to ROU assets. These are typically small plots of agricultural land of only 1-3m^2, housing equipment such as telemetry, weather stations or boreholes. The payments for such leases will continue to be recognised in the Statement of Comprehensive Net Expenditure on a straight-line basis over the lease term. On initial application, the FReM requires government bodies to adopt the option of recognising the net cumulative effects of applying IFRS 16 as an adjustment to the opening balance of taxpayers' equity at 1 April 2022. This

	means that prior year comparatives will not be re-stated in the Environment Agency's 2022-23 accounts. On transition, the opening cost of right of use assets will equal lease liabilities, adjusted for any lease prepayments or accruals that exist immediately prior to 1 April 2022. Lease liabilities will be calculated as the present value of outstanding payments due under the lease. Lease and non-lease components will be separated for vehicle leases, with the non-lease element continuing to be treated as an expense in the Statement of Comprehensive Net Expenditure. The subsequent measurement of right of use assets, and the opening measurement of peppercorn leases, will be 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 where required will be determined by appropriately qualified professionals in accordance with RICS Guidance. The estimated impact of IFRS 16 on the Statement of Financial Position at 1 April 2022 is to increase right of use assets by £52 million and lease liabilities by £46 million. Depreciation and finance charges to the Statement of Comprehensive Net Expenditure in 2022–23 are estimated at £13 million. Valuations of peppercorn leases are still in process for a small number of leases. Once received they will affect these estimates but this is not expected to have a material impact. Occupation of the Defra group corporate estate by the Environment Agency is on a flexible shared basis with no formal occupancy agreements in place between the leaseholder and the occupant. Corporate estate leases will therefore be recognised in full by the legal leaseholder.
IFRS 17 – Insurance Contacts	This standard will apply to all types of insurance contract and proposes a building blocks approach based on the expected present value of future cash flows to measuring insurance contract liabilities. IFRS 17 is effective for annual periods beginning on or after 1 January 2023. 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.

No other amendments are anticipated to have an impact on the financial statements.

FReM

Every year HM Treasury issues a new FReM, which interprets IFRS for the public sector. There are no known changes in the latest FReM which will affect the Environment Agency's financial reporting.

2. Segmental reporting

2.1 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 £55.1 million in 2021-22. All the Northumbrian Water Limited incomes relates to the Environment and Business segment of the Environment Agency and the vast majority (93%) 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 2021-22	Total 2020-21
	£ million	£ million	£ million	£ million	£ million
Staff costs	245.8	275.8	63.7	585.3	501.7
Capital works expensed in-year	505.6	2.2	23.3	531.1	478.9
Depreciation and amortisation	87.8	15.9	13.9	117.6	113.6
Other expenditure	444.7	161.0	70.6	676.3	557.6
Gross expenditure	**1,283.9**	**454.9**	**171.5**	**1,910.3**	**1,651.8**
Revenue from contracts with customers	(65.3)	(348.6)	(0.6)	(414.5)	(467.5)
Other income	(16.1)	(4.6)	(31.0)	(51.7)	(31.2)
Net expenditure	**1,202.5**	**101.7**	**139.9**	**1,444.1**	**1,153.1**

3. Staff costs

	2021-22	2020-21
	£ million	£ million
Wages and salaries	382.5	386.8
Social security costs	43.6	43.5
Normal contributions to the Active Pension Fund (defined benefit scheme)	54.6	70.0
	480.7	**500.3**
Agency staff wages and salaries	9.1	5.3
Other staff related costs	(3.1)	4.4
Exit package costs	-	0.1
Special contributions towards past service deficit	-	31.4
Less amounts included within the IAS 19 Pension charge	(54.6)	(101.4)
Pension charge – service cost (note 15.3)	206.3	109.4
	638.4	**549.5**
Less amounts charged to capital projects	(53.4)	(48.1)
	585.0	**501.4**
Amounts payable to Board members	0.3	0.3
Total staff costs	**585.3**	**501.7**

Note 15 provides details of the Environment Agency's pension arrangements. The remuneration and staff report provide details of the remuneration of Board members and Executive Directors.

Amounts charged to capital projects reflects the allowable staff costs included in the creation and improvement of assets used by the Environment Agency and in the delivery of Capital Works Expensed in Year projects. This is based on time recording data 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

Type of capital works	2021-22	2020-21*
	£ million	£ million
Beach replenishment	17.1	12.3
Catchment flood management plans	19.7	19.9
Culverts and channel improvements	22.6	42.0
Embankments	92.4	80.5
Flood risk management strategies	35.5	22.9
Flood mapping	7.1	4.9
Restoration and refurbishment	201.2	187.1
Rock groynes and sea walls	1.7	33.8
Capital salaries	52.0	38.0
Navigation asset works	33.0	17.8
Flood risk management habitat creation	16.1	7.0
Other*	32.7	12.7
Total	**531.1**	**478.9**

*2020-21 value for Other re-presented with £7 million within Flood risk management habitat creation. The above analysis includes £7.3 million (2020-21, £2.3 million) of costs in relation to the Public Private Partnerships (PPP) projects at Pevensey Bay and Broadlands.

An adjustment of £12.1 million is included within the total balance of £531.1 million in 2021-22 which relates to re-classifying expenditure incurred in previous financial years that had been treated as assets under construction. As per IAS 8 this has been corrected in 2021-22.

Beach replenishment
This involves sand and shingle replacement on beaches to retain the integrity of a coastal defence.

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 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.

Restoration and refurbishment

This involves carrying out works to ensure that flood risk management assets are in the appropriate condition and restored to that condition.

Rock groynes and sea walls

Rock groynes and sea walls are built as part of sea and 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.

Capital salaries

Capital salaries represent the staff costs incurred on these capital works that are expensed in year.

Navigation asset works

Navigation asset works include investment in waterways for which the Environment Agency is protecting and developing on behalf of other parties.

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.

IAS 1 disclosure – re-presentation

The types of capital works have been re-presented to ensure that the larger groups are clearly presented, and immaterial amounts are captured within ‘Other’. There has been no change to the overall reported amounts. As described above, ‘flood risk management habitat creation’ has been presented separately as a new line.

5. Other expenditure

Type of expenditure	2021-22	2020-21
	£ million	£ million
Capital grants (note 5.4)	210.9	119.6
Hired and contracted services	96.4	85.1
Outsourced IT services	48.5	42.3
Fees and commissions	29.8	26.2
Reservoir operating agreements (note 5.3 and 16.1)	57.6	60.1
Transport and plant	19.4	17.0
Utilities	8.6	16.5
Travel and subsistence	2.3	1.5
Operating lease rentals - plant and machinery	14.5	16.1
Information technology	5.6	10.3
Defra group Corporate Services charge (note 5.1 and 17.2)	71.5	44.5
Buildings	13.3	15.9
Training	7.2	4.6
Operating lease rentals - other	-	2.9
Consumables and materials	9.9	6.7
Grants and contributions	14.8	13.8
Maintenance	3.0	3.3
Administration	2.9	2.1
Compensation payments	0.3	0.6
External auditor’s non-audit remuneration: (note 5.2)	-	-
Bad debt write-offs	0.7	2.8
Other	19.5	18.2
Impairment of non-current assets (note 9)	42.5	45.3
Movement in the expected credit loss (bad debt) provision (note 10)	(2.9)	2.2
Total	**676.3**	**557.6**

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 16.

Compensation payments include environmental improvement unit charges compensation payments, which are made to compensate licence holders for revocation of abstraction licences due to excessive water abstraction from one location, and any claims payable to parties as a result of Environment Agency activity.

5.1 Defra group Corporate Services

The full year cost of Defra group Corporate Services provided to the Environment Agency for 2021-22 was £134.9 million, no EU exit costs were separately recorded, (2020-21 was £124.8 million with £5.3 million related to EU exit costs).

£63.4 million of the expenditure in 2021-22 was incurred directly by the Environment Agency due to being under longstanding contracts (2020-21, £80.3 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 £71.5 million (2020-21, £44.5 million) for expenditure it incurred relating to the provision of corporate services to the Environment Agency in 2021-22. Further information on the transfer of corporate services to Defra is provided in note 17.2.

The approach to apportioning the total Defra group Corporate Service cost across the group was refined during 2019-20. The approach uses metrics driving the costs to apportion them across the group. A breakdown of the cost by function, including EU exit costs, is provided below:

Defra group Corporate Service Function	2021-22	2020-21*
	£ million	£ million
Digital, Data and Technology Services	64.4	52.6
Estates	32.7	36.1
Corporate Strategy	4.3	1.6
Shared Services Connected Limited (SSCL)	10.2	11.4
Finance	10.0	10.0
Human Resources	4.5	4.4
Communications	4.7	4.5
Commercial	4.1	4.2
	134.9	**124.8**
Less amounts incurred directly by the Environment Agency	(63.4)	(80.3)
Total	**71.5**	**44.5**

*In 2020-21, £1.6 million of Corporate Strategy costs were reported within Estates costs, these costs have been reclassified and shown separately.

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 £265,000 (2020-21, £250,000). 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 16.1). 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 £210.9 million expenditure can be broken down as follows:

Capital grants	2021-22	2020-21
	£ million	£ million
Local councils	198.1	101.4
Internal Drainage Boards (IDBs)	12.6	18.2
Other risk management authorities	0.2	-
Total	**210.9**	**119.6**

6. Income

	FCERM	E&B charges	E&B	Total 2021-22	Total 2020-21
	£ million	£ million	£ million	£ million	£ million
Abstraction charges	-	(119.0)	-	(119.0)	(153.2)
EPR water quality	-	(72.7)	-	(72.7)	(70.9)
EPR installations	-	(35.5)	-	(35.5)	(28.7)
EPR waste	-	(32.4)	-	(32.4)	(28.9)
Fishing licence duties	-	(22.0)	-	(22.0)	(26.3)
Hazardous waste	-	(13.1)	-	(13.1)	(13.8)
Nuclear waste regulation	-	(17.8)	-	(17.8)	(19.0)
Navigation licence income	-	(9.6)	-	(9.6)	(9.0)
Emissions trading and carbon reduction commitment	-	(4.8)	-	(4.8)	(3.2)
Other charges	-	(21.7)	-	(21.7)	(21.8)
Flood risk levies	(35.5)	-	-	(35.5)	(32.3)
IDB precepts	(8.0)	-	-	(8.0)	(8.1)
Capital work expensed in year	(21.8)	-	(0.6)	(22.4)	(52.3)
Revenue from contracts with customers	**(65.3)**	**(348.6)**	**(0.6)**	**(414.5)**	**(467.5)**
EU grants	(6.1)	-	-	(6.1)	(2.1)
Other grants	(2.5)	(0.1)	(4.9)	(7.5)	(3.8)
Covid-19 wastewater*	-	-	(11.8)	(11.8)	(7.0)
Other income*	(7.5)	(4.5)	(14.3)	(26.3)	(18.3)
Other operating income	**(16.1)**	**(4.6)**	**(31.0)**	**(51.7)**	**(31.2)**
Total income	**(81.4)**	**(353.2)**	**(31.6)**	**(466.2)**	**(498.7)**

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 (2020-21, £2.9 million).

IAS 1 disclosure – re-presentation

*Other Income has been re-presented to split out the income that has been received to deliver Covid-19 waste water work on behalf of the Department of Health and Social Care. There are no changes to any totals presented. The £7.0 million from 2020-21 was previously included in the Other Income total which was previously reported as £25.3 million.

Abstraction charges and EPR water quality charges are described in the accountability report and performance obligations and recognition follows the policy in note 1.3. Both are split between applications income and subsistence income. Within receipts in advance there is £0.2 million of abstraction applications (2020-21, £0.9 million) and £2.0 million of water quality applications (2020-21, £2.3 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 2022-23.

7. Property, plant and equipment

At 31 March 2022	Operational assets	Freehold land	Dwellings	Freehold buildings	Plant and machinery	Vehicles	Furniture and Fittings	IT equipment	Assets under construction	Total
	£ million	£ million	£ million	£ million	£ million	£ million	£ million	£ million	£ million	£ million
Cost or valuation										
At 1 April 2021	**5,641.0**	**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	65.0	-	-	6.1	-	-	-	-	(71.1)	-
Disposals	(36.3)	-	-	0.2	(2.9)	(5.0)	(5.5)	(10.1)	-	(59.6)
Reclassification to assets held for sale	(0.6)	0.2	0.1	0.2	-	-	-	-	-	(0.1)
Revaluation and indexation	1,064.4	8.1	3.0	8.3	4.1	1.9	0.3	(0.8)	-	1,089.3
Impairment	(20.1)	(1.6)	(1.2)	(1.6)	-	-	(0.1)	-	(2.4)	(27.0)
Reclassification	(13.0)	0.9	(15.4)	21.8	(2.8)	-	8.7	(0.2)	(14.4)	(14.4)
At 31 March 2022	**6,700.4**	**47.8**	**14.1**	**103.6**	**70.9**	**71.1**	**43.2**	**38.9**	**367.7**	**7,457.7**

At 31 March 2022	Operational assets	Freehold land	Dwellings	Freehold buildings	Plant and machinery	Vehicles	Furniture and Fittings	IT equipment	Assets under construction	Total
	£ 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**
Provided during the period	70.8	-	0.8	1.3	6.1	8.3	1.9	4.0	-	93.2
Disposals	(22.5)	-	-	0.7	(2.4)	(4.5)	(5.5)	(8.3)	-	(42.5)
Revaluation and indexation	541.8	-	(0.4)	2.7	2.2	(0.1)	1.2	(0.3)	-	547.1
Impairment	(0.3)	-	(0.6)	-	-	-	-	-	-	(0.9)
Reclassification	(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	**3,233.2**	**47.8**	**6.7**	**53.3**	**22.3**	**21.4**	**16.0**	**7.3**	**367.7**	**3,775.7**

At 31 March 2021	Operational assets	Freehold land	Dwellings	Freehold buildings	Plant and machinery	Vehicles	Furniture and Fittings	IT equipment	Assets under construction	Total
	£ million	£ million	£ million	£ million	£ million	£ million	£ million	£ million	£ million	£ million
Cost or valuation										
At 1 April 2020	**5,500.5**	**45.3**	**35.9**	**69.3**	**54.1**	**62.2**	**37.1**	**74.8**	**276.7**	**6,155.9**
Capital expenditure	-	0.1	-	-	7.5	1.3	0.7	1.0	134.0	144.6
Assets commissioned in year	61.7	-	-	-	-	-	-	-	(61.7)	-
Disposals	(84.7)	(2.5)	(1.3)	(9.0)	(3.3)	(1.7)	(6.7)	(28.1)	-	(137.3)
Reclassification to assets held for sale	1.5	0.8	-	1.1	-	-	-	-	-	3.4
Revaluation and indexation	195.3	2.9	(6.0)	8.8	7.9	5.0	3.5	1.7	-	219.1
Impairment	(33.6)	(6.4)	(1.0)	(1.6)	0.2	-	-	-	(2.8)	(45.2)
Reclassification	0.3	-	-	-	0.1	(0.1)	(0.3)	-	(1.2)	(1.2)
At 31 March 2021	**5,641.0**	**40.2**	**27.6**	**68.6**	**66.5**	**66.7**	**34.3**	**49.4**	**345.0**	**6,339.3**

At 31 March 2021	Operational assets	Freehold land	Dwellings	Freehold buildings	Plant and machinery	Vehicles	Furniture and Fittings	IT equipment	Assets under construction	Total
	£ million	£ million	£ million	£ million	£ million	£ million	£ million	£ million	£ million	£ million
Depreciation										
At 1 April 2020	**2,782.0**	**-**	**12.4**	**39.1**	**38.8**	**40.8**	**30.3**	**59.4**	**-**	**3,003.1**
Provided during the period	64.1	-	0.9	1.2	9.7	7.7	3.1	4.3	-	91.0
Disposals	(53.3)	-	(0.6)	(3.7)	(3.3)	(1.5)	(6.7)	(27.7)	-	(96.8)
Revaluation and indexation	88.5	-	-	(0.1)	(0.3)	(1.0)	0.3	0.4	-	87.8
Impairment	-	-	-	-	-	-	-	-	-	-
Reclassification	2.7	-	-	-	(1.2)	-	(1.5)	-	-	-
At 31 March 2021	**2,884.0**	**-**	**12.7**	**36.5**	**43.7**	**46.0**	**25.8**	**36.4**	**-**	**3,085.1**
Net Book Value at 31 March 2021	**2,757.0**	**40.2**	**14.9**	**32.1**	**22.8**	**20.7**	**8.5**	**13.0**	**345.0**	**3,254.2**

Details of valuation

The vast majority of the Environment Agency's assets are owned outright.

The Environment Agency's land and buildings (including dwellings), except assets under construction, were revalued at 31 March 2021 by RICS qualified external chartered surveyors Savills and Avison Young. The valuation was on the basis of open market value for administrative land and buildings and existing use for operational land. Due to issues identified in the quinquennial review process, freehold land, dwellings and freehold buildings were subject to a qualified audit opinion in 2020-21 and 2021-22.

Plant and machinery, vehicles, furniture and fittings, IT equipment and operationalassets were revalued internally at 31 March 2022 using suitable indices. The indices used to revalue the structures included in operational assets have seen a significant increase during 2021-22 due to supply chain shortages and subsequent rise in the cost of construction materials such as metal and concrete.

The impact of revaluations is shown as revaluation and indexation in the table above.

The carrying amount for property, plant and equipment that would have been recognised had the assets been carried under the cost model as at 31 March 2022 was £1,364.2 million (2020-21, £1,320 million). The revaluation surplus as at 31 March 2022 for property, plant and equipment was £2,411.5 million (2020-21, £1,934.2 million).

Operational assets

Operational assets include £76.0 million (31 March 2021, £80.7 million) of land which forms an essential element of certain operational assets and has significantly changed its nature as a result. Operational assets include the Thames Barrier which is valued at £1,387 million (31 March 2021, £1,183 million). The Thames Barrier is expected to be in operation until 2070.

As per note 1.9, the Environment Agency uses a Modified Historic Cost approach to value its operational assets, as a proxy for Depreciated Replacement Cost. This means that an appropriate annual cost inflation index is used to increase the gross book value of the assets each year. We have not undertaken any sensitivity analysis in relation to the indices used since this specific valuation methodology is subject to a qualified audit opinion.

Assets under construction

There was a management-imposed limitation on the 2021-22 audit in respect of assets under construction, resulting in a qualified audit opinion in this area.

8. Intangible assets

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**
Provided during the year	4.3	1.6	18.5	-	**24.4**
Disposals	(21.0)	(26.7)	(14.2)	-	**(61.9)**
Revaluation and indexation	(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**

At 31 March 2021	Software licences	Websites	Other IT	Assets under construction	Total
	£ million	£ million	£ million	£ million	£ million
Cost or valuation					
At 1 April 2020	**85.9**	**75.0**	**150.0**	**49.6**	**360.5**
Capital expenditure	-	-	-	24.5	**24.5**
Assets commissioned in year	0.6	1.0	12.7	(14.3)	**-**
Disposals	(4.4)	(27.6)	(42.2)	-	**(74.2)**
Revaluation and indexation	3.2	0.8	4.7	-	**8.7**
Impairment	(0.1)	-	-	-	**(0.1)**
Reclassification	-	-	-	1.2	**1.2**
At 31 March 2021	**85.2**	**49.2**	**125.2**	**61.0**	**320.6**
Amortisation					
At 1 April 2020	**55.9**	**66.9**	**107.2**	**-**	**230.0**
Provided during the year	5.6	3.3	13.7	-	**22.6**
Disposals	(4.4)	(27.6)	(42.1)	-	**(74.1)**
Revaluation and indexation	(1.6)	(0.4)	(2.3)	-	**(4.3)**
Impairment	-	-	-	-	**-**
Reclassification	-	-	-	-	**-**
At 31 March 2021	**55.5**	**42.2**	**76.5**	**-**	**174.2**
Net Book Value at 31 March 2021	**29.7**	**7.0**	**48.7**	**61.0**	**146.4**

Details of valuation

Intangible assets were revalued internally at 31 March 2022 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 2022 was £114.3 million (2020-21, £128.4 million). The revaluation surplus as at 31 March 2022 for intangible assets was £13.9 million (2020-21, £18 million).

Assets under construction

There was a management-imposed limitation on the 2021-22 audit in respect of assets under construction, resulting in a qualified audit opinion in this area.

9. Impairment

Impairments by accounting category	31 March 2022	31 March 2021
	£ million	£ million
Property, plant and equipment	4.5	-
Total charged to the revaluation reserve	**4.5**	**-**
Property, plant and equipment	21.6	45.2
Intangible assets	20.9	0.1
Total impairment charge to the statement of comprehensive net expenditure	**42.5**	**45.3**
Total impairment as per statement of financial position	**47.0**	**45.3**

An annual review exercise was carried out which looked at assets with signs of reduced service potential below the carrying value due to damage, obsolescence, or aborted capital projects. This exercise included assets under construction of which an impairment adjustment of £2.4 million for property, plant and equipment and £20.7 million for intangible assets was recognised in relation to expenditure on IT projects where the ownership of the related asset, on review, appeared to lie with the supplier under a 'software as a service' arrangement.

The other asset categories affected by impairment can be seen in notes 7 and 8. In 2021-22, operational assets were impaired by £19.8 million, freehold land £1.6 million, freehold buildings £1.6 million and dwellings £0.6 million.

In line with an adaptation in the FReM, any loss of economic benefit is recognised in full against expenditure. However, any temporary reduction in value is recognised in the revaluation reserve with any excess in expenditure.

10. Trade, contract, and other receivables

	31 March 2022	31 March 2021
	£ million	£ million
Within one year:		
Trade receivables	20.6	32.5
Accrued income	47.8	49.7
Expected Credit Loss	(3.9)	(6.8)
	64.5	**75.4**
Other receivables:		
VAT	37.9	32.0
Employee loans	1.6	1.6
Prepayments	6.5	7.0
Total	**110.5**	**116.0**

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 16.

The accrued income total includes charges deficits, treated as contract assets. Abstraction charge deficits reduced by £18.5 million, mainly due to the HM Treasury decision to allow the Environment Agency to not fully cost recover for the reservoir operating agreement financial liability, described in section 16. This has been offset by small increases across a number of charge schemes and increased income accruals in the above table.

11. Cash and cash equivalents

	31 March 2022 £ million	31 March 2021 £ million
At 1 April	72.4	131.4
Net change in cash and cash equivalent balances	47.1	(59.0)
At 31 March (as per Statement of cash flows)	**119.5**	**72.4**

The balances were held as cash with the government banking service with no bank overdraft.

12. Trade, other payables, and contract liabilities

	31 March 2022	31 March 2021
	£ million	£ million
Within one year:		
Other taxation and social security	(10.9)	(10.1)
Trade payables	(11.6)	(4.6)
Trade accruals	(111.2)	(103.8)
Holiday pay accrual	(18.7)	(15.2)
Other payables	(6.9)	(6.7)
Capital payables	(16.5)	(7.1)
Capital accruals	(115.9)	(101.0)
Contract liabilities:		
• Flood risk management	(88.1)	(80.1)
• Water resources – Abstraction	(3.0)	-
• Water resources – EIUC	(19.8)	(19.8)
• Environment protection	(13.0)	(0.7)
Pension contribution liabilities	(5.4)	(5.3)
Customer deposits and receipts in advance	(119.7)	(108.9)
	(540.7)	**(463.3)**
More than one year:		
Trade payables including accruals and other payables	(3.2)	(3.5)
Total	**(543.9)**	**(466.8)**

Within customer deposits and receipts in advance is £0.2 million relating to abstraction applications (2020-21, £0.9 million) and £2.0 million relating to water quality applications (2020-21, £2.3 million) where the contribution has been received but performance obligations have not been fully completed.

Contract liabilities for Environment Protection have increased this year to £13 million. The majority of this relates to surpluses on charging schemes, often arising from higher than expected income in quarter 4.

Flood risk management contract liabilities have increased by £8 million this year. This relates to the funding for future local levy spend planned by the RFCC. An element of the increase will relate to delays in project delivery, in part due to supply chain delays remaining from the effects of Covid-19.

13. Transfers between reserves

13.1 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)**	**-**

13.2 For the year ended 31 March 2021

	Revaluation reserve	General reserve	Pension reserve	Total
	£ million	£ million	£ million	£ million
Realised revalued depreciation and disposals	(88.4)	88.4	-	-
Net pension charge	-	11.0	(11.0)	-
Total	**(88.4)**	**99.4**	**(11.0)**	**-**

14. Commitments

14.1 Capital commitments

	31 March 2022	31 March 2021
	£ million	£ million
Contracted for but not provided in the financial statements	56.3	53.0

The amounts above relate to both property, plant & equipment, and intangible fixed assets. Commitments on capital works expensed in year at 31 March 2022 totalled £209.8 million (31 March 2021, £201.1 million).The majority of the significant commitments relate to the construction of flood defence schemes and the largest as at 31 March 2022 was for the flood risk management scheme at Preston for £27.6 million (31 March 2021 construction of sea defences at Lydd £23.8 million).

14.2 Financial commitments

The Environment Agency has entered into non-cancellable contracts (which are not leases).

Payments the Environment Agency is committed to	31 March 2022	31 March 2021
	£ million	£ million
Not more than one year	24.5	32.0
More than one year and not later than five years	4.6	26.1
More than five years	-	-
Total	**29.1**	**58.1**

The largest commitments relate to the Pevensey Bay beach maintenance contract (£5.7 million) (2020-21, £7.1 million) and an outsourced IT service contract with Capgemini (£21.8 million) (2020-21, £44.2 million).

14.3 Commitments under leases

The Environment Agency is committed to future minimum lease payments under operating leases.

Payments the Environment Agency is committed to	31 March 2022		31 March 2021	
	Land and buildings	Other	Land and buildings	Other
	£ million	£ million	£ million	£ million
Not more than one year	8.1	4.7	9.8	9.8
More than one year and not later than five years	17.6	3.2	23.7	6.9
More than five years	11.6	-	19.5	-
Total	**37.3**	**7.9**	**53.0**	**16.7**

The operating lease commitments above include costs that relate to the Environment Agency's proportion of occupation of Defra leasehold properties. These arrangements between the Environment Agency and Defra reflect a future commitment to reimburse Defra for the relevant portion of the underlying rentals paid to landlords for the provision of leasehold accommodation.

Defra group bodies also occupy Environment Agency buildings, and the full commitment on the leases is included above however there are arrangements to recover the portion of the underlying rentals from Defra group bodies.

Other leases mainly comprise of leases for Environment Agency vehicles.

14.4 Risk Management Authority Grant Commitments

Payments the Environment Agency is committed to	31 March 2022	31 March 2021
	£ million	£ million
Not more than one year	153.5	159.2
More than one year and not later than five years	322.0	253.9
More than five years	21.6	1.7
Total	**497.1**	**414.8**

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 notes 1.5 and 5.4. Payment is dependent on completion of works on the approved schemes.

The largest approved scheme as at 31 March 2022 was £79.4 million for coastal flood defencesat Southsea (31 March 2021, £86.6 million).

15. 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%, although the Environment Agency made the lump sum that was payable in 2021-22 a year early, meaning that only 14.5% of the monthly pensionable salary of members was paid in 2021-22.

The latest triennial actuarial valuation of the EAPF was at 31 March 2019. The assets taken at market value at that date (£3.7 billion) were sufficient to cover 106% of the value of liabilities in respect of past service benefits which had accrued to members.

The Environment Agency accepted the independent actuary's recommendation to increase employer contributions by 0.5% from 18.5% to 19.0% from April 2020 through to March 2023. This was to maintain a prudent funding plan in light of uncertainties over the cost impacts of the McCloud ruling (reported in note 15.5), leaving the European Union and climate change. Markets were disrupted over recent years by Covid-19 and the events in Ukraine which resulted in difficult market conditions, however the Fund's assets have now recovered very well and as at 31 March 2022 the net asset value is over £4.5 billion.

The reported net liability has decreased by around £406 million during the year ending 31 March 2022. The expected closing position liability (i.e. before changes in assumptions) was around £254 million higher than the opening position which was nearly double that of last year due to an increase in the pension benefits accrued during the year. However, the vast majority of the decrease in net liability has been affected by changes in financial assumptions of around £402 million – with increases to inflation and pension and salary rates as well as in the discount rate. Assumptions on levels of commutation, withdrawal, ill-health early retirement and similar are also made and are based on recent experience of LGPS funds. The changes in financial and longevity assumptions are provided in note 15.1.

The annual report and financial statements for the EAPF estimated that it had sufficient assets to meet 110% of its expected future liabilities at 31 March 2022 on an ongoing funding basis.

The Environment Agency's pension expenditure and position under IAS 19

These financial statements include the disclosure requirements of IAS 19 for 2021-22 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 2019. The assumptions underlying the calculation of a net liability at 31 March 2022 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 £206.3 million for the financial year 2021-22 (2020-21, £109.4 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.

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 2022, 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 higher pension increase (Consumer Price Index) assumption. This higher rate results in a lower value being placed on liabilities.

The sensitivity analysis in note 15.4 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% per annum. The estimated contribution payable by the Environment Agency, excluding any discretionary lump sum payments, for the year to 31 March 2023 will be approximately £57.6 million.

There is no requirement for the reported net liability to be met as a lump sum. 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 2022. The results are reviewed by the Pensions Committee and, following consultations with employers, will be sent 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. Defra is the financial sponsor for the Closed Fund and accounts for it within its annual report and accounts.

15.1 Financial and longevity assumptions

Financial assumptions for the Environment Agency Pension Fund

	% per annum 31 March 2022	% per annum 31 March 2021
Inflation and pension increase rate	3.15	2.80
Salary increase rate	3.65	3.30
Discount rate	2.75	2.05

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.

Longevity assumptions: average future life expectancy at age 65

Scheme member	31 March 2022		31 March 2021	
	Male (years)	Female (years)	Male (years)	Female (years)
Current pensioners	21.9	24.1	22.1	24.2
Future pensioners (people aged 65 in 20 years)	23.1	26.0	23.4	26.2

15.2 Fair value of employer assets

Fair value of employer assets at 31 March 2022

Asset category	Active market quoted prices	Non-active market quoted prices	Total	% of total
	£ million	£ million	£ million	%
Equity securities:				
Common stock	586.2	-	**586.2**	14
Other equity assets	11.4	-	**11.4**	-
Debt securities:				
UK government bonds	-	-	**-**	-
Corporate bonds	-	-	**-**	-
Other	-	-	**-**	-
Pooled investment vehicles:				
Equities	-	1,259.6	**1,259.6**	30
Bonds	-	1,430.4	**1,430.4**	35
Funds - real estate	-	-	**-**	-
Funds - venture capital	-	-	**-**	-
Venture capital and partnerships:				
Partnerships and real estate	-	648.3	**648.3**	16
Derivative contracts:				
Forward foreign exchange contracts	-	(1.1)	**(1.1)**	-
Cash and cash equivalents	-	198.5	**198.5**	5
Total	**597.6**	**3,535.7**	**4,133.3**	**100**

Fair value of employer assets at 31 March 2021

Asset category	Active market quoted prices	Non-active market quoted prices	Total	% of total
	£ million	£ million	£ million	%
Equity securities:				
Common stock	841.4	-	**841.4**	22
Other equity assets	15.1	-	**15.1**	-
Debt securities:				
UK government bonds	-	342.1	**342.1**	9
Corporate bonds	-	315.9	**315.9**	8
Other	-	21.7	**21.7**	1
Pooled investment vehicles:				
Equities	-	966.0	**966.0**	25
Bonds	-	605.5	**605.5**	16
Funds - real estate	-	131.7	**131.7**	3
Funds - venture capital	-	0.8	**0.8**	-
Venture capital and partnerships:				
Partnerships and real estate	-	484.0	**484.0**	12
Derivative contracts:				
Forward foreign exchange contracts	-	(1.1)	**(1.1)**	-
Cash and cash equivalents	-	170.7	**170.7**	4
Total	**856.5**	**3,037.3**	**3,893.8**	**100**

15.3 Change in fair value of employer assets, defined benefit obligation and net liability Year ended 31 March 2022

	Fair Value of Employer Assets		Defined Benefit Obligations		Net asset/(liability)	
	£ million	£ million	£ million	£ 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)**

*Includes an allowance for administration expenses of 0.6% of payroll costs
**This is reported as financing on pension scheme assets and liabilities on the statement of comprehensive net expenditure
***This is reported as an actuarial gain on pension scheme assets and obligations on the statement of comprehensive net expenditure

The defined benefit obligations comprised approximately £2.7 billion employee members, £0.8 billion deferred pensioners and £1.2 billion pensioners as at 31 March 2022 (31 March 2021, £2.8 billion, £0.9 billion and £1.3 billion). There are no current unfunded obligations.

Year ended 31 March 2021	Fair value of employer assets		Funded defined benefit obligations		Net asset/(liability)	
	£ million	£ million	£ million	£ million	£ million	£ million
Opening position as at 1 April 2020		**3,247.4**		**(3,380.7)**		**(133.3)**
Pension benefits accrued by members during the year*	-		(109.3)		(109.3)	
Change in cost of pensions from previous years' service	-		(0.1)		(0.1)	
Total service cost (note 3)		**-**		**(109.4)**		**(109.4)**
Interest income on plan assets	75.2		-		75.2	
Interest cost on defined benefit obligation	-		(78.4)		(78.4)	
Total net interest (recognised in SOCNE)**		**75.2**		**(78.4)**		**(3.2)**
Plan participants' contributions	25.7		(25.7)		-	
Employer contributions	101.6		-		101.6	
Benefits paid	(78.8)		78.8		-	
Total cash flows		**48.5**		**53.1**		**101.6**
Expected closing position		**3,371.1**		**(3,515.4)**		**(144.3)**
Change in financial assumptions	-		(1,400.8)		(1,400.8)	
Change in demographic assumptions	-		(62.4)		(62.4)	
Other experience	-		24.5		24.5	
Return on assets excluding amounts included in net interest	522.7		-		522.7	
Total remeasurements recognised in Other Comprehensive Expenditure* **		**522.7**		**(1,438.7)**		**(916.0)**
Closing position as at 31 March 2021		**3,893.8**		**(4,954.1)**		**(1,060.3)**

*Includes an allowance for administration expenses of 0.6% of payroll costs
**This is reported as financing on pension scheme assets and liabilities on the statement of comprehensive net expenditure
***This is reported as an actuarial loss on pension scheme assets and obligations on the statement of comprehensive net expenditure

The defined benefit obligation comprises approximately £2.8 billion, £0.9 billion and £1.3 billion in respect of employee members, deferred pensioners and pensioners respectively as at 31 March 2021 (31 March 2020, £1.6 billion, £0.6 billion, and £1.2 billion). There are no current unfunded obligations.

15.4 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%	109
0.1% increase in salary increase rate	0%	20
0.1% increase in pension increase rate	2%	89

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 2022 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.

15.5 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 & Communities) consultation which set out qualifying member criteria. No further adjustment has been made in 2021-22.

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.

16. Financial instruments

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 10 for an explanation of our debt recovery process. Last year, 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. However, cash collection in recent years has been very positive with 98% of 2021-22 income collected which suggests that the pandemic assumptions are not going to continue and so the adjustment has been reversed. This means the estimate returns 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.

16.1 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 agreement 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	Finance Charge 2020-21	Amounts paid in 2020-21	Liability at 31 March 2021	Finance Charge 2021-22	Amounts paid in 2021-22	Liability at 31 March 2022	Liability at 31 March 2022 Due within 1 year	Liability at 31 March 2022 Due later than 1 year
	£ million	£ million	£ million	£ million	£ million	£ million	£ million	£ million
Northumbrian Water	(23.8)	19.2	(321.8)	(40.5)	20.4	(341.9)	(19.2)	(322.7)
Severn Trent Water	(2.5)	1.9	(87.7)	(5.8)	2.0	(91.5)	(1.9)	(89.6)
Total	**(26.3)**	**21.1**	**(409.5)**	**(46.3)**	**22.4**	**(433.4)**	**(21.1)**	**(412.3)**

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.

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 2021-22) increases or decreases by £4 million (2020-21, £4 million).

17. 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.

17.1 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	2021-22	2020-21
	£ million	£ million
Defra environment protection grant-in-aid	(154.8)	(94.3)
Defra flood defence grant-in-aid	(854.3)	(836.1)
Defra IDB or local authority grant-in-aid	(210.9)	(119.6)
Total	**(1,220.0)**	**(1,050.0)**

17.2 Defra group Corporate Services

The property portfolio of the Defra group was managed centrally by Defra during the whole of 2021-22 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 2021-22, Defra charged the Environment Agency £71.5 million (2020-21, £44.5 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 2021-22 provided fleet management services to Defra, NE, RPA and APHA with a cost of £0.2 million (2020-21, £0.2 million). This service provision provides economy of scale efficiencies on safety, sustainability, and procurement for the group as a whole.

17.3 Other related parties

The Environment Agency keeps a fully updated Register of Interests. During the year, the Environment Agency had transactions with organisations for which Board members or Executive Directors have declared a related party interest as shown in the below table:

Board member/ Executive Director	Related body	Payments made in 2021-22	Income received in 2021-22	Outstanding Payable balance as at 31 March 2022	Outstanding Receivable balance as at 31 March 2022
		£ million	£ million	£ million	£ million
Maria Adebowale-Schwarte	Canal and Rivers Trust	0.4	2.5	-	0.4
Caroline Douglass	Scottish Environmental Protection Agency	-	0.3	-	0.1
Ines Faden da Silva	Thames Tideway (Bazalgette Tunnel Limited)	-	0.8	-	0.1
Lynne Frostick	Beverley and North Holderness IDB	0.7	0.2	-	-
Emma Howard-Boyd	National Trust	0.7	0.1	-	-
Sarah Mukherjee*	The Woodland Trust	0.6	0.1	-	0.1

*Sarah Mukherjee was appointed as a Board Member on 10 January 2022 and ceased to be a trustee of the Woodland Trust on 18 March 2022. There were no material transactions with the Woodland Trust during this period.

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, Emma Howard Boyd, 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 £0.7 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.

In September 2019, the Environment Agency entered into a collaborative agreement with the Esmée Fairbairn Foundation to explore how private finance investment could be achieved at scale to enable environmental problems to be addressed. As part of the collaboration, the Environment Agency invested £309k across four initial Investment Readiness Projects in 2019-20 in order to develop, test and evaluate new models for investing in the environment and learn how these models could be applied more widely. £125k of this investment was funded by Defra via grant-in-aid. There have been no further cash investments in the projects since then, although learnings from the investment process for the projects continue to be shared. Environment Agency Board members Caroline Mason and Judith Batchelar are the Chief Executive Officer and Commissioner respectively of the Esmée Fairbairn Foundation.

The Environment Agency has one Internal Drainage Board which is under common control (see note 1.20).

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.

18. Events after the reporting date

18.1 Date of authorisation for issue

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 110 to 120.

18.2 Pension fund assets

In accordance with accounting standards, the fair value of employer assets as disclosed in note 15.2 reflects the economic conditions in existence as at 31 March 2022. Since the reporting date there has been significant market volatility due to a number of factors including the events in Ukraine and substantially increased inflation. UK gilt market conditions have put downward pressure on government bond valuations and increased the occurrence of recapitalisation events for pension schemes with leveraged Liability-Driven Investment (LDI) mandates. The EAPF has unlevered LDI so no collateral is required to maintain hedging positions, which are implemented through physical bonds. Despite difficulties within the market, the EAPF is confident that the fund is sufficiently liquid and has adequate cash to meet expected cashflow over the foreseeable future.

This does not affect the figures reported at 31 March 2022 but reflects changes since then. For further details please refer to the published EAPF Active Pension Fund Annual Report and Accounts for 2021-22.[27]

[27] Annual reports and accounts | Resources | EAPF

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 2022, our principal government sponsor remained Defra. However, the Environment Agency also works closely with other principal government departments such as the Department for Business, Energy & Industrial Strategy and the Department for Levelling Up, Housing & Communities. Defra oversees the environmental policy framework within which the Environment Agency operates in England.

Appendix B: Sustainability data

(Not subject to audit)

Emissions	Unit	2019-20	2020-21	2021-22
Direct emissions (Scope 1)	tCO_2e	10,000	7,000	11,000
Indirect emissions from purchased energy (Scope 2)	tCO_2e	17,000	13,000	9,000
Indirect emissions produced by our suppliers (Scope 3)	tCO_2e	9,000	5,000	8,000
Total gross emissions	**tCO_2e**	**36,000**	**25,000**	**28,000**
Carbon intensity (per £ million expenditure)	tCO_2e	22	16	18

Business travel	Unit	2019-20	2020-21	2021-22
Car and motorbike	tCO_2e	7,613	4,539	6,180
Percent of Environment Agency's Car fleet classed as ultra-low emissions vehicles		-	-	25.1%
Rail	tCO_2e	1,122	50	41
Air	tCO_2e	181	2	5
Total business travel	tCO_2e	8,916	4,591	6,226
	£ million	24	14	17
Travel carbon intensity per full-time employee	tCO_2e	0.8	0.4	0.6

Office waste	Unit	2019-20	2020-21	2021-22
Landfill	Tonnes	1.5	0.1	0.1
	£	14,000	13,000	5,000
Reused or recycled	Tonnes	200	57	88.7
of which is total food waste composted from offices		-	-	4.3
of which is food waste sent externally for composting or anaerobic digestion		-	-	34.4
Incinerated to produce energy	Tonnes	14	20	17.7
Incinerated without energy recovery		-	-	-
Reused, recycled, or incinerated	£	196,000	180,000	156,000
Reused or recycled electronic or electrical equipment	Tonnes	19	2	0.3
Total office waste	**Tonnes**	**235**	**79**	**107**
	£	**210,000**	**193,000**	**161,000**

Pension fund investment	Unit	2019-20	2020-21	2021-22
Pension fund assets	£ million	3,246	3,887	4,133
Investments in clean & sustainable technology	%	31	18	26 (i)
Carbon footprint	tCO_2e per £ million	177	162	174 (ii)

i) As at 31 December 2021. FTSE Environmental Markets Classification System and in-house analysis.

ii) Scope 1 and Scope 2, as at 31 December 2021. Weighted Average Carbon Intensity (WACI). Coverage approximately 58% of total Fund value. The EAPF has a separate net zero target and separate monitoring arrangements to the EA, due to the differing financial, legal, and operational considerations. See (our net zero strategy).

Resource consumption	Unit	2019-20	2020-21	2021-22
Purchased gas and purchased renewable electricity	million kWh	66	58	64
	£ million	7.3	7.3	7.0
Self-generated renewable energy	million kWh	0.5	0.4	1.4
Water supplied	Cubic metres	41,603	23,065	13,050
	£	230,000	139,000	226,000
Paper from renewable or recycled sources	Reams	20,000	2,000	4,046

Appendix C: Performance data

(Not subject to audit)

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.

https://www.gov.uk/government/collections/environment-agency-corporate-scorecard

Infographic	Primary SDG	Success measure	Units	2021-22 target	2021-22 actual
	13 CLIMATE ACTION	A1a/PO3.1 We reduce the risk of flooding for more households	Number of households better protected	45,000	32,908
	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%	91.8%
	13 CLIMATE ACTION	A2 We will deliver our strategic adaptation actions to tackle the climate emergency	% of adaptation actions on track	90%	78%
	3 GOOD HEALTH AND WELL-BEING	A3 We have a first-class incident response capability Proportion of trained staff utilised in core incident roles	Number of people	80%	77%
	13 CLIMATE ACTION	A4 Air quality is improving - Monitor the reductions across five priority pollutants: NOx, SOx, NMVOC, NH3 and Particulates in the refineries sector	% Reduction, grams per tonne	<431 SOx <203 NOx	414.21 SOx 236.55 NOx
	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	1,650 km	1,528 km

	15 LIFE ON LAND	A6 We increase biodiversity and promote an environmental net gain by creating more and better habitats for the benefit of people and wildlife	Hectares created & hectares restored	620 ha	1,111 ha
	11 SUSTAINABLE CITIES AND COMMUNITIES	A7 We successfully influence planning decisions by local authorities	% decision notices successfully influenced	97%	98.2%
	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	200	194
	13 CLIMATE ACTION	A9 A net zero carbon organisation by 2030	Tonnes of carbon dioxide	27,342	20,485
	8 DECENT WORK AND ECONOMIC GROWTH	EO1 We manage our money efficiently to deliver our outcomes	% spend to budget	£1,635m	£1,640m
	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%	4.6%
	10 REDUCED INEQUALITIES	EO2 We have a diverse workforce: b) The proportion of our executive managers who are female	% of workforce	50%	43%
	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	0.05

Appendix D: Board members' attendance

(Not subject to audit)

Member	Board	ARAC	PC	PCISC	FCERM	EB	PPC
Emma Howard Boyd (Chair) (i)	7 of 7	-	2 of 2	1 of 4	-	-	2 of 2
Richard Macdonald (Deputy Chair) (ii)	6 of 7	4 of 5	-	-	2 of 2	5 of 5	2 of 2
Maria Adebowale-Schwarte	5 of 7	-	-	-	-	2 of 5	2 of 2
Judith Batchelar	6 of 7	4 of 5	-	-	-	3 of 5	-
Stewart Davies (iii)	7 of 7	5 of 5	-	-	-	4 of 4	-
Ines Faden da Silva	7 of 7	4 of 5	-	-	5 of 6	-	-
Lynne Frostick	7 of 7	-	-	-	6 of 6	-	-
Robert Gould	7 of 7	5 of 5	5 of 5	9 of 9	6 of 6	-	2 of 2
John Lelliott	7 of 7	5 of 5	4 of 5	-	5 of 6	-	-
Caroline Mason	7 of 7	-	5 of 5	9 of 9	-	4 of 5	-
Lilli Matson	7 of 7	-	5 of 5	-	5 of 6	-	-
Sarah Mukherjee (iv)	1 of 2	-	-	-	1 of 2	1 of 1	-
Mark Suthern (iv)	1 of 2	1 of 1	-	-	2 of 2	1 of 1	-

Board - Seven meetings in 2021-22

ARAC - Member of Audit and Risk Assurance Committee – five meetings in 2021-22

PC - Member of Pensions Committee – five meetings in 2021-22

PCISC - Member of Pensions Investment Sub Committee – nine meetings in 2021-22

FCERM - Member of Flood & Coastal Erosion Risk Management Committee – six meetings in 2021-22

EB - Member of Environment & Business Committee – five meetings in 2021-22

PPC - Member of People and Pay Committee – two meetings in 2021-22

Notes:

i) Emma Howard Boyd stopped being a member of the Pensions and Pensions Investment Sub Committee in September 2021.
ii) Richard Macdonald stopped being a member of the Flood & Coastal Erosion Risk Management Committee in July 2021.
iii) Stewart Davies commenced as a member of the Environment & Business Committee in June 2021.
iv) Mark Suthern and Sarah Mukherjee commenced their roles in January 2022.

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