

Forest Research
**Annual Report and Accounts
2022-2023**

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Performance Report



Chief Executive's Statement

Summary of 2022-23 – James Pendlebury, Chief Executive

Forest Research (FR) has enjoyed a busy and most productive year. We have grown our income for the third year in a row, secured more welcome and much needed investment for our estate from the Department for Environment, Food & Rural Affairs (Defra) and made greater impact with our research. But above all, the commitment and dedication of our staff in securing new and significant programmes of research has been particularly inspiring.

Our People

Our people are at the heart of our success and so we were delighted that Lee Cooper was presented with an MBE medal at Windsor Castle in November by the King. During an outstanding 44-year career as a Research Worker, Lee supported numerous projects benefitting the forestry sector and society and the award acknowledges his pivotal role in the success of these projects.

On a personal note, it was an absolute pleasure to present Colin Gordon with his Imperial Service Medal after 41 years with us as a Research Worker prior to his recent retirement from our Northern Research Station. His work ethic and knowledge has been invaluable to Forest Research over the years, and he will be sorely missed.

I was also pleased that colleagues, Dr Gary Kerr FICFor and Tom Jenkins FICFor, were each awarded the Institute of Chartered Foresters Institute Medal. The medal is the Institute's highest honour and is given to individuals who demonstrate a continued commitment to professional excellence and service in forestry and whose work reaches beyond the profession and is recognised UK-wide.

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In addition, it was gratifying to see Dr Ian Willoughby FICFor and Dr Roger Moore receive the Scottish Forestry Trust's Cyril Hart Memorial Award for 2022 for their paper – Willoughby, I.H., Moore, R., Moffat, A.J, Forster, J., Sayyed, I. and Leslie, K. (2020). ['Are there viable chemical and non-chemical alternatives to the use of conventional insecticides for the protection of young trees from damage by the large pine weevil *Hylobius abietis* L'](#) which was published in the Institute of Chartered Foresters Journal Forestry in 2020.

Outcomes

It is as a result of the dedication of our staff that we have delivered 17 out of 20 Key Actions for 2022–23, with the remaining 3 due to be finalised in 2023–24.

We also secured £11.9 million of non-core income. This is another significant year of growth and reflects the skills of our staff, the relevance of our science, as well as the increased interest in trees and forests across the UK.

Our Business

Core to our Strategy for Growth ambitions is the generation of new business. We were particularly pleased to secure several projects to support the Defra Research and Development strategy for the Nature for Climate Fund / England Tree Action Plan. Many of these projects will involve collaboration with other Arm's Length Bodies (ALBs) or research organisations, and we were extremely grateful for the scoping input from Forest Services and Natural England during the bidding process and the Forestry Commission, through which we have accessed additional Defra funding.

Funding success also came in our securing two more UK Research and Innovation (UKRI) projects as part of Phase 2 of the Future of UK Treescapes programme. These complement the three we won last year and was an impressive achievement given that it was a highly competitive call with 59 project bids vying for 4-6 funded projects.

Profiling and Engagement

FR were delighted to welcome BBC's Countryfile to Alice Holt which enabled us to show a broader audience just how much work Forest Research is doing to help us combat climate change and the pests and diseases that are affecting forests both here and around the world. Using our mobile laboratory and flux tower, we demonstrated how we gather the evidence on the ground to inform our understanding of tree pests and diseases and carbon so that we can advise and empower others to take positive action. The programme aired on BBC1 on Sunday 20th November to an audience of 6 million, generating substantial interest in our work from both the sector and potential employees.

Growing our profile in Wales with partners was the highlight in the events calendar. FR produced a wide-ranging display for the Royal Welsh Agricultural Show in July, showcasing our work on tree health. Visitors, both young and old, delighted in stepping inside our mobile laboratory and

getting a hands-on experience as a tree health scientist. Working alongside our colleagues from the Animal and Plant Health Agency (APHA), Natural Resources Wales and the Welsh Government, we were thrilled to win the silver award for the “Stand of Forestry Interest” and look forward to strengthening those relationships once again at the show this year.

Our Science Outputs and Publications

We developed many significant scientific outputs and publications during the year, but several have been particularly welcomed by our core stakeholders from all three nations. These included two UK Forestry Standard (UKFS) Practice Guides: ‘Adapting forest and woodland management to the changing climate’ and ‘Designing and managing forests and woodlands to reduce flood risks’.

FR’s summary report on ‘Quantifying the Sustainable Forest Carbon Cycle’, was published with support from all three administrations and provides a comprehensive guide to this highly topical and contested topic. Analysis presented assesses the influence of different tree species, site and management factors, including the eventual use of harvested wood, on the potential carbon sequestration and GHG emissions. The results show that all the woodland types deliver significant net CO₂ uptake over a 100-year period, and nearly all in the 2022 to 2050 period. None result in significant net GHG emissions during this time.

Our National Forest Inventory Production Forecast was particularly welcomed by the forestry sector and generated much discussion. As part of our annual cycle of National Statistical outputs we also published Forestry Statistics and Forestry Facts and Figures 2022 and the updated Timber Price Indices which remains one of our most viewed statistical outputs and one that generates the most queries.

The role of trees and forests in ameliorating the impacts of climate change and threats to biodiversity as well as recognising the positive mental and physical health benefits has never been more important, and the need for quality science, evidence and data to underpin that role is increasingly critical. Our staff continue to deliver great science, innovation and data services and I would like to thank them for their ongoing enthusiasm, creativity, expertise and commitment. I would also like to thank our stakeholders, partners and customers for their ongoing support and collaboration and look forward to working closer together in the future.

Professor James Pendlebury

Chief Executive and Agency Accounting Officer

Performance Report

Purpose and activities

Forest Research is the research agency of the Forestry Commission (FC) and Great Britain's principal organisation for forestry and tree-related research. We are internationally renowned for the provision of science, research, evidence, data and services in support of sustainable forestry.

Our vision

To be a world leader in applied forest science and a trusted and recognised provider of expertise, data, products and services for government and the tree, wood, forest and natural resources sectors.

Our key strategic themes



Engaging with customers

Our customers are our primary focus. We will conduct timely, rigorous and independent research to give our customers the quality science, evidence, data, products and services they need to make informed decisions, support policy development, or develop and grow their businesses.



Developing our science and data offer

Using and adapting new technology, techniques and approaches are fundamental to our provision of quality research and data services. Our interdisciplinary science and data provision will offer trusted and quality-assured insight and innovation.



Increasing our value

Through well-established connections across the forestry sector, we understand the issues facing our trees, woods and forests and those involved with them. We will continue to give the best research advice, information and data to our customers and to grow our business.



Working together

Forest Research's staff are fundamental to our success. Their expertise, pride and passion have made us the UK's leading provider of applied forest research. We recognise that our future reputation depends on the work we will do, not just on the work we have done.

As part of the wider Department for Environment, Food and Rural Affairs (Defra) family, and in alignment with the Forestry Commission strategic aims, FR will help to deliver Defra's strategy, [A Green Future: Our 25 Year Plan to Improve the Environment](#), which sets out a shared vision and a set of objectives to improve the environment within a generation.

At the heart of the strategy is a shared vision for the Defra group: creating a great place for living. Defra's goals are focused on four impact objectives: to make a positive difference to the UK by delivering a cleaner and healthier environment; supporting a world-class food and farming industry; supporting a thriving rural economy; and protecting the UK against environmental damage. More information on the Strategy is available in Defra's Annual Report and Accounts.

Research funding

From 1 April 2019, the Cross-Border Memorandum of Understanding between Forest Research and the UK, Welsh and Scottish governments has funded core research and other services. This arrangement supports the Ministerially-endorsed Science and Innovation Strategy for Forestry in Great Britain and forestry policies of the UK, Scottish, Welsh and Northern Irish governments. In addition, Forestry England, Forestry and Land Scotland and Natural Resources Wales purchase research, data services and surveys specifically related to their respective forest estates. Forest Research is also increasingly successful in securing funding from other government departments, the European Commission, UKRI, commercial organisations, private individuals and charities. Our non-core income continues to grow and is key in funding our ongoing research. Collaborative bids with other research providers and consortium funding have become increasingly important, placing emphasis on effective partnership working.

Activities

Research and development are essential components in delivery of the benefits of sustainable forestry in a multifunctional landscape and in the wise management of trees in urban and rural settings. FR's research, surveys and related forestry data and scientific services address the social, economic and environmental components of sustainability and help respond to the climate and biodiversity crises. Increasingly, we are working collaboratively with other organisations to provide information and analysis on the growing impact of climate change. We focus on providing objective knowledge and practical solutions based on high-quality science, data provision and analysis.

Our projects provide understanding, policy advice and guidelines on the implementation of best practice on issues such as forest hydrology, silviculture and forest management, tree health, mitigation of and adaptation to climate change, carbon sequestration, well-being benefits of nature, public attitudes and behaviours, biodiversity and genetic conservation, timber quality, tree improvement, seed testing, remote sensing, crop inventory, yield modelling, production forecasting, forest statistics, surveys and monitoring. Our expanded capacity for laboratory analysis, with the upgrade of our facilities, has meant that we are providing a greater service in this area.

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Resources

Forest Research employed 308 (full-time equivalent) staff during the year 2022–23 at sites across England, Scotland and Wales. Contact information for our main offices is provided on the back cover.

Issues and risks

The important issues and risks that could affect FR in delivering its objectives are reported within the Governance Statement on pages 38 and 39, including the impact of Covid-19 and how the Agency is addressing the risks and issues.

Performance Overview

Operating review

Forest Research continues to operate successfully and deliver its key activities as we emerge from the Covid-19 pandemic. The long-term impacts of the pandemic are still to be fully realised but FR has proven that it is a resilient business and has adapted to the new hybrid model of working. Our staff numbers have grown substantially as we have secured new funding and expended our research and analysis activities across the business. During this time, we have continued to work safely and manage and monitor the ongoing Covid-19 impacts to ensure the protection of colleagues while delivering business activity continuity in line with UK and Devolved Government requirements. Our scientists continued to produce a wide range of publications, scientific outputs, advice, engagement and participation in online and, as circumstances permitted, in person events.

We have continued to upgrade our offices with investment in our main corporate estate to provide better, more modern facilities for our expanding business. We continue to improve our embedded IT infrastructure and business systems to ensure that we can support the remote/blended working requirements of our growing workforce.

FR has emerged from the pandemic as a trusted partner to deliver the key research activities to the sector. The Agency has continued to grow its funding streams by delivering a high-quality service for public and private bodies alike.

In particular, Forest Research has:

- successfully achieved revenue financial balance for the year, the Statement of Comprehensive Net Expenditure on page 62 reports a net operating surplus of c£366k;
- fixed assets were revalued as at 31 March 2023 by professional RICS valuers and have resulted in a material increase in the value which is recorded as a net gain on revaluation of £7,676 million in the Statement of Comprehensive Net Expenditure;
- continued to deliver the core programme work relating to the Cross-Border Ministerially-endorsed Science and Innovation Strategy, which commenced from April 2019 and is in-place for a period of five years;

- achieved or exceeded targets for 17 out of the 20 Key Actions, with the remaining Key Actions due to be finalised in 2023–24;
- continued to implement its new Strategy for FR, A Strategy for Growth, and increased total operating income to c£30 million;
- completed phase 1 of the new wing at Northern Research Station to expand our corporate estate and facilities for the transfer of staff from Silvan House in central Edinburgh;
- continued to develop our hybrid work model with flexible communication and IT capabilities for FR, to ensure ongoing effective connectivity for ensure ongoing effective connectivity with our main offices, outstations and hybrid working locations across the country;
- continued to support Defra colleagues in dealing with biosecurity outbreaks, for example, by responding to recent *Ips typographus* outbreaks;
- collaborated with the International Union of Forest Research Organisations (IUFRO) to publish a global review of the effects of forest management on water quality;
- produced our summary report on ‘Quantifying the Sustainable Forest Carbon Cycle’;
- published Forestry Standard (UKFS) Practice Guides: ‘Adapting forest and woodland management to the changing climate’ and ‘Designing and managing forests and woodlands to reduce flood risks’;
- continued to support Defra’s international forest policy work through the provision of technical advice and representation at international meetings and events;
- continued to support the Defra Research and Development strategy for the Nature for Climate Fund / England Tree Action Plan
- launched the virtual Climate Change Hub; and;
- published a large range of UK National Statistics and Official Statistics on subjects including woodland carbon code statistics, timber price indices, Forestry Statistics 2022 and analyses from the National Forest Inventory.

Financial review

Forest Research has continued to build on the successes of previous years and delivered positive financial and operational results, meeting our key business plan objectives. The overall business has grown in the 2022-23 financial year with significant increases in staff numbers to deliver services secured through additional funding opportunities.

Core funding is secured under the MOU agreement and provides the base for core operations, but Forest Research has been successful in winning additional bids during the year which have led to the expansion of our services across multiple research areas. Working closely with the Forestry Commission, we have secured additional funding via Defra initiatives.

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We continue to build on core Defra-funded projects such as the; Centre for Forest Protection (CFP), the Future Proofing Plant Health (FPPH) Programme, Nature for Climate funded England Tree Planting Programme (NCF) and new UK Research and Innovation (UKRI) projects as part of Phase 2 of the Future of UK Treescapes programme. This investment has enabled Forest Research to provide better support for the UK Government's Woodland Creation programme, the [GB Plant Biosecurity Strategy](#) (published January 2023) and contribute to tree health and plant biosecurity through enhancement of the equipment and facilities, and preparatory studies to develop a robust science and evidence base.

FR's total income has increased to c.£30 million during 2022-23 this equates to a 19% growth from prior year and an accumulative 39% growth in our operational income since 2020.

At the same time as increasing our income, FR has continued to make significant capital investment in our estate during the year as we continue the major refurbishment of our two main research facilities at Alice Holt (AH) and the Northern Research Station (NRS). This has been possible with the welcome support of Defra, via the Forestry Commission, who have provided £5.5 million of critical investment in our main facilities and IT infrastructure. In addition, we have also received £1.1m of capital investment from Defra towards scientific equipment to help maintain and enhance the Agency's research capability.

The completion of the new wing at NRS will house the relocated and growing Inventory, Forecasting and Operational Support (IFOS) team and provide additional facilities for other scientists based on the site.

A comparison of income and expenditure with the previous year's results shows that:

- income from external sources (non-core income) during the year amounted to £11.9 million, which is an increase c.16% on the level achieved in 2021-22 (£10.3 million);
- other management costs increased by £796k (11%), mainly due to rising prices and the continued investment in building maintenance costs, computer supply costs and depreciation charges. These cost increases correlate to the planned asset investment and funded capital spend over the last three financial years, as well as routine repairs across the corporate estate;
- materials and services costs increased by £2,182k (70%), mainly due to the additional research contracts secured which have sub-contracted delivery costs associated with these bids, but also impacted by high inflation and rising costs;

In 2022-23, Forest Research recognised total operating income of £29.8 million, significantly exceeding the level achieved during 2021-22 (£25.1 million) and reported net operating income of £366k (2021-22: (£1,595k)), see note 4.1 page 75. The increase in the level of income was mainly related to an increase in Research Contracts, CFP, FPPH, NCEA and the new NCF funding.

Additions to Property, Plant and Equipment (PPE) and intangible assets during the year amounted £7.257 million (2021-22: £5.925 million) and included the further works to phase 1 of the new wing at NRS as well as substantial modernisation and sustainability works at both NRS and AH sites and investment in scientific equipment.

Financial objective – Key Actions

Forest Research's primary financial objective set out in the Framework Document is to recover the full economic costs of its operations from the sale of services to customers. In 2022-23 the recovery rate was 102.1%, which reflects a decrease on the 103.0% recovery rate achieved in 2021-22. This results in the surplus in 2022-23 of £366k. Performance against other operational and scientific Key Actions is reported in the Performance Analysis section on page 14.

The future

As we finally emerge from the impacts and effects of Covid-19, Forest Research is finding ourselves at the forefront of the growing need for evidence led decision making. We have continued to deliver world class science offerings and our agile approach has allowed us to continue to provide a much-needed service. Our work is founded on the principle that applied research and reliable evidence are at the heart of informed policy-making and sustainable land management practices. While our approach is constantly reviewed, the current focus has enabled us to shape our future priorities and develop our existing focus in providing the science and evidence to:



Some of the activities that Forest Research will be undertaking to support the delivery of the Science and Innovation Strategy for Forestry in Great Britain, and to fulfil our own corporate objectives for 2023-24, are as follows:

- progress our seven core science programmes which respond to the Science and Innovation Strategy for Forestry in GB, actively engaging

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with our key stakeholders in co-creation, co-design and in shaping the outcomes of the research;

- provide international forestry technical support for Defra and participate in international science networks such as the International Union of Forest Research Organisations (IUFRO);
- use our Holt Laboratory to further develop our understanding of known and emerging threats from tree pests and diseases and our response to outbreaks;
- further develop the Centre for Forest Protection in partnership with Royal Botanic Gardens Kew and with Defra through a programme of research and development of education and training materials;
- contribute to the development of phase 2 of the Plant Health Centre, Scottish Government's centre of expertise, through participation in the Directorate and in research and stakeholder events;
- survey 1,500 hectares of forested land across GB as required by the National Forest Inventory (NFI) and contribute to the development of the Natural Capital Ecosystem Assessment (NCEA) characterisation of land in England;
- continue to participate in and support the Nature for Climate Fund (NCF) Programme, and the associated research and development strategy through the initiation and delivery of over 30 projects, many of them collaborative;
- continue to evolve and develop our Environmental Management System and other associated quality management systems;
- publish UK National Statistics and Official Statistics releases on subjects including forestry statistics, timber price indices, UK wood production and analyses from the NFI.

Supplier payment policy

Forest Research complies with the Government's Better Payment Practice Code. Unless otherwise stated in the contract, we aim to pay within five days from the receipt of goods and services or the presentation of a valid invoice, whichever is the later. An analysis for 2022-23 indicates that 99.4% were paid within the due date, which is an improvement on the previous year (98.9%). Arrangements for handling complaints on payment performance are notified to suppliers on contracts.

Auditors

These accounts are prepared in accordance with a direction given by HM Treasury in pursuance of Section 7 of the Government Resources and Accounts Act 2000. They are audited by the Comptroller and Auditor General, who is the statutory appointed auditor. The notional fee for statutory audit services in respect of these accounts was £49,900 (2021-22: £42,000). No further non-audit services were provided in 2022-23 or 2021-22.

Performance Analysis

The performance of Forest Research is closely monitored throughout the year by the Board and is measured through assessment of our corporate compliance, business growth, finance and science outputs against each of our science and business priorities.

The Board ensures that progress against our Key Actions is appropriately measured and reported, including consideration of risks and uncertainties that potentially have an impact on performance, through our risk management procedures. In addition, regular monitoring of the financial position in comparison to the approved budgetary targets is undertaken. This financial monitoring is critical to the success of our primary financial objective of recovering the full economic costs of our operations from the sale of services to customers.

A financial review and analysis of long-term expenditure trends have been included within the Parliamentary Accountability Disclosures section on page 53. Operating and financial reviews describing our key financial results for the year have been included on pages 10 to 12.

We also recognise the importance of non-financial performance information and a Fraud Policy Statement is available for staff to access across the organisation. We continue to work closely with the Forestry Commission and Defra in line with the Defra Counter Fraud Policy and Strategy, publicised on our intranet for all staff to access.

The environment is at the heart of our activities and the impact of our business on the environment is measured and reported within the Sustainability Report on pages 20 to 30.

The Board has concluded that our achievements against our corporate Key Actions for 2022–23 are a strong indicator of performance and are listed below. A full commentary with details of our work on each Key Action is available on our website [Key actions](#)

Key Actions

Key actions

Progress

Produce a report for the Forestry Commission on wood properties and uses of larch in Britain.	Achieved
Review and implement the Forest Research Data Strategy.	Achieved
Implement the Changing the Way We Work change programme.	Achieved
Deliver an update of the woodland carbon sequestration estimates for inclusion in the Woodland Carbon Code 'Woodland Carbon Calculation Spreadsheet', incorporating revisions based on new forest yield models.	Substantial progress
Publish Forestry Standard (UKFS) Practice Guide: 'Adapting forest and woodland management to the changing climate'.	Achieved
Publish Forestry Standard (UKFS) Practice Guide: 'Designing and managing forests and woodlands to reduce flood risks'.	Achieved
Expand the funding base the securing additional UK Research and Innovation (UKRI) projects as part of Phase 2 of the Future of UK Treescapes programme.	Achieved
Participate in the UKRO Future of UK Treescapes programme through involvement in collaborative funded projects.	Achieved
Publish FR's summary report on 'Quantifying the Sustainable Forest Carbon Cycle'.	Achieved
Published the results of our pioneering Storm Damage Assessment.	Achieved
Launch of the FR Climate Change Hub.	Achieved
Completed a substantial research project Greenhouse gases and carbon dynamics of forestry.	Achieved
Undertake research to investigate alternatives to conventional plastic treeshelters.	Ongoing
Collaborate with the International Union of Forest Research Organisations (IUFRO) to publish a global review of the effects of forest management on water quality.	Achieved
National Forest Inventory Production Forecast published providing key national forestry statistics through the Forestry Statistics and Forestry, Facts and Figures 2022 and the updated Timber Price Indices.	Achieved
Implement the Trees Outside Woodlands surveying and monitoring programme in England as part of the NCEA.	Substantial progress
Progress our approach to enhanced research impact by developing and implementing a Knowledge Exchange and Impact Strategy.	Achieved
Establish a Research Ethics Committee to oversee our research plans and activities.	Achieved
Development of Careers Hub on the FR external webpage.	Achieved
Grow FR income.	Achieved

Research highlights from the past year

A major work area at Forest Research this year has been the development of tools, guidance and research into the effects and mitigation of climate change. In 2022, we published the results of our pioneering Storm Damage Assessment, which establishes the scale and scope of damage in woodlands and will streamline assessments following future storms. A Woodland Water Code is in development, which will help guide responses to key pressures such as diffuse pollution, flooding and rising water temperatures. Our ongoing research into alternatives to plastic tree shelters will allow FR to provide advice about the efficacy of more eco-friendly tree shelter designs. Our research into forest carbon dynamics is aiding our understanding of the processes and rates of exchange of greenhouse gases in forests, and how they are affected by forest management. This year also saw the publication of the UK Forestry Standard Practice Guide on Adapting Forest and Woodland Management to the Changing Climate, providing essential guidance on how to adapt management approaches and plan for future conditions. Our Climate Change Hub, which launched in January 2023, is an exciting new resource which brings together the latest research on climate change and adaptation, making it readily accessible to those who need it and which will evolve as new guidance emerges.

Storm Damage Assessment

Following a particularly damaging winter storm season over 2021/22, Forest Research undertook an analysis of storm damage in forests across Great Britain using Remote Sensing data and a pioneering algorithm developed as part of the collaborative response effort to Storm Arwen with Scottish Forestry, Forest Services England and Confor.

An additional citizen science project was then carried out, which allowed foresters, land managers and landowners to report the damage on the ground. This project, combined with improvements to the machine learning algorithms used within the satellite data and mapping work, allowed smaller areas of damage (less than 0.5ha) to be captured. This significantly improved the accuracy of the damage assessment. This work helped forestry regulators, practitioners and logistics managers understand the scale and scope of the damage they were dealing with.

A meeting was held with country representatives in June 2022 to review the response effort and discuss a more integrated storm management service for the future.

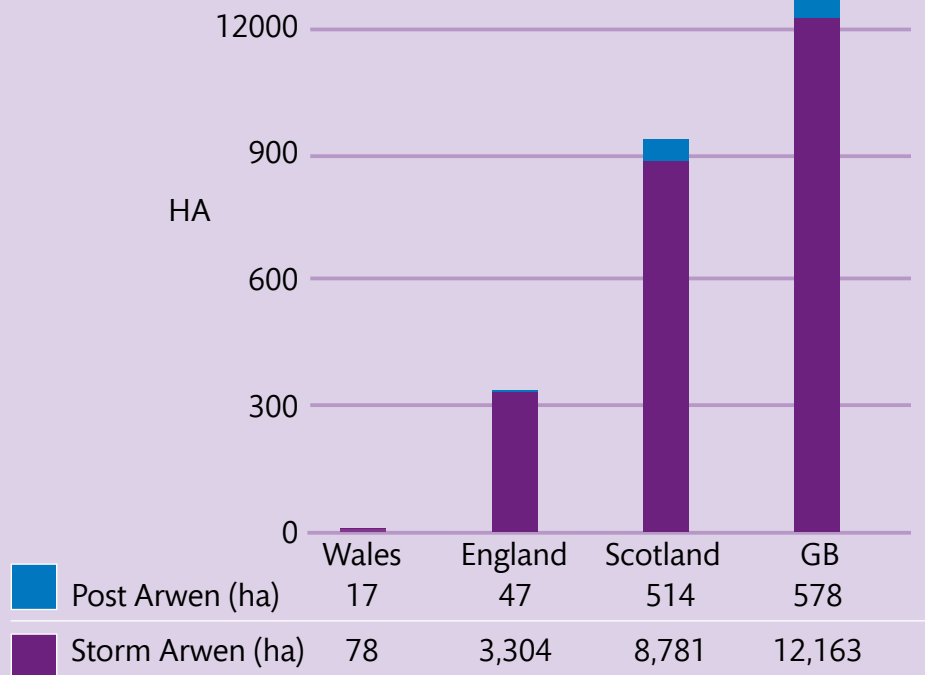
Final estimates of storm damage, distinguishing areas of windthrow due to the major storm, Arwen, from that caused in subsequent storms through extension of existing patches or creation of new patches are shown in the table on page 17.

Developing a Woodland Water Code

Woodlands provide a wide range of societal benefits, including several water-related ones. Prominent among these are the protection of water quality, reduction in flood flows, and 'water cooling'.

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Storm Arwen Impacts 2021/22 Final estimates of storm damage were:



In response to the increasing interest in Nature Based Solutions and the challenges posed by climate change, we have been developing the concept of a Woodland Water Code (WWC), whereby these water benefits are quantified to support greater private investment in woodland creation to help tackle key water pressures, such as diffuse pollution, flooding and rising water temperatures. The work builds on a recent Forest Research led international COST Action involving 40 countries, PESFOR-W, which produced guidance on developing woodlands for water payments for ecosystem services schemes. This has informed government thinking and led to wider support for developing a WWC as a novel support mechanism, which is included as an Action in the England Trees Action Plan (ETAP). The aim of the Action Plan is to treble tree planting rates in England by the end of the current Parliament, underpinned by more than £750 million of investment allocated through Defra's Nature for Climate Fund (NCF).

We recently explored different options for developing the WWC in a scoping report, which led to a successful bid to the NCF R&D fund. Work on developing the WWC started at the end of 2022 and involves the Forestry Commission, Scottish Forestry and other partners. It is hoped that the WWC can be embedded within the Woodland Carbon Code, allowing the use of existing governance structures and delivering synergies between payments for carbon and water-related benefits of woodland creation. The aim is to launch an initial version of the Code covering the water quality benefits of tree planting in early 2025.

At the same time, we are continuing to work with a NatureScot led initiative to explore the scope to develop a wider 'Water Code' that would cover the water benefits provided by other habitat types, in addition to woodland.

Effects of clear-fell harvesting on greenhouse gas fluxes

This year, a research project studying the effect of clear-fell harvesting on soil greenhouse gas (GHG) fluxes of CO₂, CH₄, and N₂O was completed. The research focussed on Sitka spruce growing on a peaty gley organo-mineral soil in northern England. Fluxes from the soil and litter layer were measured by the closed chamber method and gas chromatography over 4 years in two mature stands, with one area harvested after the first year. Fluxes were measured from eight soil chambers per area approximately monthly throughout the experiment. Concurrent measurements of soil temperature and moisture helped to elucidate reasons for the changes in fluxes.

In the 3 years after felling, there was a significant increase in the soil temperature, particularly between June and November (3 to 5 oC higher) because of reduced shading. Soil moisture was 62% higher in the felled area because of reduced evapotranspiration. These had pronounced effects on the GHG balance in addition to the removal of the trees and their carbon input to the soil. Annual soil CO₂ effluxes reduced to almost a third in the first year after felling and half in the second and third year compared to before felling, while those from the unfelled area were little changed. Annual effluxes of N₂O more than doubled in the first two years, although by the third year they were only 20% higher. CH₄ fluxes changed from a small net uptake before felling to a small efflux increasing over the 3 years, presumably because of the wetter soil after felling. Emissions of methane and nitrous oxide have a stronger global warming effect than carbon dioxide. When the fluxes of three gases were compared using a standardised measure of global warming potential the results showed that soil CO₂ effluxes dominated the annual net GHG emission but N₂O contributed up to 20% of this.

Overall, this study showed fluxes of CO₂, CH₄, and N₂O responded differently to clear-felling due to the significant changes in soil biotic and abiotic factors and showed large variations between years. This demonstrates the need for multi-year measurements to enable robust estimates of the effect of harvesting on the GHG balance of managed forests.

Alternatives to conventional plastic treeshelters - Forest Research

In 2021, Forest Research scientists began a project investigating alternatives to conventional plastic treeshelters. Although tree shelters are a widely used and effective method of protecting trees from browsing damage in some circumstances, they can also be a source of plastic pollution if they are not collected at the end of their useful life. A number of products made from alternative materials are being brought to market that, it is claimed, are biodegradable, and hence might provide a more environmentally friendly solution if treeshelters cannot be collected. The practicality, durability and efficacy of these products are being subject to a rigorous, independent test

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by Forest Research. Other approaches to prevent browsing that are also being investigated include the use of fencing, thorny shrubs, sheep's wool and Trico repellent (based on sheep's fat).

The research project comprises field experiments to test the efficacy and impacts on tree growth of the different methods of tree protection across a range of contrasting forest sites in Britain, an assessment of likely environmental impact and degradation end points of the alternative treeshelter products, and a time and method study focusing on the costs and practicality of adopting the different approaches. This project is now in its second year and is expected to run for a further five years.

Adapting to the changing climate

In May 2022, the UKFS Practice Guide 'Adapting forest and woodland management to the changing climate' was published. This Guide provides advice to forest and woodland owners, managers, planners and policymakers on how to adapt management approaches and plan for the changing climate. The adaptation framework presented in the Guide takes the reader through the process of choosing and implementing appropriate adaptation measures, bringing together the latest insights from research and practice.

The Practice Guide is supplemented by nine case studies which show how adaptation measures are being applied in response to changing risks from wildfire, drought, wind, and disease. The case studies show the application of Forest Research tools and resources, such as the Ecological Site Classification tool to assess suitability of tree species under a future climate and the use of ForestGales to plan for changing wind risk.

Knowledge Exchange with the forestry sector on climate change and adaptation is critical to encourage owners and managers to adapt to the impact of risks to forests and woodlands in a climate emergency. FR has developed a 'Climate Change Hub' to support sector decision making by creating a one-stop-shop of information tailored to forest owners and managers about managing forests and woodlands in a changing climate. The Climate Change Hub will centralise the latest information and practical guidance on climate change adaptation, including risk and adaptation measures, official country guidance and further resources such as videos and case studies. The Climate Change Hub was launched in January 2023.

Sustainability Report

Sustainability is an essential characteristic within the strategic objectives, operations and policy making of Forest Research. As a business, we seek to reduce our environmental impact wherever possible and embed our commitment to the environment within our core business processes. We maintain a formal environmental management system (EMS) which is certified to ISO14001:2015 by LRQA. To support the Defra Climate Change Adaptation Strategy, our EMS represents the mechanism by which we measure and improve our environmental performance in terms of energy use, business travel, waste arising, water consumption and management of hazardous materials.

We report our environmental performance against the HMT Sustainability Reporting Guidance, which incorporates the Greening Government Commitments (GGC) Framework for 2021-25, with 2017-18 being the baseline year against which we will target further improvements.

We continue to make good progress in terms of reducing our net carbon emissions in line with the GGC targets and the UK Carbon Budget Orders.

Environmental Management is a key commitment for FR and is a standing item at the Site and Environment Management Committee meetings and is subject to regular Top Management review. As an organisation we monitor environmental performance as part of our day-to-day activities and emphasise the need to embed this in our operational planning. The change in working practices since the Covid-19 pandemic continues to have a significant impact on the way that we conduct our business, most notably in the adoption of hybrid working models and the substantially increased use of IT systems to connect, meet and work remotely, thus considerably reducing the need to travel.

The consumption figures included in the table on pages 27 to 30 must be viewed in the context of FR's changing operating environment and the substantial increase in our on-premises business activities (particularly Tree Health and IFOS). In addition to the expected post-Covid return to normal working activities, three factors should be noted:

- changing conditions as we emerge for the Covid-19 pandemic and adapt to the new hybrid working model, noticeable in the sustained levels of homeworking.
- consideration should also be taken of the increase in our built estate, with the full year use of Alice Holt Laboratories and the new wing under construction at Northern Research Station.
- increasing staff numbers as the business expands to deliver our additional research contracts.

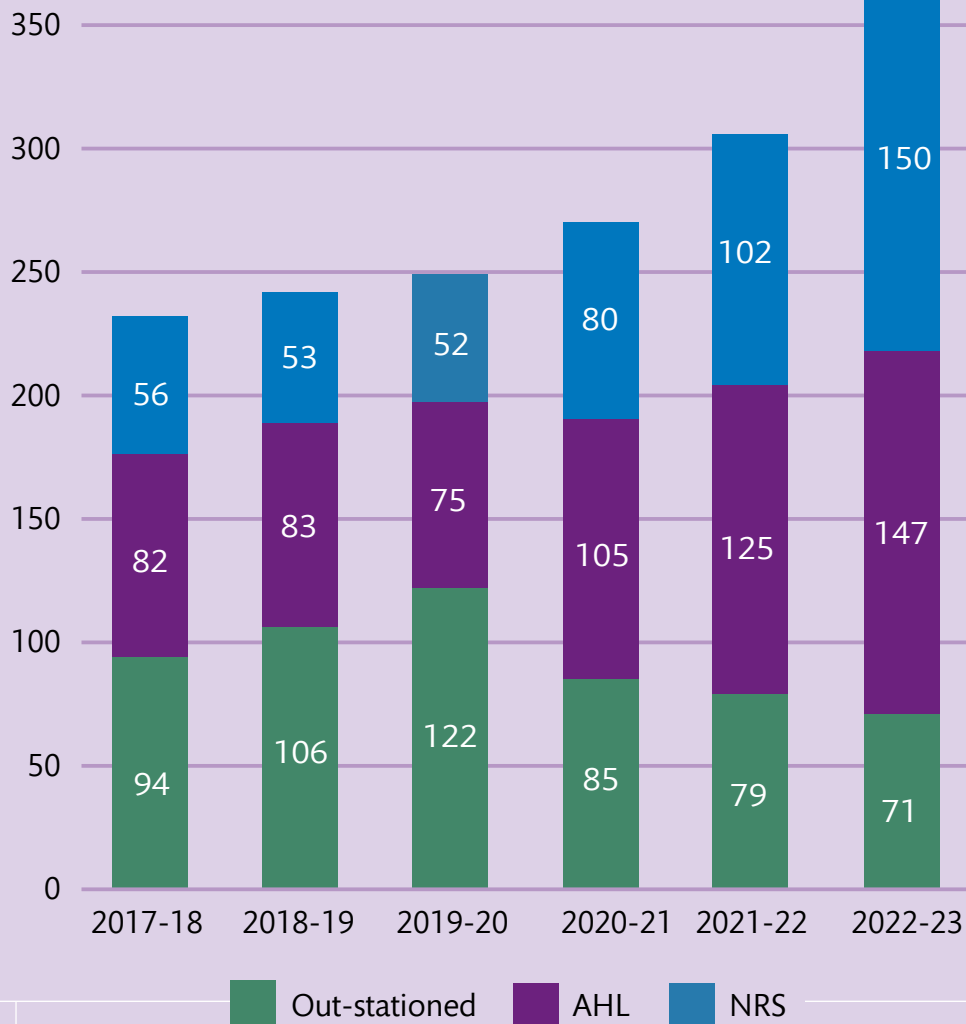
The last year has been one of unprecedented growth for FR. We have increased our staff-count to 368 (308 FTE) by c.20% within 12 months. We have also invested substantially in new laboratory and office space and have increased our occupied floor area from about 6,400 m² in 2021 to 8,600 m² in 2023, i.e. by around one-third.

Travel restrictions have continued to ease which has seen an increase in Year-on-Year general consumption trends across all categories. Please note that we are now reporting travel in km rather than miles, in accordance with HMT requirements, and the historical comparison data presented in the charts below has been amended accordingly. Within this year we have seen the reintroduction of international travel, and use of the preferred method of domestic travel by rail has also increased. However, the expectation is that we will be able to sustain some of the reductions in travel from the pre-Covid period as we embrace the remote working and IT communication improvements. Despite the increase in our business activities and staff numbers, staff travel on official business remains lower than pre Covid-19 years and will continue to be closely monitored.

Performance Report

Staff numbers, by location (head count, not FTE)

The chart shows the increased staff numbers and their main office location. These factors impact on our overall energy consumption and travel figures.



We are in the third year of our substantial estates improvement programme in our main office sites. One of the key aims of this project is to reduce our environmental impact within our built estate. Investment decisions, both in the long-term building fabric and the construction processes and practices, have been driven by the principles of environmental sustainability in order to improve thermal efficiency and enable the future transition to lower-carbon heating systems. We will continue, in conjunction with the Forestry Commission and Defra sustainability leaders, to search out and adopt new practices that will allow us to achieve longer-term environmental benefits in the way we operate.

Our investment in our ICT capability continues to provide the organisation with a strong platform to conduct business remotely for many areas of our work. This approach is now embedded in our operations for senior management and colleagues throughout the business. Our staff are more aware of actions that will enhance our environmental management capacity, support recycling initiatives, turn off unused lighting and are energy aware.

This year we have substantially increased our on-site provision of electric vehicle charging points, with seven twin-pods at AH and one at NRS (with three more now scheduled). Our current fleet comprises of 15 cars (53% of which are ultra-low emission vehicles, or 'ULEV') and 31 vans (which are currently all petrol or diesel-fuelled). We exceeded the GGC target of 25% of the car fleet to be ULEV by the end of 2022.

Since 2020, we have transferred almost all of our electricity supplies to '100% Clean Renewable' tariffs via EDF Energy. We continue to report the 'gross' greenhouse gas (GHG) emissions associated with our electricity consumption, based on grid average conversion factors, since the avoided emissions are claimed elsewhere within the UK's carbon-budget accounting process. However, we have estimated our avoided GHG emissions associated with the purchase of electricity from REGO-certified, fully renewable sources to be 253 tonnes of CO₂ equivalents.

We will be renewing our energy supply contracts in the next 12 months and the procurement exercise will ensure that we continue to deliver on the environmental considerations for the new contract.

Sustainability remains embedded into our procurement practices, through observance of the Government Buying Standards and our own *Environmental Procurement Procedures*.

As FR does not hold or manage any significant natural capital or areas of undeveloped land, we do not publish Nature Recovery or Biodiversity Action plans.

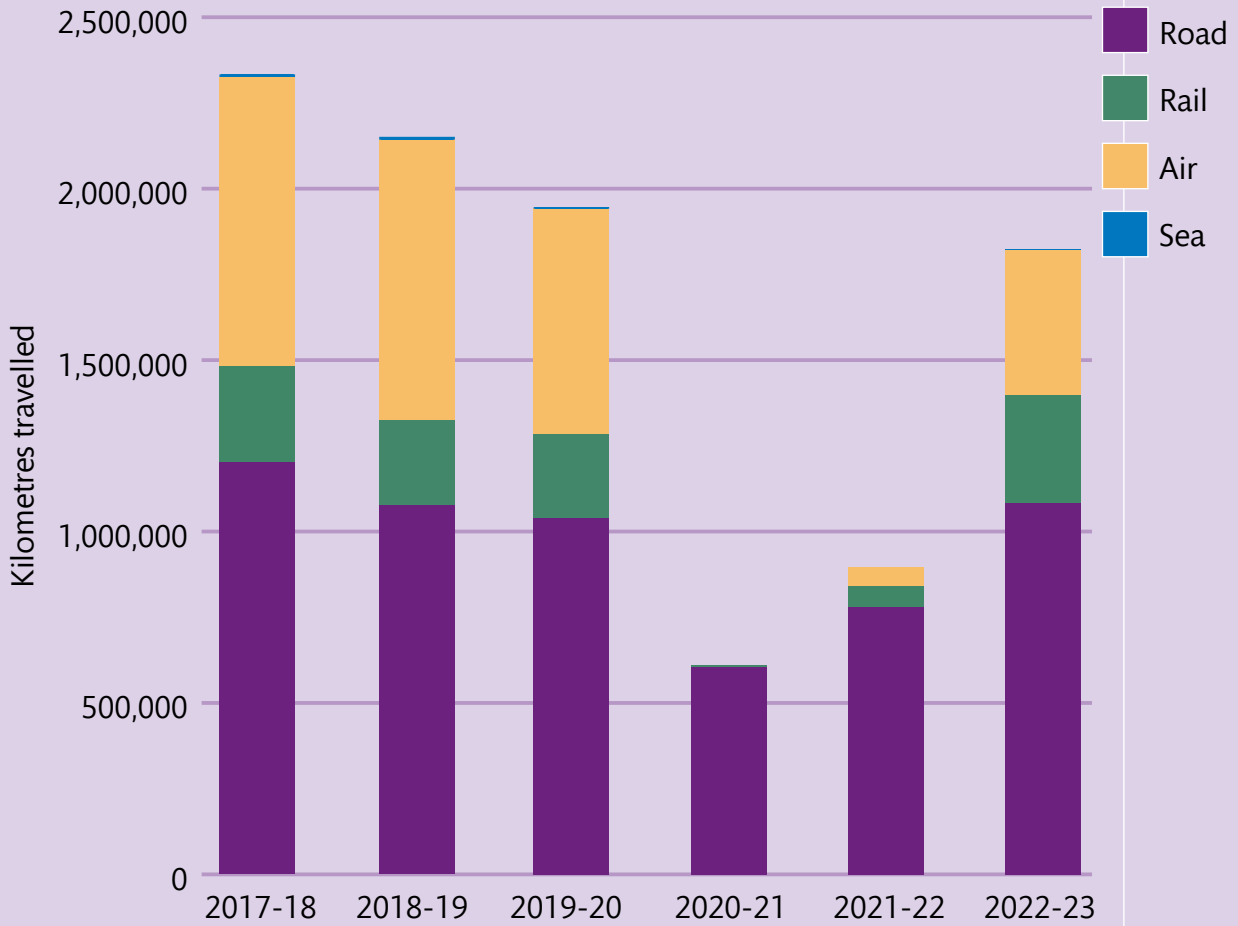
FR continues to review our Information and Communications Technology (ICT) and digital estate with the intention that with each new infrastructure upgrade and refinement, we continue to improve performance and efficiency of our systems. While we do not currently actively monitor the environmental impacts from our systems, this is an ambition of ours moving forward. FR operates a hybrid-Cloud infrastructure, which has already led to a significant reduction in our hardware footprint since devolution.

Where possible, our services are virtualised or delivered from the Cloud, reducing our dependency on hardware as much as possible and all that entails (such as a reduction in on-premises electricity usage, carbon footprint etc.). Within the year we have completed the move of our data centre to the Cloud, this will see a reduction in our demand for air conditioning and lighting. All of our end-user devices have variable power plans, which can be selected or tweaked based on user need. All IT equipment is procured through existing government frameworks, which ensures compliance with all ethical and environmental standards.

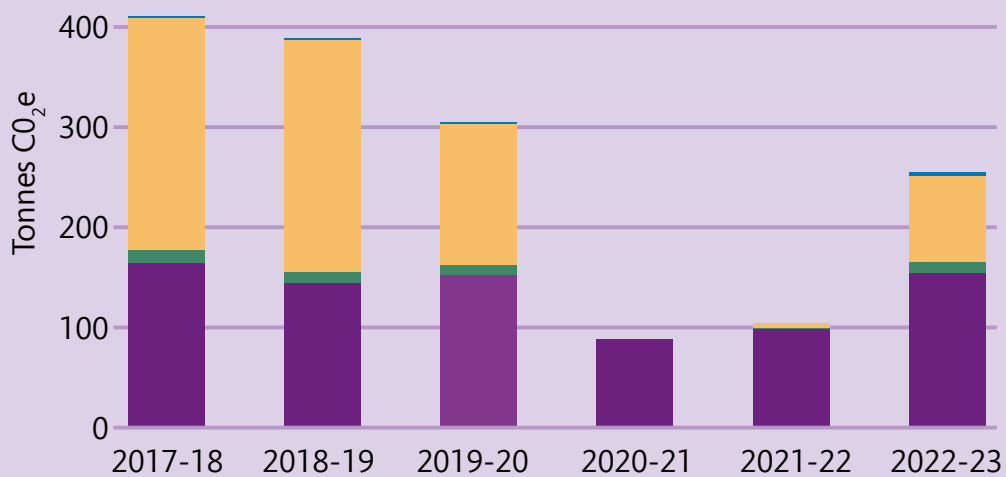
Performance Report

Business travel (km), by mode and year

These charts provide some analysis of the impacts over time of the business travel.



Travel GHG emissions, by mode and year



All of our Information Technology (IT) equipment is disposed of responsibly through Waste Electrical and Electronic Equipment Directive (WEEE) compliant organisations. However, during 2022-23 FR did not recycle or dispose of any ICT waste: we have prioritised the refurbishment and re-use of equipment wherever feasible.

Additionally, since 2019 we have mostly phased-out consumer single-use plastics (CSUP) in accordance with the Crown Commercial Services instruction *Removing Consumer Single Use Plastics* (July 2018). We have re-instated the use of glass milk bottles, following a temporary move to plastic sachets as a Covid-19 hygiene measure, and are using-up some final, residual supplies of plastic cups.

Total gross greenhouse gas (GHG) emissions associated with our built estate bought energy, fugitive F-Gas emissions and our business travel activities for 2022-23 were 725 tonnes CO₂e. See the chart below for a segmental breakdown of the various sources of these emissions.

The following two charts provide analysis of our total corporate carbon emissions, firstly by sector of our business and then as a segmental breakdown of the various individual sources of these emissions.

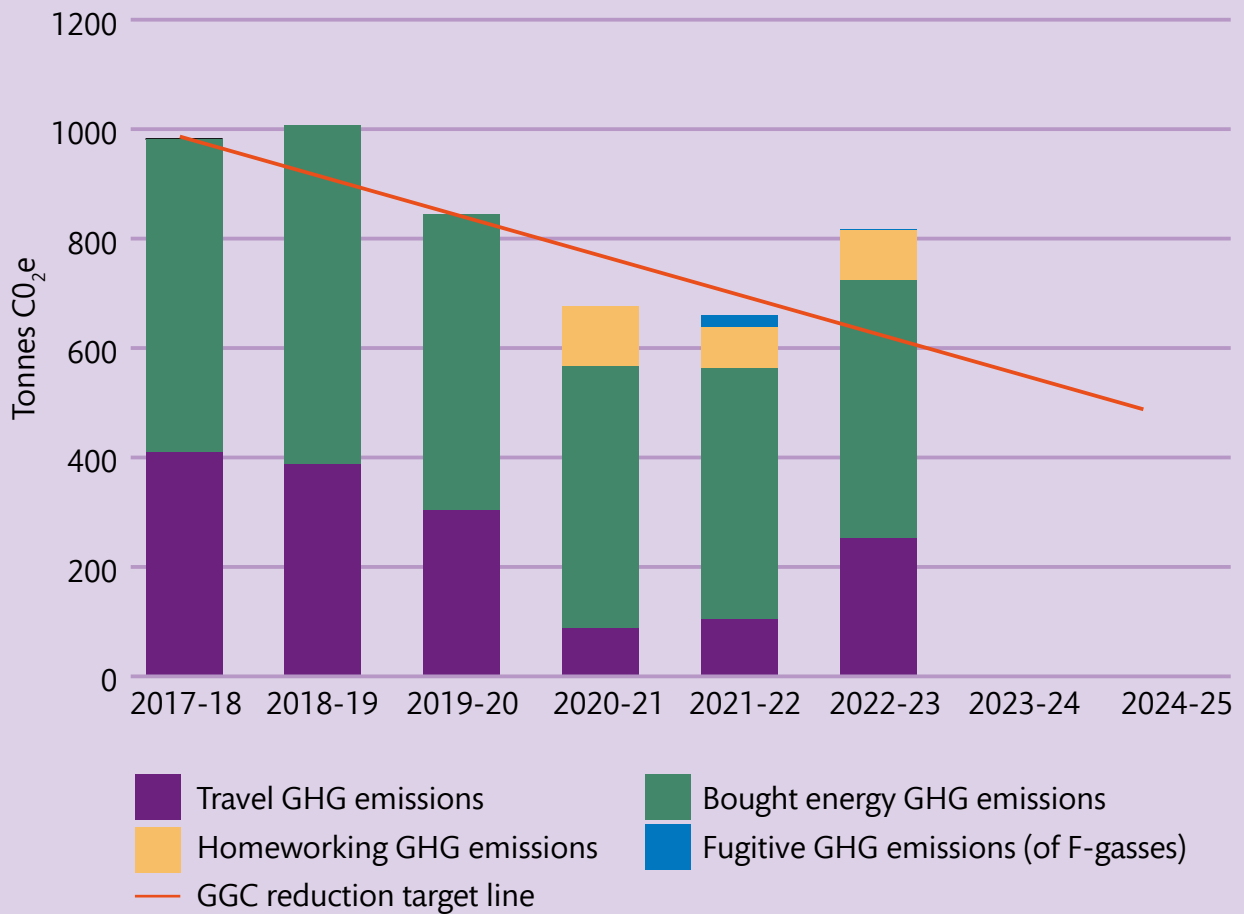
The reporting on our sustainable construction and refurbishment activities is in development and we will investigate how this can be expanded in future years if resources permit. We have developed our own, comprehensive Environmental Procurement Procedures. Building contractors are selected according to Government Procurement Standards and Requirements. Surplus furniture is transferred to a company that provides it to other users to minimise the quantity of waste or recycled materials.

Substantial development works are ongoing on both main sites and waste totals will be reported for the contracts in the 2023-24 reporting cycle.

In terms of our other waste consumption, the total waste arising has increased compared to the previous year, due largely to us having discontinued on-premises composting of green, grounds-keeping waste which is now transferred to a purpose-built local facility. Tankered sewage waste has remained high during the year due to high maintenance required for a minor sewage treatment facility at Alice Holt. This is approaching the end of its expected service-life and is now scheduled for replacement. We continue to work closely with the Forestry Commission and Defra to plan for this.

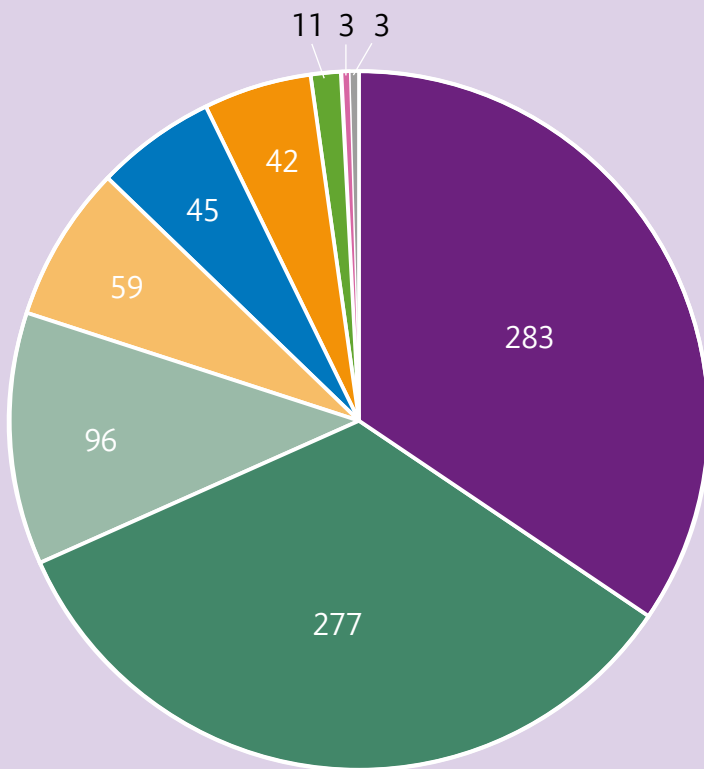
Performance Report

FR corporate GHG emissions (gross)



Segmental breakdown of GHG emissions for FY22-23 (tonnes CO₂e gross)

CO₂



- Gas consumption (bought)
- Electricity consumption (bought)
- Business travel: fleet vehicles
- Business travel: other road vehicles
- Business travel: international flights
- Business travel: domestic flights
- Business travel: rail
- Fugitive emissions (fluorinated gasses)
- Fuel oil consumption (bought)

Performance Report

Performance measurement



Area	Units	2022-23	2021-22	2020-21	2019-20	2017-18 GGC baseline
Travel on official business						
Owned fleet/ leased vehicles	km	750,567	575,549	541,623	657,367	869,758
Fleet vehicles (standard fuels)	km	674,441	491,598	-	-	-
Fleet vehicles (ultra low emission)	km	76,126	83,951	-	-	-
Fleet vehicles (zero emission)	km	-	-	-	-	-
Air travel (domestic)	km	169,399	35,244	-	-	-
Air travel (international)	km	254,708	22,185	-	-	-
Rail travel (domestic)	km	310,613	-	-	-	-
Rail travel (international)	km	-	-	-	-	-
All other travel	km	338,538	263,530	66,645	1,285,660	1,473,152
Owned fleet/ leased vehicles	£		152,919	143,905	174,662	288,150
All other travel	£	185,001	59,864	10,825	164,882	199,078
Owned fleet/ leased vehicles	GHG emis in tonnes CO ₂ e scope 1	95.6	70.8	79	85	116
Fleet vehicles (standard fuels)	GHG emis in tonnes CO ₂ e scope 1	92.3	67.3	-	-	-
Fleet vehicles (ultra low emission)	GHG emis in tonnes CO ₂ e scope 1	3.4	3.5	-	-	-
Fleet vehicles (zero emission)	GHG emis in tonnes CO ₂ e scope 1	-	-	-	-	-

Area	Units	2022-23	2021-22	2020-21	2019-20	2017-18 GGC baseline
Air travel (domestic)	GHG emis in tonnes CO ₂ e scope 3	41.6	8.6	-	-	-
Air travel (international)	GHG emis in tonnes CO ₂ e scope 3	45	3.9	-	-	-
Rail travel (domestic)	GHG emis in tonnes CO ₂ e scope 3	11	-	-	-	-
Rail travel (international)	GHG emis in tonnes CO ₂ e scope 3	-	-	-	-	-
All other travel	GHG emis in tonnes CO ₂ e scope 3	58.7	30	10	161	295

Energy bought and consumed (after deducting supplies to tenants and including homeworking)

Electricity	kWh	1,314,507	1,180,249	981,523	1,051,150	1,101,095
	£	288,754	197,396	147,613	170,388	151,061
	Location based GHG emission in tonnes CO ₂ e scope 2 and 3	277	272	253	352	528
	Market based GHG emission through use of REGO-certified renewable tariffs - in tonnes CO ₂ e scope 2 and 3	24	5	94	-	-
Gas	kWh	1,547,913	1,414,920	1,665,175	1,405,452	1,355,120
	£	66,037	46,736	46,507	50,010	39,818
	GHG emission in tonnes CCO ₂ e scope 1	283	258.7	306	243	246
Oil bought	kWh	10,630	-	-	6,445	6,426
	£	1,248	-	-	375	328
	GHG emis in tonnes CO ₂ e scope 1	3	-	-	2	2

Performance Report

Area	Units	2022-23	2021-22	2020-21	2019-20	2017-18 GGC baseline
Energy generated from renewables						
Total generated from solar PV	kWh	42,915*	43,674	42,156	22,865	24,115
GHG emission avoided	GHG emis in tonnes CO ₂ e scope 2 and 3	9*	11.5	10	6	8
F-gas fugitive emissions						
Refrigeration and air conditioning topped up	Carbon dioxide equivalent (CO ₂ e) in tonnes	3	23	-	-	-
Waste minimisation and management (non-sewage)						
Total waste arising	Tonnes	116	76	84	67	72
Waste to landfill	Tonnes	1.02	1.29	1	2	12
Waste re-used or recycled	Tonnes	111	68.50	81	61	60
Waste incinerated with energy recovery	Tonnes	4.7	0.06	2	4	-
Waste incinerated without energy recovery	Tonnes	-	-	-	-	-
Total hazardous waste	Tonnes	1.8	6.5	-	-	-
Total waste arising	£	59,578	33,011	32,447	33,559	22,750
Waste to landfill	£	5,188	1,209	3,983	4,108	5,563
Waste re-used or recycled	£	40,722	23,446	26,616	26,810	17,385
Waste incinerated with energy recovery	£	3,865	4,861	1,848	2,641	-
Waste incinerated without energy recovery	£	-	-	-	-	-
Total hazardous waste	£	14,350	3,496	-	-	-

Area	Units	2022-23	2021-22	2020-21	2019-20	2017-18 GGC baseline
Waste minimisation and management (sewage)						
Waste re-used or recycled	Tonnes	669	451	548	712	109
Waste re-used or recycled	£	18,454	14,426	12,782	16,255	2,040
Waste minimisation and management (ICT)						
Waste re-used or recycled	Tonnes	-	-	-	-	-
Waste re-used or recycled	£	-	-	-	-	-
Waste minimisation and management (food waste)						
Waste re-used or recycled	Tonnes	-	-	-	-	-
Waste re-used or recycled	£	-	-	-	-	-
Construction waste arising from projects over 300k						
Waste re-used or recycled	Tonnes	unavailable	-	-	-	-
Paper use						
Printing and photocopying paper purchased	A4 reams (equivalent)	288	200	280	625	940
Water consumption						
Scope 2, water purchased from a third-party supplier	m ³	13,358	7,146	11,626	14,693	13,725
Scope 2, water purchased from a third-party supplier	£	30,384	11,249	16,946	22,558	18,329
Scope 1 - water from sources owned or controlled by FR	m ³	-	-	-	-	-
Scope 1 - water from sources owned or controlled by FR	£	-	-	-	-	-

Professor James Pendlebury

Chief Executive and Accounting Officer

28 June 2023

Accountability Report

Corporate Governance



The purpose of the Corporate Governance Report is to explain the composition and organisation of Forest Research's governance structures and how they support the achievement of our objectives.



It 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.



It comprises the Directors' Report, the Statement of Accounting Officer's Responsibilities and the Governance Statement. This meets accountability requirements to Parliament as set out in Chapter 5 of Part 15 of the Companies Act 2006 and Schedule 7 of SI 2008 No 410 and amended by the *Government Financial Reporting Manual*.

Directors' Report

Relationship with Defra and the wider Defra network

The Department for Environment, Food and Rural Affairs (Defra) Ministers who had responsibility for the Forestry Commission, including Forest Research, during the year were:

- George Eustice MP, Secretary of State until 6 September 2022
- Ranil Jayawardena MP, Secretary of State from 6 September 2022 until 25 October 2022
- Thérèse Coffey MP, Secretary of State from 25 October 2022
- Lord Goldsmith, Minister of State until 15 September 2022
- Lord Benyon, Minister of State from 30 October 2022
- Lord Benyon, Parliamentary Under Secretary of State until 30 October 2022
- Trudy Harrison MP, Parliamentary Under Secretary of State from 7 September 2022

Our Board

Members of the Board of Forest Research during the year were:



Dr Matt Perkins*
Chair of Forest Research Board
and Non-Executive Director



Professor Julian Evans
Forestry Commissioner,
Non-Executive Director



Professor James Pendlebury*
Chief Executive,
Forest Research



Simon Fuller
Scottish Government,
Non-Executive Director



Professor Chris Quine*
Chief Scientist,
Forest Research



Nicola Spence
UK Government,
Non-Executive Director



Paula Rice
Director of Finance & Corporate
Resources, Forest Research
(from October 2022)



Ceri Witchard
Welsh Government,
Non-Executive Director



Richard Stanford
Forestry Commission
Chief Executive



Nick Clinton
Interim Finance Director,
Forest Research
(to May 2022)



Sir William Worsley
Forestry Commissioner
and FC Chair

*These Board Members have related party interests that are disclosed in Note 15.

The Chief Executive is appointed following public advertising of the post. The term of the appointment and provision for its termination are governed by the Civil Service Commission Recruitment Principles. Further details on remuneration are set out in the Remuneration Report.

Accountability Report

Register of interests

In accordance with paragraph 19.4 of HM Treasury Public Expenditure System (PES (2023) 01) Guidance on the Preparation of Annual Reports and Accounts for 2021-22, the declaration of any conflicts of interest is a standing-order at all Forest Research Board meetings. In the period covering 1 April 2022 to 31 March 2023 there were no actual, or potential, conflicts of interest raised. This is recorded in the Minutes of all Board meetings.

A register of interests of all Board Members is maintained by Forest Research and published on its website, [Structure and governance – Forest Research](#)

Incidents related to personal data

There were no incidents related to protected personal data reported for Forest Research in 2022-23 nil (2021-22: nil).

Forest Research will continue to monitor and assess its information risks in order to identify and address any weaknesses and ensure continued improvement of its systems. Further information on the handling of information risk is contained in the Governance Statement.

Statement of Accounting Officer's Responsibilities

Under Section 7 of the Government Resources and Accounts Act 2000, HM Treasury has directed Forest Research 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 Forest Research state of affairs at the year-end and of its income and expenditure, 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:



The FC Chief Executive Officer, in his role as Accounting Officer for the Forestry Commission, has designated Forest Research's Chief Executive as Accounting Officer for the Agency. The FR Chief Executive's responsibilities as Forest Research Accounting Officer (including responsibility for the propriety and regularity of the public finances for which an Accounting Officer is answerable, for keeping proper records, and for safeguarding Forest Research's assets) are set out in Managing Public Money produced by HM Treasury.

As Accounting Officer, I confirm that as far as I am aware there is no relevant audit information of which our auditors are unaware. I have taken all necessary steps to make myself aware of all such information and to establish that our auditors are equally informed. I take personal responsibility for the Annual Report and Accounts and the judgements required for determining that they are fair, balanced and understandable, which I confirm they are.

Governance Statement

Introduction and scope of responsibility

As Agency Accounting Officer for Forest Research, I have responsibility for ensuring that its business is conducted in accordance with the law and proper standards, and that public money is safeguarded and properly accounted for, and used economically, efficiently and effectively in accordance with Managing Public Money.

In discharging this overall responsibility, I am responsible for putting in place appropriate arrangements for the governance of its affairs, facilitating the effective exercise of its functions, which includes ensuring a sound system of control is maintained through the year and that arrangements are in place for the management of risk.

The purpose of the governance framework

The governance framework comprises the systems and processes, and culture and values, by which Forest Research is directed, controlled and led. It enables the Agency to monitor the achievement of its strategic objectives and to consider whether those objectives have led to the delivery of appropriate, cost-effective outcomes that are also compliant with the law and with policy.

The system of internal control is a significant part of that framework and is designed to manage risk to a reasonable level. It cannot eliminate all risk and can therefore only provide reasonable and not absolute assurance of effectiveness. The system of internal control is based on an ongoing process designed to identify and prioritise the risks to the achievement of the Agency's policies, aims and objectives, to evaluate the likelihood of those risks being realised and the impact should they be realised, and to manage them efficiently, effectively and economically.

The governance framework has been in place at Forest Research throughout 2022-23 and up to the date of approval of the Annual Report and Accounts, and complies with HM Treasury guidance.

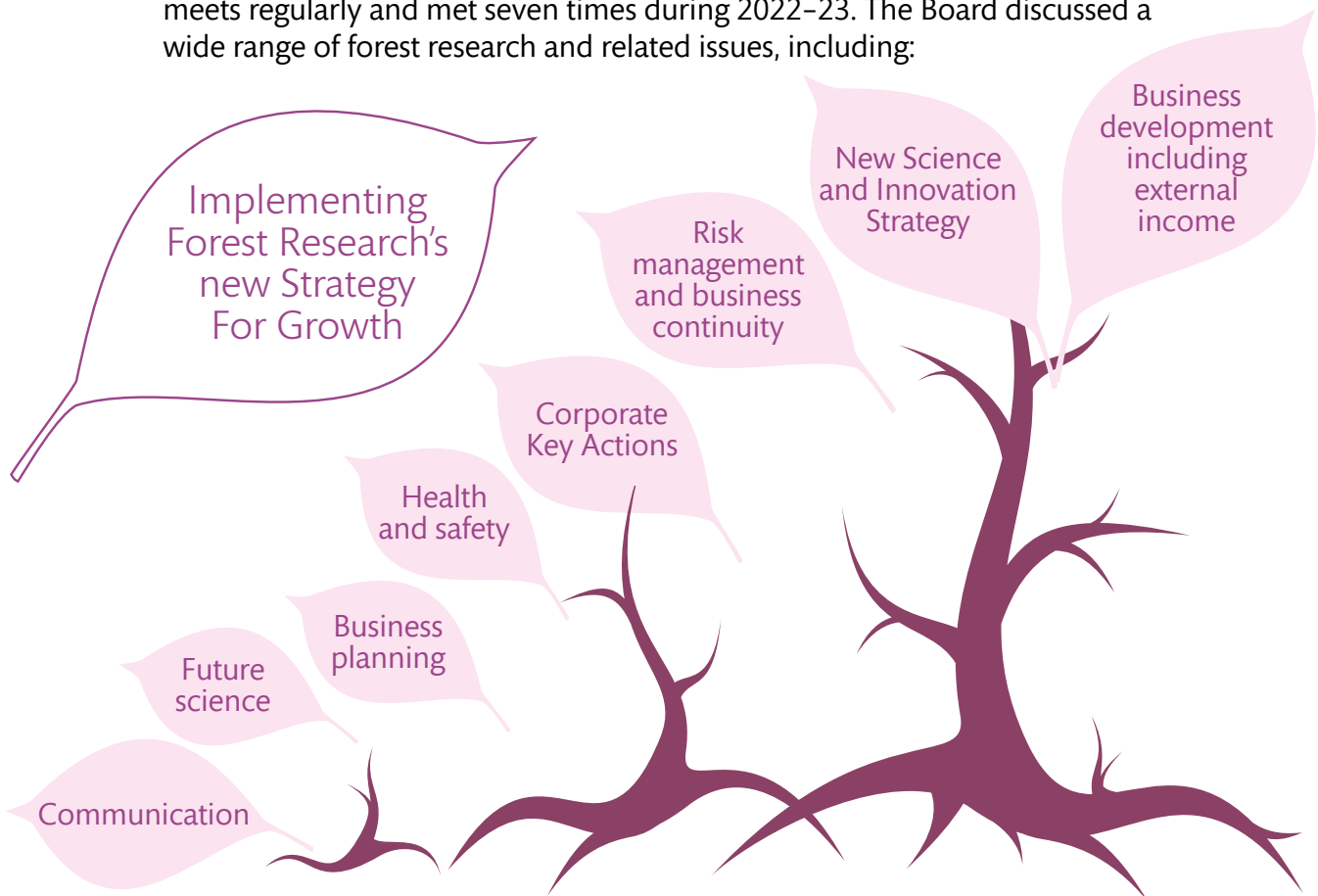
Accountability Report

The governance framework

Forest Research is an Executive Agency of the Forestry Commission. The Agency's Framework Document sets out my responsibilities as Agency Accounting Officer. I am a member of the Forestry Commission's Executive Board and am responsible to the Forestry Commissioners for the management of the Agency. I have a right of direct access to the Forestry Commissioners and to the relevant Ministers, and a right to meet them at least once a year.

Forest Research Board

The Forest Research Board (FRB) was established to manage the day-to-day operations and performance of Forest Research, within the policy framework set by Ministers and the Forestry Commissioners. The Board meets regularly and met seven times during 2022-23. The Board discussed a wide range of forest research and related issues, including:



At each of the meetings during 2022-23 the Board routinely discussed reports from the Chief Executive, Chief Scientist and Director of Finance & Corporate Services. In addition, the Board received various presentations and papers from executive colleagues representing scientific research and corporate service issues. The Chair of the Forestry Commission's Expert Committee on Forest Science provided the Board with a summary of their activities and confirmed that the ECFS were impressed by the quality of the research in all the groups reviewed.

The Forest Research Board convened a sub-committee to discuss the Board Effectiveness review who reported to the November 2022 board meeting with updated action points from the initial review. Further information about the FRB, including membership and attendance, is available [on our website](#).

Audit and Risk Assurance Committee

All Forestry Commission entities are covered by a single Audit and Risk Assurance Committee (ARAC) which advises the Board of Commissioners, the Forestry England, Forest Services and Forest Research Boards, and Accounting Officers for the Forestry Commission, Forestry England and Forest Research.

Through its work, the ARAC provides independent assurance to the FRB on those key activities that support the achievement of the Agency's objectives. Forest Research has a risk register which is reviewed by the FR Board and is overseen by the ARAC. Assurance is also provided through the findings from work carried out by the Government Internal Audit Agency (GIAA). The ARAC operates in accordance with the principles contained in HM Treasury's Audit and Risk Assurance Committee Handbook.

During the year the Committee discussed a wide range of issues, including:



The Forestry Commission ARAC met five times during 2022-23. Further information on the Forestry Commission ARAC, including membership and attendance, is available on [GOV.UK](#)

Accountability Report

Review of effectiveness

As Forest Research Accounting Officer, I have responsibility for conducting, at least annually, a review of the effectiveness of the governance framework. My review is informed by the work of Internal Audit and the executive managers across Forest Research and the Forestry Commission who have responsibility for the development and maintenance of the governance and control framework, and by comments made by the external auditors in their management letter and other reports.

The Head of Internal Audit has prepared an annual opinion and report to me as Agency Accounting Officer. The report includes an overall assessment of the adequacy and effectiveness of risk management, control and governance within Forest Research. The overall opinion is that internal control within Forest Research continues to provide moderate assurance. Some improvements are required to enhance the adequacy and effectiveness of the framework of governance, risk management and control.

As at 31 March 2023 there were no outstanding high priority internal audit recommendations.

There is continuing work to finalise the Key Actions for 2022-23, as detailed on page 15, the majority of the 20 key actions were achieved within the year, with 2 actions seeing substantial progress and 1 noted as ongoing.

Forest Research applies the principles of HM Treasury's Code of Good Practice for corporate governance in the context of its own circumstances, where relevant and practical.

The Forestry Commission ARAC also reviews its effectiveness in line with the best practice set out in HM Treasury's Audit and Risk Assurance Committee Handbook.

Work to date has not identified any significant control weaknesses and has supported findings from financial control visits and the work of internal and external auditors.

Risk management

The Forest Research Board (FRB) recognises that risk must be managed, but management of risk is not the same as risk aversion, i.e. an unwillingness to accept any risk. Resources available for managing risk are finite so the aim is to achieve an optimum response to the risk. Forest Research evaluates the amount of risk that it is prepared to accept before taking action (risk appetite), using a risk-scoring matrix of likelihood and impact for inherent and residual risk. This is subject to ongoing management review.

The Board ensures that the risk management policy is implemented and that it strategically reviews key risks. Each risk identified in the risk register has a corresponding Senior Risk Owner who is a Board-level officer with the authority to take effective action.

Forest Research has no investments or exposure to any business risks in Russia.

The Forestry Commission ARAC supports the Accounting Officer and the FRB in their responsibilities for the effective management of risk, control and governance (see section above). During 2022, additional guidance was included in this policy on risk appetite and the Forestry Commission Executive Board and Board of Commissioners developed a Risk Appetite Statement which provides a framework to enable the organisation to make informed management decisions.

Whistleblowing

Forest Research is committed to ensuring a high standard of conduct in all that it does and has a duty to identify and remedy any area of malpractice. A whistleblowing awareness campaign was carried out, in line with Defra's approach. We also have a dedicated Whistleblowing Officer.

The Whistleblowing policy and procedure has recently been refreshed ensuring it acts as a modern, accessible resource for those requiring it. Recommendations from a case reported in 2020-21, including refreshing fraud training across the organisation and improving our internal systems and processes, were implemented within 2022-23.

Fraud and error

During 2020-21, the Forestry Commission implemented a Counter Fraud, Bribery and Corruption Strategy, Policy and Fraud Response Plan. Forest Research follows and complies with this strategy. These documents along with wider processes form an effective framework of controls, protecting the organisation from fraud and enabling appropriate responses to fraudulent attempts.

Ministerial direction

No ministerial directions affecting Forest Research were given during the year.

Significant governance and risk issues

Key governance and risk issues are as follows:

Going Concern

Forest Research has emerged from the Covid-19 pandemic as a strong and resilient business. The impacts of the pandemic on the way that we are working, and the wider economy will be felt for many years to come. The Agency's executive team continues to assess the near-term and longer-term challenges to build resilience, working closely with stakeholders, including customers and our supply chain, to identify risks, threats and opportunities to our internal and external strategies. This agile approach has helped to shape our future priorities and operations to ensure we continue to provide our critical science, data and evidence. The direct impacts of the pandemic are now easing but we are left with the ongoing effects that are being managed as business as usual. This has resulted in management determining that the going-concern basis of accounting remains appropriate in the preparation of the financial statements. Further information is disclosed in Note 1.

Accountability Report

Business continuity management

Forest Research has business continuity and disaster recovery plans to ensure that there are procedures in place to facilitate the recovery of business activities. These plans are reviewed and updated regularly to confirm that they address any emerging issues, such as the potential electricity blackouts. Our plans are supported by our strong IT platform and infrastructure which ensured minimal disruption to services during the pandemic. These systems will be subject to an internal audit review in the 2023-24 year where we expect confirmation of levels of resilience and necessary assurance for the ongoing operations.

Information risk management

Forest Research, due to the nature of the business and compared with government departments, has a very low level of risk. We hold comparatively little sensitive information. We continue to make monitor, identify and address information risks through regular online training, such as 'Responsible for Information' for all staff and 'Information Asset Owner training' for selected staff. The requirements of the General Data Protection Regulation are embedded into the organisation's practices and managed through our Forest Research Information Asset Register (FRIAR) system, which is reviewed and updated periodically. We continue to work with the Forestry Commission on policy and guidance as part of the newly established Security Risk Management Forum. A four-year project which was approved by the FC Executive Board in November 2020 to further help our understanding of the value of knowledge and information management in supporting our decision-making, and to identify and introduce necessary improvements including the use of the latest technologies.

Modelling and quality assurance

A sensible and proportionate approach to quality assurance has been adopted across Forest Research in terms of business-critical models, and the associated risks are being managed properly. Business-critical models include forest yield models and all connected elements of the production forecasting system, and carbon models. These are a suite of models that a) underpin timber production forecasting on the public and private sector forest estate, b) provide the data for UK forestry's contribution to Land Use, Land Use Change and Forestry (LULUCF) carbon figures, and c) aid long-term forest planning on the public forest estate.

Expert Committee on Forest Science

The [Expert Committee on Forest Science](#) is established by the Board of Forestry Commissioners to provide independent, expert advice and assurance on the quality of science and evidence provided by Forest Research (the Forestry Commission's research agency) and other providers. The Chair of the committee provided a report on activities to the August meeting of the Board, summarising the review of four science groups - Physical environment Science Group, Gene species and habitats group,

Climate Change Science Group and the Urban Forest Research Group. Several opportunities for group development were made but overall the ECFS were impressed by the quality of the research in all the groups reviewed. They have since moved to review the Land Use and Ecosystem Services Science Group and the Forest Information and Statistics group.

Functional Standards

UK Government Functional standards set expectations for the management of functional work and the functional model across government. During 2022-23 the Forest Research contributed to the Forestry Commission assurance mapping process, and functional standard assessments which has identified plans for improvement. This action will ensure compliance with the UK Government Functional Standards with the aim of embedding the standards into ways of working, ultimately driving coherence, consistency and continuous improvement.

Wider circumstances and future challenges

The main challenges for Forest Research during 2023-24 and beyond are:

- recruitment of staff to deliver our increased contract commitments. This is an issue with many sectors and organisations across the country and is anticipated to continue into 2023-24. We have introduced new processes and expanded the way that we advertise to open up potential candidate pools;
- enhancing our scientific capability and research offer through effective and strategic partnerships;
- managing the impacts of the cost-of-living crisis both for our business operations and staff;
- increasing pressure on our operational delivery and supplier costs as a result of inflation and supply chain issues, FR has taken steps to mitigate these as much as possible;
- ensuring the Agency's continued resilience and agility in the post-Covid-19 world;
- continuing to invest in our corporate IT, HR and Finance capabilities while maintaining business continuity;
- continuing to implement the Forestry Commission wide Changing the Way We Work change programme across FR;
- maintaining Agency relevance to an increasingly devolved governmental client base and changing evidence-commissioning arrangements;
- contributing to the cross-Government Environmental Improvement Plan 2023;
- responding to new and unforeseen tree-health disease outbreaks (for example, *Ips typographus*) or other issues;

Accountability Report

- ensuring that the Westminster Government's and Devolved Administrations' woodland creation and management agenda is underpinned by relevant scientific research;
- delivering the interdisciplinary science programmes which support the Science and Innovation Strategy for Forestry in Great Britain;
- planning for, securing and delivering the Agency's non-core income requirements;
- growing our international profile, activities and business;
- continuing to develop an appropriate response to the increasing threat of cyber security attacks.

Remuneration and Staff Reports

Remuneration Report

Employment contracts

The Constitutional Reform and Governance Act 2010 requires Civil Service appointments to be made on merit on the basis of fair and open competition. The Recruitment Principles published by the Civil Service Commission specify the circumstances when appointments may be made otherwise. All senior staff covered in this report hold appointments that are open-ended until they decide to retire or leave.

Professor James Pendlebury's notice period is 13 weeks, and for other senior staff it is three months. Early termination in situations of redundancy would result in the individual receiving compensation as set out in the Civil Service Compensation Scheme.

Further information about the work of the Civil Service Commissioners can be found on the [civil service commission website](#).

Remuneration policy

Remuneration of Forest Research Board Members who hold senior staff group posts is determined by the Forestry Commission's Senior Pay Committee in accordance with guidelines prescribed by the Cabinet Office. Details of membership of the Pay Committee are provided in the Remuneration Report of the Forestry Commission's Annual Report and Accounts. Other Board Members' remuneration is determined by the standard processes set out in the Forestry Commission's pay and grading system.

Remuneration (salary, benefits in kind and pensions) – subject to audit

The following sections provide details of the remuneration and pension interests of the civil servants who are executive members of the Forest Research Board. The full composition of the Board of Forest Research is included on page 32.

		Salary £000	Benefits in kind (to the nearest £100)	Pension benefits £000	Total £000
James Pendlebury Chief Executive	2022-23	95-100	-	(1)	95-100
	2021-22	90-95	100	84	175-180
Chris Quine Chief Scientist	2022-23	80-85	-	(28)	55-60
	2021-22	80-85	-	12	90-95
Paula Rice*	2022-23	35-40	-	15	50-55
	2021-22	-	-	-	-
Meirion Nelson**	2022-23	-	-	-	-
	2021-22	40-45	900	17	60-65

*Paula Rice Finance & Corporate Services Director, started Forest Research in October 2022, above values represent 6 months of the full financial year, the full-year equivalent salary banding is 75-80.

**Meirion Nelson, Finance Director, left Forest Research in October 2021, above values represent 7 months of the full financial year, the full-year equivalent salary banding is 70-75.

Dr Matt Perkins, Chair of FR Board and a Non-Executive Director, remuneration is disclosed on page 46.

Richard Stanford, Forestry Commission Chief Executive, remuneration is disclosed in the Forestry Commission Annual Report and Accounts.

All other Board Members are Non-Executive Directors,

The value of pension benefits accrued during the year is calculated as (the real increase in pension multiplied by 20) plus (the real increase in any lump sum) less (the contributions made by the individual). The real increases exclude increases due to inflation or any increase or decrease due to a transfer of pension rights.

Under the terms of the FReM any performance pay or bonuses payable require to be reported separately from salaries, in bands of £5,000.

No bonuses were payable in 2022-23 (2021-22 nil).

Salary

'Salary' includes gross salary, overtime and any allowances subject to UK taxation.

Benefits in kind

The monetary value of benefits in kind covers any benefits provided by the employer and treated by HM Revenue and Customs (HMRC) as

Accountability Report

		[^] 2022-23	2021-22
Lower Quartile	Salary	£ 27,779	£ 26,920
	Pay and Benefits	£ 27,779	£ 26,920
	Pay Ratio	3.51	3.44
Median	Salary	£ 30,168	£ 30,167
	Pay and Benefits	£ 30,168	£ 30,167
	Pay Ratio	3.23	3.07
Upper Quartile	Salary	£ 38,842	£ 41,834
	Pay and Benefits	£ 38,842	£ 41,834
	Pay Ratio	2.51	2.21

* In 2020-21 only the median was required, the quartiles are a new requirement.

[^] In 2022-23 pay ratios have increased due to a change in the remuneration of the highest paid director.

taxable income. Benefits in kind are given in the form of the private use of a car, house purchase loans or taxable travel and expenses incurred in the performance of duties.

Fair pay disclosure – subject to audit

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

The banded remuneration of the highest-paid director of Forest Research in the financial year 2022-23 was £95,000-£100,000 (2021-22: £90,000-£95,000). This was 3.51 times the 25th percentile of the remuneration of the workforce which was £27,779, 3.23 times (2021-22: 3.07) the median remuneration of the workforce, which was £30,168 (2021-22: £30,167) and 2.51 times the 75th percentile of the remuneration of the workforce which was £38,842. In 2022-23 no employees (2021-22: nil) received remuneration in excess of the highest-paid director. The remuneration of the lowest paid employees is £20,000 (2021-22: £18,000).

The percentage change in respect of the highest paid director between 2021-22 and 2022-23 is an increase of 3.3%. The average salary increase in respect of the employees of the entity taken as a whole of 2.9%.

Total remuneration includes salary and benefits in kind. It does not include severance payments, employer pension contributions and the Cash Equivalent Transfer Value (CETV) of pensions.

Pension benefits 2022-23 – subject to audit

	James Pendlebury	Chris Quine	Paula Rice
Accrued pension at pension age as at 31/3/23 and related lump sum (LS)	25 - 30 plus a lump sum of 75 - 80	40 - 45 plus a lump sum of 120 - 125	0 - 5
Real increase (decrease) in pension and related lump sum (LS)	0 - 2.5 plus a lump sum of 0	0 plus a lump sum of 0	0 - 2.5
CETV at 31 March 2023	622	957	11
CETV at 31 March 2022*	579	915	-
Real increase/(decrease) in CETV	(8)	(33)	8

* The figure may be different from the closing balance in last year's accounts. This is due to the Cash Equivalent Transfer Value (CETV) factors being updated to comply with the Occupational Pension Scheme (Transfer Values) (Amendment) Regulations 2008. Taking account of inflation, the CETV funded by the employer has decreased in real terms.

Civil Service pensions

Pension benefits are provided through the Civil Service pension arrangements. From 1 April 2015 a new pension scheme for civil servants was introduced – the Civil Servants and Others Pension Scheme or alpha, which provides benefits on a career average basis with a normal pension age equal to the member's State Pension Age (or 65 if higher). From that date all newly appointed civil servants and the majority of those already in service joined alpha. Prior to that date, civil servants participated in the Principal Civil Service Pension Scheme (PCSPS). The PCSPS has four sections: 3 providing benefits on a final salary basis (classic, premium or classic plus) with a normal pension age of 60; and one providing benefits on a whole career basis (nuvos) with a normal pension age of 65.

These statutory arrangements are unfunded with the cost of benefits met by monies voted by Parliament each year. Pensions payable under classic, premium, classic plus, nuvos and alpha are increased annually in line with Pensions Increase legislation. Existing members of the PCSPS who were within 10 years of their normal pension age on 1 April 2012 remained in the PCSPS after 1 April 2015. Those who were between 10 years and 13 years and 5 months from their normal pension age on 1 April 2012 switch into alpha sometime between 1 June 2015 and 1 February 2022. Because the Government plans to remove discrimination identified by the courts in the way that the 2015 pension reforms were introduced for some members, it is expected that, in due course, eligible members with relevant service between 1 April 2015 and 31 March 2022 may be entitled to different pension benefits in relation to that period (and this may affect the Cash Equivalent Transfer Values shown in this report – see page 46).

Accountability Report

All members who switch to alpha have their PCSPS benefits 'banked', with those with earlier benefits in one of the final salary sections of the PCSPS having those benefits based on their final salary when they leave alpha. (The pension figures quoted for officials show pension earned in PCSPS or alpha – as appropriate. Where the official has benefits in both the PCSPS and alpha the figure quoted is the combined value of their benefits in the two schemes.) Members joining from October 2002 may opt for either the appropriate defined benefit arrangement or a defined contribution (money purchase) pension with an employer contribution (partnership pension account).

Employee contributions are salary-related and range between 4.6% and 8.05% for members of classic, premium, classic plus, nuvos and alpha. Benefits in classic accrue at the rate of 1/80th of final pensionable earnings for each year of service. In addition, a lump sum equivalent to three years initial pension is payable on retirement. For premium, benefits accrue at the rate of 1/60th of final pensionable earnings for each year of service. Unlike classic, there is no automatic lump sum. classic plus is essentially a hybrid with benefits for service before 1 October 2002 calculated broadly as per classic and benefits for service from October 2002 worked out as in premium. In nuvos a member builds up a pension based on their pensionable earnings during their period of scheme membership. At the end of the scheme year (31 March) the member's earned pension account is credited with 2.3% of their pensionable earnings in that scheme year and the accrued pension is uprated in line with Pensions Increase legislation. Benefits in alpha build up in a similar way to nuvos, except that the accrual rate is 2.32%. In all cases members may opt to give up (commute) pension for a lump sum up to the limits set by the Finance Act 2004.

The partnership pension account is an occupational defined contribution pension arrangement which is part of the Legal & General Mastertrust. The employer makes a basic contribution of between 8% and 14.75% (depending on the age of the member). The employee does not have to contribute, but where they do make contributions, the employer will match these up to a limit of 3% of pensionable salary (in addition to the employer's basic contribution). Employers also contribute a further 0.5% of pensionable salary to cover the cost of centrally-provided risk benefit cover (death in service and ill health retirement).

The accrued pension quoted is the pension the member is entitled to receive when they reach pension age, or immediately on ceasing to be an active member of the scheme if they are already at or over pension age. Pension age is 60 for members of classic, premium and classic plus, 65 for members of nuvos, and the higher of 65 or State Pension Age for members of alpha. (The pension figures quoted for officials show pension earned in PCSPS or alpha – as appropriate. Where the official has benefits in both the PCSPS and alpha the figure quoted is the combined value of their benefits in the two schemes but note that part of that pension may be payable from different ages.) Further details about the Civil Service pension arrangements can be found [on the website](#).

Cash Equivalent Transfer Values

A Cash Equivalent Transfer Value (CETV) is the actuarially assessed capitalised value of the pension scheme benefits accrued by a member at a particular point in time. The benefits valued are the member's accrued benefits and any contingent spouse's pension payable from the scheme. A CETV is a payment made by a pension scheme or arrangement to secure pension benefits in another pension scheme or arrangement when the member leaves a scheme and chooses to transfer the benefits accrued in their former scheme. The pension figures shown relate to the benefits that the individual has accrued because of their total membership of the pension scheme, not just their service in a senior capacity to which disclosure applies.

The figures include the value of any pension benefit in another scheme or arrangement which the member has transferred to the Civil Service pension arrangements. They also include any additional pension benefit accrued to the member because of their buying additional pension benefits at their own cost. CETVs are worked out in accordance with The Occupational Pension Schemes (Transfer Values) (Amendment) Regulations 2008 and do not take account of any actual or potential reduction to benefits resulting from Lifetime Allowance Tax which may be due when pension benefits are taken. CETV figures are calculated using the guidance on discount rates for calculating unfunded public service pension contribution rates that was extant at 31 March 2023. HM Treasury published updated guidance on 27 April 2023; this guidance will be used in the calculation of 2023-24 CETV figures.

Real increase in CETV

This reflects the increase in CETV that is funded by the employer. It does not include the increase in accrued pension due to inflation, contributions paid by the employee (including the value of any benefits transferred from another pension scheme or arrangement) and uses common market valuation factors for the start and end of the period.

Remuneration of non-executives – subject to audit

The only non-executive of FR Board to receive remuneration during 2022-23 was the Chair of the FR Board (the Chair). Under the terms of the Government Financial Reporting Manual 22-23 (FReM) such remuneration requires to be disclosed in bands of £5,000. The remuneration received by the Chair during 2022-23 was in the range between £5,000 to £10,000 (2021-22: £5,000-£10,000).

Accountability Report

Staff Report

Number of Senior Civil Servants by band

Band	Number of Senior Civil Servants
2	1
1	1

Average number of persons employed (full-time equivalents) - totals are subject to audit

	2022-23	2021-22
Permanent staff – male (2 Board Members)	142	134
Permanent staff – female (1 Board Member)	101	100
Total permanent	243	234
Others – male	32	23
Others – female	33	20
Total others	65	43
Total staff	308	277

Staff costs – subject to audit

	Permanent staff £000	Other staff £000	2022-23 Total £000	2021-22 Total £000
Wages and salaries	9,209	1,617	10,826	9,652
Seconded Staff	-	72	72	20
Social security costs	1,002	148	1,150	984
Employer's superannuation costs	2,451	423	2,874	2,563
Apprenticeship levy	52	-	52	46
Agency staff costs	-	770	770	587
Total	12,714	3,030	15,744	13,852

The Principal Civil Service Pension Scheme (PCSPS) is an unfunded multi-employer defined benefit pension scheme, but the Forestry Commission is unable to identify its share of the underlying assets and liabilities.

The scheme actuary valued the scheme as at 31 March 2016. Details can be found in the resource accounts of the [Cabinet Office: Civil Superannuation](#).

For 2022–23, employer contributions of £2,874,000 were payable to the PCSPS (2021–22: £2,550,000) at one of four rates in the range 26.6% to 30.3% of pensionable pay, based on salary bands. The scheme actuary reviews employer contributions every four years following a full scheme valuation. The contribution rates reflect benefits accruing during 2022–23 to be paid to the member when they retire and not the benefits paid during this period to existing pensioners.

Employees can opt to open a partnership pension account, a stakeholder pension with an employer contribution. Employer contributions of £14,142 (2021–22: £12,414) were paid to one appointed stakeholder pension provider. Employer contributions are age-related and range from 8% to 14.75%. Employers also match employee contributions up to 3% of pensionable pay. In addition, employer contributions of £472, 0.5% of pensionable pay (2021–22: £402, 0.5%), were payable to the PCSPS to cover the cost of the future provision of lump sum benefits on death in service or ill-health retirement of these employees.

Contributions due to the partnership pension providers at the Statement of Financial Position date were £nil (2021–22: £nil). Contributions prepaid at that date were £nil.

Sickness absence

The Forestry Commission has one common sickness absence management policy that covers Forest Research and provides a consistent framework approach to management. The policy is underpinned by an externally provided occupational health service and employee support programme that is available 24 hours a day. The average number of working days lost to sickness absence in Forest Research in 2022–23 was 5.7 per employee (2021–22: 6).

Staff turnover

During the year, Forest Research had 46 leavers relevant to the staff turnover calculations with a closing staff turnover ratio of 13.86%. Recruitment and retention has been identified as a key risk area across FR and activities, as noted on page 40, have been targeted to reduce turnover where possible. The Board continue to monitor the effectiveness of these actions.

Early departure costs – subject to audit

During 2022–23, no one left under Compulsory or Voluntary Redundancy terms (2021–22: nil). They received a total compensation payment of £nil (2021–22: £nil).

Accountability Report

Table 1: For all off-payroll worker engagements as at 31 March 2023, earning £245 per day or greater

Number of existing engagements as of 31 March 2023	9
Of which...	
Number that have existed for less than one year at time of reporting	6
Number that have existed for between one and two years at time of reporting	2
Number that have existed for between two and three years at time of reporting	Nil
Number that have existed for between three and four years at time of reporting	1

Table 2: For all new off-payroll engagements between 1 April 2022 and 31 March 2023, for more than £245 per day

Number of off-payroll workers engaged during the year ended 31 March 2023	14
Of which...	
Not subject to off-payroll legislation	Nil
Subject to off-payroll legislation and determined as in-scope of IR35	Nil
Subject to off-payroll legislation and determined as out-of-scope of IR35	Nil
Number of engagements reassessed for compliance or assurance purposes during the year	Nil

Table 3: For any off-payroll engagements of board members, and/or senior officials with significant financial responsibility between 1 April 2022 and 31 March 2023

Number of off-payroll engagements of board members, and/or, senior officials with significant financial responsibility, during the financial year.	2
Total number of individuals on payroll and off payroll that have been deemed "board members, and/or senior officials with significant financial responsibility", during the financial year. This figure should include both on-payroll and off-payroll engagements	7

Expenditure on consultancy

During the year, Forest Research incurred £nil on consultancy services (2021-22: £nil).

Off-payroll engagements

Defra is required to disclose information in its Annual Report and Accounts relating to the review of tax arrangements for public sector employees. Please see tables reported below for consistency with Defra's annual report and accounts.

People

In 2022 the Forestry Commission published the FC People strategy 2021 to 2025 outlining the strategic themes and the annual deliverables for each theme.

Strategic themes



Inspiring leadership - what makes us great

We will create a collaborative culture of compassion, ambition and trust. Our people will speak up, get involved and challenge the status quo so that both organisation and people thrive. Leaders at all levels will lead with our values and use them to develop and inspire others.

Wellbeing and engagement - people really matter

We will work tirelessly in supporting our people to be happy and safe. We will create conditions whereby people may balance their home and working lives and we will offer help when inevitable life challenges occur. In return, our people will give their best in pursuit of the Forestry Commission's priorities.

Diversity and inclusion - if not now, when?

We will listen attentively to the stories we are told. We will challenge and change in order to improve. Our goal is to create an organisation with diversity of thought, one where everyone belongs and feel comfortable being themselves.

Resourcing and developing - discovering what is possible

We will attract, deploy and retain the finest, by offering inspiring development and job opportunities to learn and progress which will foster learning and progression, supporting the strategic ambitions of our organisation.

Changing the way we work - future thinking now

We will collaborate with our people to design interesting work content that is meaningful and adds value to the organisation. We will develop the way in which we work, where we work and our patterns of working over the longer-term taking lessons from the pandemic and applying them to contemporary work patterns and culture.

Reward and recognition

We will strive to offer competitive, fair and transparent reward and recognition, using initiatives like 'Your Offer'. People will be valued for their contributions and all will understand their total reward package.

Accountability Report

Within Forest Research we have had a successful year in delivering actions in each of the key FC People Strategy strategic themes, progress is detailed below.

Strategic themes



Inspiring leadership - what makes us great

- 33% of our line managers have/are participating in the FC Professional managers Programme
- Increased uptake of coaching services provided by the Government Campus for Learning
- Implemented a refreshed continuous performance review policy and procedure

Wellbeing and engagement - people really matter

- 33 members of staff have received Mental Health Awareness Training
- 13 Line Managers have received Mental Health for Line Managers Training
- Quarterly Newsletter on Wellbeing published – promoting shared experiences, services and support tools available to all staff
- Digital Resources rolled out to business – Welbot and Headspace

Diversity and inclusion - if not now, when?

- Equality and Diversity dashboard developed
- 100 staff have completed Equally Yours diversity training
- Expanded staff networks to create greater inclusion within the Forestry Commission
- Improved our talent attraction strategies to increased the diversity within our workforce

Resourcing and developing - discovering what is possible

- Successfully recruited over 116 roles to resource major new programmes of work
- Developed new external careers hub on the FR website
- Developed and launched new recruitment hub for recruiting managers
- Gained insights from new employees and Resourcing Managers via surveys to help us attract more applicants for FR roles

Changing the way we work - future thinking now

- Successfully implemented organisation restructure to address strategic workforce planning challenges and reduce organisational risks
- Adapted the office spaces to accommodate blended working environment and increased staff compliment
- Successfully implemented all the key principles related to Changing the Way We Work project

Reward and recognition

- Contributed to the Forestry Commission "Your Offer" pay flexibility case

Equality and diversity

We continue to strive towards building a diverse and inclusive environment for all our staff. FR have implemented a number of workstreams under the Diversity and Inclusion theme of the Forestry Commission People strategy, such as the Rainbow Canopy Network, the Women in Forestry network, and gender balance, LGBT, ethnicity and religion groups.

Ethnicity

Ethnicity	%	England & Wales: ONS Nov 22	Scotland - Census 2011
White - English, Welsh, Scottish, Northern Irish	84%	74.40%	92%
Any other white background	7%	6.20%	4%
White all categories	91%	81.70%	96%
Other ethnicities & those that preferred not to say are represented but by less than 10 individuals within any group	7%	18.30%	4%
Did not complete the Ethnicity field	2%		

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Employee relations

We continue to have a strong relationship with the Forestry Commission trade unions (FCTU) and encourage employee consultation and communication with the FCTU and FRTU representatives and through the Forest Research Staff Council. Key issues discussed include the Covid-19 pandemic, Your Offer project (formerly Offer 2020), pay and reward, workforce policies, organisational design, resourcing and health, safety, and wellbeing issues.

Workforce Planning

Recruitment, succession planning and job evaluation

Significant work has recently been completed work strategic workforce planning in the last 3 years. In April this year FR successfully implemented a new organisation structure. The new structure enabled FR to address some challenges and opportunities.

Key outcomes



- Aligning our structures to be ready to deliver the Science & Innovation Strategy and implement the Strategy for Growth.
- Address key workforce planning issues to reduce risk, provide career development opportunities to address future skill requirements for FR.
- Balancing workload pressures within our corporate services.
- Encouraging dynamic collaboration between our science teams and greater integration of IFOS and Technical Services Unit (TSU) into the wider structure.
- Introduce consistency across the science centres and more balanced science groups of aligned working activity.

Parliamentary Accountability Disclosures

Financial review

From April 2019, Forest Research is part funded through a Cross-Border Memorandum of Understanding between Forest Research and the UK, Welsh and Scottish governments to provide core research and other services. This new arrangement supports the Ministerially-endorsed Science and Innovation Strategy for Forestry in Great Britain and forestry policies of the UK, Scottish, Welsh and Northern Irish governments.

In addition, Forestry Commission England, Forest and Land Scotland and Natural Resources Wales purchase research, development and surveys specifically related to their respective forest estates. Forest Research has also been increasingly successful in securing funding from other government departments, UK research councils, commercial organisations, private individuals and charities. Collaborative bids with other research providers and consortium funding have become increasingly important, placing emphasis on effective partnership working. Notable amongst these was our involvement in two more successful consortia awarded project funding in the UKRI and Natural Environmental Research Council (NERC) Future of UK Treescapes programme and a number of projects to support the Defra Research and Development strategy for the Nature for Climate Fund / England Tree Action Plan. Many of these projects will involve collaboration with other Arm's Length Bodies (ALBs) or research organisations, and we were extremely grateful for the scoping input from Forest Services and Natural England during the bidding process.

Regularity of expenditure – subject to audit

There were 32 losses during 2022–23 with a total cost of £19k (2021–22: four with total cost of £25k). The losses in 2022–23 were a result of exchange rate movements, a write down of obsolete stock, a road traffic accident together with a small amount of late payment charges.

No special payments were made during the year (2021–22: £nil).

Fees and charges – subject to audit

FR primary financial objective is to recover full economic costs of operations from the sale of services to customers. It has complied with the principles of cost allocation and charging requirements in HM Treasury and Office of Public Sector Information guidance.

Remote contingent liabilities – subject to audit

In addition to contingent liabilities reported within the meaning of IAS 37, Forest Research also reports liabilities for which the likelihood of a transfer of economic benefit in settlement is too remote to meet the definition of contingent liability. There are currently no remote contingent liabilities.

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Long-term expenditure trends

	2022-23 [^] £000	2021-22 [#] £000	2020-21 [*] £000	2019-20 £000	2018-19 [~] £000	2017-18 £000
Staff costs	15,744	13,852	12,540	11,641	10,772	10,248
Other management costs	8,158	7,363	5,501	5,721	5,088	3,608
Materials and services	5,314	3,132	2,890	2,094	3,584	3,811
Total expenditure	29,216	24,347	20,931	19,456	19,444	17,667

[^]2022-23 Other management costs excludes the impairment adjustment of the NRS Growth House, NRS Glasshouse and NRS Lab 28 increasing the costs by £252k in totality. The increase in expenditure relates to the additional funding secured under NCF and the NCEA work and increased staff requirements to deliver these programmes.

[#] 2021-22 Other management costs excludes the impairment adjustment of the Holt Laboratory and NRS, increasing the costs by £1,604k and £730k respectively.

^{*} The increase in expenditure in 2020-21 primarily relates to the additional funding secured under the NCF and the Natural Capital Ecosystems Assessment (NCEA) Pilot work. Additional staff were required to deliver these programmes, increasing overall staff costs alongside an annual Civil Service pay award.

[~] The increase in expenditure in 2018-19 mainly reflects the costs attributed to the Corporate Services Transition Programme.



Professor James Pendlebury
Chief Executive and Accounting Officer
28 June 2023

The Certificate and Report of the Comptroller and Auditor General to the House of Commons

Opinion on financial statements

I certify that I have audited the financial statements of Forest Research for the year ended 31 March 2023 under the Government Resources and Accounts Act 2000.

The financial statements comprise: Forest Research's

- Statement of Financial Position as at 31 March 2023;
- Statement of Comprehensive Net Expenditure, Statement of Cash Flows and Statement of Changes in Taxpayers' Equity for the year then ended; and
- the related notes including the significant accounting policies.

The financial reporting framework that has been applied in the preparation of the financial statements is applicable law and UK adopted international accounting standards.

In my opinion, the financial statements:

- give a true and fair view of the state of Forest Research's affairs as at 31 March 2023 and its net operating income for the year then ended; and
- have been properly prepared in accordance with the Government Resources and Accounts Act 2000 and HM Treasury directions issued thereunder.

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 and Regularity of Public Sector Bodies in the United Kingdom (2022)*. My responsibilities under those standards are further described in the Auditor's responsibilities for the audit of the financial statements section of my certificate.

Those standards require me and my staff to comply with the Financial Reporting Council's *Revised Ethical Standard 2019*. I am independent of Forest Research 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 Forest Research'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 Forest Research'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 Forest Research is adopted in consideration of the requirements set out in HM Treasury's Government Financial Reporting Manual, which requires entities to adopt the going concern basis of accounting in the preparation of the financial statements where it is anticipated that the services which they provide will continue into the future.

Other information

The other information comprises information included in the Annual Report, but does not include the financial statements and my auditor's certificate and report thereon. The Accounting Officer is responsible for the other information.

My opinion on the financial statements does not cover the other information and, except to the extent otherwise explicitly stated in my certificate, I do not express any form of assurance conclusion thereon.

My responsibility is to read the other information and, in doing so, consider whether the other information is materially inconsistent with the financial statements or my knowledge obtained in the audit, or otherwise appears to be materially misstated.

If I identify such material inconsistencies or apparent material misstatements, I am required to determine whether this gives rise to a material misstatement in the financial statements themselves. If, based on the work I have performed, I conclude that there is a material misstatement of this other information, I am required to report that fact.

I have nothing to report in this regard.

Opinion on other matters

In my opinion the part of the Remuneration and Staff Report to be audited has been properly prepared in accordance with HM Treasury directions made under the Government Resources and Accounts Act 2000.

In my opinion, based on the work undertaken in the course of the audit:

- the parts of the Accountability Report subject to audit have been properly prepared in accordance with HM Treasury directions made under the Government Resources and Accounts Act 2000;

-
- the information given in the Performance and Accountability Reports for the financial year for which the financial statements are prepared is consistent with the financial statements and is in accordance with the applicable legal requirements.

Matters on which I report by exception

In the light of the knowledge and understanding of Forest Research 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:

- Adequate accounting records have not been kept by Forest Research or returns adequate for my audit have not been received from branches not visited by my staff; or
- I have not received all of the information and explanations I require for my audit; or
- 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 Chief Executive as Accounting Officer is responsible for:

- maintaining proper accounting records;
- providing the C&AG with access to all information of which management is aware that is relevant to the preparation of the financial statements such as records, documentation and other matters;
- providing the C&AG with additional information and explanations needed for his audit;
- providing the C&AG with unrestricted access to persons within Forest Research from whom the auditor determines it necessary to obtain audit evidence;
- ensuring such internal controls are in place as deemed necessary to enable the preparation of financial statements to be free from material misstatement, whether due to fraud or error;
- ensuring that the financial statements give a true and fair view and are prepared in accordance with HM Treasury directions made under the Government Resources and Accounts Act 2000;

- ensuring that the annual report, which includes the Remuneration and Staff Report, is prepared in accordance with HM Treasury directions made under the Government Resources and Accounts Act 2000; and
- assessing Forest Research'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 Forest Research 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 Government Resources and Accounts Act 2000.

My objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue a certificate that includes my opinion. Reasonable assurance is a high level of assurance but is not a guarantee that an audit conducted in accordance with ISAs (UK) will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these financial statements.

Extent to which the audit was considered capable of detecting non-compliance with laws and regulations, including fraud

I design procedures in line with my responsibilities, outlined above, to detect material misstatements in respect of non-compliance with laws and regulations, including fraud. The extent to which my procedures are capable of detecting non-compliance with laws and regulations, including fraud is detailed below.

Identifying and assessing potential risks related to non-compliance with laws and regulations, including fraud

In identifying and assessing risks of material misstatement in respect of non-compliance with laws and regulations, including fraud, I:

- considered the nature of the sector, control environment and operational performance including the design of Forest Research's accounting policies, key performance indicators and performance incentives.
- inquired of management, Forest Research's head of internal audit and those charged with governance, including obtaining and reviewing supporting documentation relating to Forest Research's policies and procedures on:
 - o identifying, evaluating and complying with laws and regulations;
 - o detecting and responding to the risks of fraud; and
 - o the internal controls established to mitigate risks related to fraud or non-compliance with laws and regulations including Forest

Research's controls relating to Forest Research's compliance with the Government Resources and Accounts Act 2000 and Managing Public Money;

- inquired of management, Forest Research's head of internal audit and those charged with governance whether:
 - they were aware of any instances of non-compliance with laws and regulations;
 - they had knowledge of any actual, suspected, or alleged fraud,
- discussed with the engagement team and the relevant internal specialists, including Property, Plant and Equipment valuers, 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 Forest Research for fraud and identified the greatest potential for fraud in the following areas: revenue recognition, posting of unusual journals, complex transactions and bias in management estimates. In common with all audits under ISAs (UK), I am required to perform specific procedures to respond to the risk of management override.

I obtained an understanding of Forest Research's framework of authority and other legal and regulatory frameworks in which Forest Research operates. I focused on those laws and regulations that had a direct effect on material amounts and disclosures in the financial statements or that had a fundamental effect on the operations of Forest Research. The key laws and regulations I considered in this context included Government Resources and Accounts Act 2000, Managing Public Money, employment law and pensions legislation and tax legislation.

Audit response to identified risk

To respond to the identified risks resulting from the above procedures:

- I reviewed the financial statement disclosures and testing to supporting documentation to assess compliance with provisions of relevant laws and regulations described above as having direct effect on the financial statements;
- I enquired of management, the Audit and Risk Committee and in-house legal counsel concerning actual and potential litigation and claims;
- I reviewed minutes of meetings of those charged with governance and the Board; and internal audit reports; and
- in addressing the risk of fraud through management override of controls, I tested the appropriateness of journal entries and other adjustments; assessed whether the judgements on estimates are indicative of a potential bias; and evaluated the business rationale of any significant transactions that are unusual or outside the normal course of business.

I also communicated relevant identified laws and regulations and potential risks of fraud to all engagement team members including internal 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 expenditure and income recorded in the financial statements have been applied to the purposes intended by Parliament and the financial transactions recorded in the financial statements conform to the authorities which govern them.

I communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control I identify during my audit.

Report

I have no observations to make on these financial statements.



Gareth Davies

Date 5 July 2023

Comptroller and Auditor General

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

Financial Statements

Statement of Comprehensive Net Expenditure for the year ended 31 March 2023

	Notes	2022-23 £000	2021-22 £000
Income			
Core Income	6.1	(17,904)	(14,766)
Non-core income	6.2	(11,930)	(10,320)
Total operating income		(29,834)	(25,086)
Expenditure			
Staff costs	3	15,744	13,852
Other management costs	4	8,158	7,363
Materials and services	5	5,314	3,132
Impairment charges	4.1	252	2,334
Total operating expenditure		29,468	26,681
Net operating (income)/ expenditure		(366)	1,595
Other comprehensive net expenditure/(income)			
Net gain on revaluation of property, plant and equipment	4 & 7	(7,676)	(587)
Total comprehensive net (income)/ expenditure for the year		(8,042)	1,008

All income and expenditure are derived from continuing operations.

The notes on pages 66 to 87 form part of these accounts.

Statement of Financial Position as at 31 March 2023

	Notes	31 March 2023 £000	31 March 2022 £000
Non-current assets			
Property, plant and equipment	7	35,588	22,516
Right of Use assets		17	-
Intangible assets		65	28
Assets classified as held for sales-	8	75	75
Trade and other receivables	9	40	34
Total non-current assets		35,785	22,653
Current assets			
Inventories		15	32
Trade and other receivables	9	9,278	5,960
Cash and cash equivalents	10	1,884	3,608
Total current assets		11,177	9,600
Total assets		46,962	32,253
Current liabilities			
Provisions		-	(8)
Trade and other payables	11	(5,105)	(3,552)
Total current liabilities		(5,105)	(3,560)
Total assets less current liabilities		41,857	28,693
Non-current liabilities			
Trade and other payables	11	(9)	-
Total assets less total liabilities		41,848	28,693
Taxpayers' equity			
General Fund		26,367	20,851
Revaluation Reserve		15,481	7,842
Total equity		41,848	28,693

Professor James Pendlebury

Chief Executive and Accounting Officer

28 June 2023

The notes on pages 66 to 87 form part of these accounts.

Statement of Cash Flows for the year ended 31 March 2023

	Notes	2022-23 £000	2021-22 £000
Net cash inflow from operating activities			
Net operating (expenditure)/Income		366	(1,595)
Adjustments for non-cash transactions			
Depreciation	4	1,564	1,336
Amortisation	4	19	10
Impairment of property, plant and equipment	4	252	-
Loss on disposal of property, plant and equipment	4	44	157
Property, plant and equipment write-off		-	2,439
Notional audit fee	4	42	42
Movement in provisions		(8)	-
Decrease in inventories		18	24
(Increase) in trade and other receivables	9	(3,324)	(3,833)
Increase in trade and other payables	11	1,545	-
Use of provisions		-	(2)
Net cash (outflow)/inflow from operating activities		518	(1,422)
Cash flows from investing activities			
Purchase of property, plant and equipment	7	(7,257)	(5,925)
Purchase of intangible assets		(49)	-
Net cash (outflow) from investing activities		(7,306)	(5,925)
Cash flows from financing activities			
Net cash funding from the Forestry Commission		5,071	6,419
Payment of finance lease line in Financing activities		(7)	-
Net financing		5,064	6,419
Net (decrease)/increase in cash and cash equivalents in the period		(1,724)	(928)
Cash and cash equivalents at the beginning of the period		3,608	4,536
Cash and cash equivalents at the end of the period		1,884	3,608

The notes on pages 66 to 87 form part of these accounts.

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Statement of Changes in Taxpayers' Equity for the year ended 31 March 2023

	Notes	General Fund £000	Revaluation Reserve £000	Total Reserves £000
Balance at 1 April 2022		20,851	7,842	28,693
Changes in taxpayers' equity for 2022-23				
Net gain on revaluation of property, plant and equipment	7	-	7,676	7,676
Net gain on foreign currency receivable		-	-	-
Transfer from Revaluation Reserve		37	(37)	-
Notional audit fee	4	42	-	42
Net operating income		366	-	366
Funding received from the Forestry Commission		5,071	-	5,071
Balance at 31 March 2023		26,367	15,481	41,848

The 2021-22 values below are included for comparison purposes

Balance at 1 April 2021		15,925	7,315	23,240
Changes in taxpayers' equity for 2021-22				
Net gain on revaluation of property, plant and equipment	7	-	587	587
Net gain on foreign currency receivable		-	-	-
Transfer from Revaluation Reserve		60	(60)	-
Notional audit fee	4	42	-	42
Net operating expenditure		(1,595)	-	(1,595)
Funding received from the Forestry Commission		6,419	-	6,419
Balance at 31 March 2022		20,851	7,842	28,693

The notes on pages 66 to 87 form part of these accounts.

Notes to the Accounts

Note 1. Statement of accounting policies

The strength of the Agency's Statement of Financial Position as at 31 March 2023, with Taxpayers' equity of £41.8m, coupled with ongoing growing external research contracts and a robust future Business Development pipeline, provides a compelling platform for future delivery of scientific research and data services to stakeholders.

Forest Research is an agency of the Forestry Commission and is included as part of the FC 2023-24 funding within the Defra estimates which have already been approved by Parliament. A three-year government spending review (SR21) to determine future funding for government departments including Defra for the period 2022-23 to 2024-25 is ongoing. Continued support of FR within the FC from 2023-24 onwards will be considered and reviewed as part of this Spending Review. Based on the above information it has therefore been considered appropriate to adopt a going concern basis for the preparation of these financial statements.

These accounts are prepared in accordance with a direction given by HM Treasury in pursuance of Section 7 of the Government Resources and Accounts Act 2000.

Going concern

The emergence into the post Covid-19 economy, with the cost of living and energy crisis has provided Forest Research with both challenges and opportunities. Management do not view the going concern of the entity as a risk, based on the assumption that FR will continue to provide existing services in the future. This position is underpinned by the Westminster, Scottish and Welsh Governments with Ministerial endorsement of a five plus two year Science and Innovation Strategy for forestry in Great Britain, covering the period 1 April 2019 to 31 March 2026. This important milestone for Forest Research underpins the financial commitment in the Ministerially endorsed cross border Memorandum of Understanding, amounting annually to c£9m.

These financial statements have been prepared on a going-concern basis and in accordance with International Financial Reporting Standards (IFRS) as adapted and interpreted by the 2022-23 FReM issued by HM Treasury. Where the FReM permits a choice of accounting policy, the accounting policy which is judged to be most appropriate to the particular circumstances of Forest Research for the purpose of giving a true and fair view has been selected. The particular policies selected by Forest Research are described below. They have been applied consistently in dealing with items considered material in relation to the accounts.

The preparation of financial statements in conformity with IFRS requires the use of certain critical accounting estimates. It also requires management to exercise its judgement in the process of applying the accounting policies.

Financial Statements

There are no estimates, assumptions and judgements that are deemed to have a significant risk of causing a material adjustment to the carrying amounts of Forest Research's assets and liabilities.

1.1 Accounting convention

These accounts have been prepared under the historical cost convention modified to account for the revaluation of property, plant and equipment, and available-for-sale financial assets.

1.2 Value Added Tax (VAT)

Forest Research is covered under the Forestry Commission's registration for VAT. In order to comply with the government accounting regulations and normal commercial practice, income and expenditure shown in the Statement of Comprehensive Income is net of VAT. Irrecoverable VAT is charged to the Statement of Comprehensive Income in the year in which it is incurred.

1.3 Revenue recognition

Income comprises the fair value of the consideration received or receivable from forestry and related activities. Revenue is shown net of VAT, returns, rebates and discounts.

Income is accounted for in accordance with the five-stage model set out in IFRS 15, Revenue from Contracts with Customers, and is recognised when performance obligations are satisfied.

Forest Research receives funding directly from the Forestry Commission to support the delivery of its work totalling £5,071,000 (31 March 2022: £6,419,000). This funding is treated as financing received from its controlling party, which is the Forestry Commission. The funding received is credited directly to the general reserve in the Statement of Financial Position and disclosed as movements in the Statement of Changes in Taxpayer's Equity.

1.4 Foreign currency translation

Functional and presentation currency

Items included in the financial statements are measured using the currency of the primary economic environment in which Forest Research operates ('the functional currency'). The functional currency and the presentation currency of the financial statements is pounds sterling.

Transactions and balances

Foreign currency transactions are translated into the functional currency using the exchange rates prevailing at the dates of the transactions or valuation where items are re-measured. Foreign exchange gains and losses resulting from the settlement of such transactions and from the translation at year-end exchange rates of monetary assets and liabilities denominated in foreign currencies are recognised in the Statement of Comprehensive Income.

1.5 Employee benefits

Pensions

Past and present employees are covered by the provisions of the Principal Civil Service Pension Scheme (PCSPS). PCSPS is an unfunded, defined benefit, contributory, public service occupational pension scheme. Forest Research accounts for the PCSPS as a defined contribution plan and recognises the expected cost of these elements on a systematic and rational basis over the period during which it benefits from an employee's services by payment to the PCSPS of amounts calculated on an accruing basis. Liability for payment of future benefits is a charge on the PCSPS. In respect of the defined contribution schemes, Forest Research recognises the contributions payable for the year. Prepaid contributions are recognised as an asset to the extent that a cash refund or a reduction in the future payments is available.

Short-term employee benefits

Liabilities and expenses are recognised for holiday entitlements earned to 31 March but not yet taken.

1.6 Property, plant and equipment

Where Forest Research is the principal beneficial user of assets of the Forestry Commission estate, they are treated as a non-current asset of Forest Research although legal ownership is vested in the Forestry Ministers.

The normal threshold for the capitalisation of assets is £2,000.

Dwellings and other buildings

Dwellings and other buildings are shown at fair value less accumulated depreciation.

External valuers undertake a full revaluation of dwellings and other buildings at five-yearly intervals coinciding with that for the non-forest land. They follow the principles set out in the RICS Red Book and value on the basis of Open Market Value, Existing Use Value, Depreciated Replacement Cost or Discounted Cash Flow, as appropriate under the RICS Standards for determining fair value. A full valuation took place on 31 March 2023 by Savills, Chartered Surveyors. In the intervening years, the assets are revalued using the indices.

Subsequent expenditure

Subsequent costs are included in the asset's carrying amount or recognised as a separate asset, as appropriate, only when it is probable that future economic benefits associated with the item will flow to Forest Research and the cost of the item can be measured reliably. The carrying amount of the replaced part is derecognised. All other repairs and maintenance are charged to the Statement of Comprehensive Income during the financial period in which they are incurred.

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Plant and machinery

Forestry vehicles, machinery and equipment are shown at fair value less accumulated depreciation. Plant and machinery values are restated to current value each year using indices provided by the Office for National Statistics.

Assets under construction

Assets under construction are carried at the costs directly attributable to bringing the asset to the location and condition necessary for it to be capable of operating in the manner intended by management. Assets under construction are transferred to the appropriate property, plant and equipment category when completed and ready for use.

Revaluation Reserve

Increases in the carrying amount arising on revaluation of property, plant, equipment and intangible assets are credited to the Revaluation Reserve in taxpayers' equity. Decreases that offset previous increases of the same asset are charged against the Revaluation Reserve directly; all other decreases are charged to the Statement of Comprehensive Income. Each year the difference between depreciation based on the revalued carrying amount of the asset charged to the Statement of Comprehensive Income and depreciation based on the asset's original cost is transferred from the Revaluation Reserve to the General Fund.

1.7 Depreciation

Depreciation is provided on all tangible non-current assets (except land) at rates calculated to write off the valuation, less estimated residual values, of each asset evenly over its expected useful life. Asset lives are as follows:

Asset Category	Period
Freehold buildings	up to 60 years
Scientific equipment	over 5 to 20 years
Other machinery and equipment	over 5 to 20 years

The assets' residual values and useful lives are reviewed, and adjusted if appropriate, at each reporting date. An asset's carrying amount is written down immediately to its recoverable amount if the asset's carrying amount is greater than its estimated recoverable amount. Gains and losses on disposals are determined by comparing the proceeds with the carrying amount and are recognised within the Statement of Comprehensive Income. When revalued assets are sold, the amounts included in the Revaluation Reserve are transferred to the General Fund.

1.8 Intangible assets

Intangible assets are valued initially at cost and subsequently at fair value using the revaluation model.

Where an active market does not exist, income-generating assets are valued at the lower of depreciated replacement cost and value in use. Non-income-generating assets are carried at depreciated replacement cost. These valuation methods are considered to be a proxy for fair value.

Computer software

Acquired computer software licences are initially capitalised on the basis of the costs incurred to acquire and bring to use the specific software and subsequently revalued to depreciated replacement cost. Acquired computer software licences are amortised over the life of their licence.

1.9 Impairment of non-financial assets

Assets subject to depreciation and amortisation are reviewed for impairment whenever events or changes in circumstances indicate that the carrying amount may not be recoverable. An impairment loss is recognised for the amount by which the asset's carrying amount exceeds its recoverable amount. The recoverable amount is the higher of an asset's fair value less costs to sell and value in use. Where an asset is not held for the purpose of generating cash flows, value in use is assumed to equal the cost of replacing the service potential provided by the asset, unless there has been a reduction in service potential. For the purposes of assessing impairment, assets are grouped at the lowest levels for which there are separately identifiable cash flows (cash-generating units). Non-financial assets that suffer impairment are reviewed for possible reversal of the impairment at each reporting date.

1.10 Financial assets

Classification

Forest Research classifies its financial assets in the following categories: Amortised Costs or Fair Value through Other Comprehensive Income (FVOCI). The classification depends on the business model for which the financial assets were acquired. Management determines the classification of its financial assets at initial recognition.

Recognition and measurement

Financial assets are recognised when Forest Research becomes party to the contractual provisions of the financial instrument and derecognised when the rights to receive cash flows from the asset have expired or have been transferred and Forest Research has transferred substantially all risks and rewards of ownership.

(a) Financial assets held to collect contractual cash flow only are measured at Amortised Costs, initially recognised at fair value. Any subsequent gains or losses arising from changes in the fair value are presented in the

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Statement of Comprehensive Income. Where necessary, receivables have been impaired in accordance with the IFRS 9 lifetime expected credit losses model.

(b) Financial assets held to collect contractual cash flow and to sell are measured at Fair Value through Other Comprehensive Income.

1.11 Financial liabilities

Classification

Forest Research classifies its financial liabilities in the following categories: at fair value through profit or loss, and other financial liabilities.

The classification depends on the purpose for which the financial liabilities were issued. Management determines the classification of its financial liabilities at initial recognition.

Recognition and measurement

Financial liabilities are recognised when Forest Research becomes party to the contractual provisions of the financial instrument. A financial liability is removed from the Statement of Financial Position when the obligation is discharged, cancelled or expired.

(a) Financial liabilities at fair value through profit or loss

Financial liabilities carried at fair value through profit or loss are initially recognised at fair value. Any subsequent changes in the fair value are presented in the Statement of Comprehensive Income.

(b) Other financial liabilities

Other financial liabilities are initially recognised at fair value and subsequently measured at amortised cost using the effective interest method.

1.12 Cash and cash equivalents

Cash and cash equivalents includes cash in hand, deposits held at call with banks, cash balances held by the Government Banking Service and other short-term highly liquid investments with original maturities of three months or less, and bank overdrafts. Bank overdrafts are shown within borrowings in current liabilities on the Statement of Financial Position.

1.13 Provisions

Forest Research provides for present legal and constructive obligations which are of uncertain timing or amount at the reporting date based on the best estimate of the expenditure required to settle the obligation. Where the effect of the time value of money is significant, the estimated risk-adjusted cash flows are discounted using the real rate set by HM Treasury. The increase in the provision due to passage of time is recognised in the Statement of Comprehensive Income.

1.14 Contingent liabilities

Where the time value of money is material, contingent liabilities which are required to be disclosed under IAS 37 are stated at discounted amounts.

1.15 Effective in these financial statements

All International Financial Reporting Standards, interpretations and amendments effective at 31 March 2023 have been adopted in these statements, taking account of the specific interpretations and adaptations included within the FReM.

1.16 Leases

Forest Research has implemented IFRS 16 using the cumulative catch-up method; as a result, comparatives have not been restated. On the date of transition to IFRS 16, Forest Research recognised a lease liability and a right-of-use asset.

At inception of a contract Forest Research assesses whether a contract is, or contains, a lease. A contract is, or contains, a lease if it conveys the right to control the use of an identified asset for a period of time in exchange for consideration. To assess whether a contract conveys the right to control the use of an identified asset Forest Research assesses whether:

- The contract involves the use of an implicitly or explicitly identifiable asset and is physically distinct or represents substantially all of the capacity of a physically distinct asset. If the supplier has substantive substitution rights, then the asset is not identified; and
- Forest Research has the right to obtain substantially all the economic benefits from use of the asset through the period of use; and
- Forest Research has the right to direct the use of the asset.

This policy is applied to contracts entered into or changed on or after 1 April 2022.

For contracts entered into before 1 April 2022, Forest Research determined whether the arrangement was or contained a lease based on the assessment of whether:

- Fulfilment of the arrangement was dependent on the use of a specified asset; and
- The arrangement conveyed a right to use the asset

Forest Research recognises a right-of-use asset and a lease liability at the lease commencement date. The right-of-use asset is initially measured at cost, which comprises the initial amount of the lease liability adjusted for any lease payments made at or before the lease commencement date, plus initial direct costs and an estimate of costs to dismantle and remove the underlying asset.

The right-of-use asset is subsequently depreciated using a straight-line method from commencement date to the earlier of the useful life of the

Financial Statements

asset and the lease term. The value of each underlying asset is revalued annually as though ownership of the asset was vested in Forest Research. The policies and procedures for carrying out revaluations are those set out in 1.6 above. In addition, the right-of-use asset is periodically reduced by impairment losses, if any, and adjusted for certain remeasurements of the lease liability.

The lease liability is initially measured at the present value of the unpaid lease payment at the lease commencement date, discounted using the interest rate implicit in the lease, or if this rate cannot be readily determined, by Forest Research's incremental borrowing rate. This is set by HMT at 3.5% for 2022-23.

The lease liability is measured at amortised cost using the effective interest rate method. It is remeasured where there is a change in the future lease payments arising from a change in an index or interest rate or if Forest Research changes its assessment of whether it will exercise a purchase, extension, or termination option.

Subsequent lease payments are allocated between the liability and finance charges to achieve a constant rate on the finance balance outstanding. The interest element of the finance cost is charged to the Statement of Net Comprehensive Expenditure over the lease period to produce a constant periodic rate of interest on the remaining balance of the liability for each period. Forest Research has elected not to recognise right-of-use assets and lease liabilities for short-term lease that have a lease term of 12 months or less and leases of low-value assets. Forest Research recognises the payments associated with these leases as an expense on a straight-line basis over the lease term.

In the prior year Annual Report, we estimated that right of use assets and lease liabilities totalling £31k and £31k respectively would be recognised on adoption of IFRS 16. The reconciliation of operating lease commitments disclosed at 31 March 2022 to lease liabilities recognised at 1 April 2022 is as follows:

	£000
Operating lease commitments at 31 March 2022	31
Short-term and low value leases recognised as an expense	(6)
Effect of discounting	(1)
Additional lease liabilities recognised at 1 April 2022	24

The weighted average incremental borrowing rate applied on transition to IFRS 16 was 0.95%.

1.17 Effective for future financial years

New standards, amendments and interpretations issued but not effective for the financial year beginning 1 April 2022 and not early adopted.

IFRS Insurance Contracts

IFRS 17 will be applied upon formal adoption in the FReM:

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 not expected to have a material impact. This will be assessed when further guidance is forthcoming from HM Treasury.

Note 2. Segmental reporting

Forest Research's aim is to support and enhance the role of trees, woodlands and forests in sustainable development, by providing high-quality research, development and knowledge transfer. Management has determined that Forest Research operates as one operating segment, with results reviewed by the Chief Executive, as the chief operating decision-maker for Forest Research as a whole.

Note 3. Staff costs

	2022-23 £000	2021-22 £000
Wages and salaries	10,898	9,672
Social security costs	1,150	984
Employer's superannuation costs	2,874	2,563
Apprenticeship levy	52	46
Agency staff costs	770	587
Total	15,744	13,852

More details on staff costs can be found in the Remuneration and Staff Reports.

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Note 4. Other management costs

	Notes	2022-23 £000	2021-22 £000
Travel and subsistence		648	259
Building maintenance		1,664	2,086
Utilities		524	414
Training		308	99
Other expenditure		339	326
Computer supplies		3,013	2,529
Non-cash costs:			
Depreciation of property, plant and equipment	7	1,564	1,336
Amortisation of intangible assets		12	10
Loss on Disposal of property, plant and equipment		44	262
Auditors' remuneration – notional cost		42	42
Total		8,158	7,363

Note 4.1 Impairment Charge

2022-23: The impairment charge noted on page 62 on the Statement of Comprehensive Net Expenditure (SoCNE) of £252,000 for the year ended 31 March 2023 relates to the difference between the costs incurred and the formal valuations in respect of the NRS Glasshouse, NRS Growth House and NRS Lab 28., as in accordance with the FReM the properties/capital improvements require to be valued on a Depreciated Replacement Cost (DRC).

Note 5. Materials and services

	2022-23 £000	2021-22 £000
Materials and supplies	1,073	911
Vehicle charges from the Forestry Commission	344	305
Contracted research services	3,631	1,681
Publications	44	36
Protective clothing	62	47
Miscellaneous expenditure	160	152
Total	5,314	3,132

Note 6. Income

6.1 Core income

From 1 April 2019, a Cross-Border Memorandum of Understanding (MOU) between Forest Research and the UK, Welsh and Scottish governments funded core research and other services. This arrangement supports the Ministerially-endorsed Science and Innovation Strategy for Forestry in Great Britain and forestry policies of the UK, Scottish, Welsh and Northern Irish governments. In addition, Forestry England, Forestry and Land Scotland and Natural Resources Wales purchase research, data services and surveys specifically related to their respective forest estates. FR continues to be successful in securing funding from other government departments, the European Commission, UK research councils, commercial organisations, private individuals and charities. Income has been categorised below demonstrating Core income provided under the Cross Border MOU plus additional Defra funding provided via the Forestry Commission and Non-core income from customers.

Core income:	2022-23 £000	2021-22 £000
Defra	4,079	4,079
Scottish Government	4,079	4,079
Welsh Government	907	906
Forestry Commission	8,839	5,702
Total	17,904	14,766

6.2 Non-core income

Non-core income:	2022-23 £000	2021-22 £000
European Union	250	55
Forestry Commission	829	1,034
Forestry England	1,677	1,526
Welsh Government	1,019	465
Scottish Government	1,113	1,009
Forestry and Land Scotland	1,491	1,523
Contracts for research and services	5,396	4,481
Ad hoc – analysis, supply of seeds, conferences, advisory	155	227
Total	11,930	10,320

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Note 7. Tangible non-current assets

	Freehold land £000	Buildings £000	Scientific equipment £000	Other machinery & equipment £000	Assets under construction £000	Total £000
Valuation:						
At 1 April 2022	1,561	24,726	7,066	1,988	3,493	38,834
Additions	-	-	965	46	6,246	7,257
Transfers	-	2,937	-	40	(2,977)	-
Disposals	-	(70)	(77)	-	-	(147)
Impairments	-	(252)	-	-	-	(252)
Revaluation	79	9,274	420	113	-	9,886
At 31 March 2023	1,640	36,615	8,374	2,187	6,762	55,578
Depreciation:						
At 1 April 2022	-	12,295	2,620	1,403	-	16,318
Provided in year	-	678	736	150	-	1,564
Disposals	-	(34)	(68)	-	-	(102)
Revaluation	-	1,998	144	68	-	2,210
At 31 March 2023	-	14,937	3,432	1,621	-	19,990
Net book value:						
At 31 March 2023	1,640	21,678	4,942	566	6,762	35,588
At 31 March 2022	1,561	12,431	4,446	585	3,493	22,516

Fixed assets were revalued as at 31 March 2023, by professional RICS valuers under our policy detailed in 1.6. The results of this valuation were also subject to professional review by Savills, Chartered Surveyors. The valuation includes the principal research stations at Alice Holt Lodge near Farnham in Surrey and the Northern Research Station, Roslin, near Edinburgh, with net book values (excluding land) of £14 million and £7 million respectively, at 31 March 2023. Any assessed changes in the remaining useful life of specific assets have been recorded in the Fixed Asset Register and will result in amended depreciation charges in future years.

Prior year values disclosed below for comparison

	Freehold land £000	Buildings £000	Scientific equipment £000	Other machinery & equipment £000	Assets under construction £000	Total £000
Valuation:						
At 1 April 2021	1,443	18,400	5,698	1,806	7,412	34,759
Additions	-	-	1,286	-	4,639	5,925
Transfers	-	5,672	493	59	(6,224)	-
Disposals	-	(212)	(388)	-	-	(600)
Impairments	-	-	-	-	(2,334)	(2,334)
Revaluation to current prices	118	866	(23)	123	-	1,084
At 31 March 2022	1,561	24,726	7,066	1,988	3,493	38,834
Depreciation:						
At 1 April 2021	-	11,279	2,382	1,162	-	14,823
Provided in year	-	555	604	177	-	1,336
Disposals	-	(84)	(359)	-	-	(443)
Revaluation to current prices	-	545	(7)	64	-	602
At 31 March 2022	-	12,295	2,620	1,403	-	16,318
Net book value:						
At 31 March 2022	1,561	12,431	4,446	585	3,493	22,516
At 31 March 2021	1,443	7,121	3,316	644	7,412	19,936

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Capital estates project within Assets under construction classification includes the work in progress at Alice Holt and significant capital enhancement at the Northern Research station.

Note 8. Financial instruments

8.1 Financial instruments by category

All financial assets on the Statement of Financial Position are assets held at Amortised Costs, except for £75,000 (31 March 2022: £75,000) which is classified as Fair Value through Other Comprehensive Income (FVOCI) and is available for sale. The available-for-sale asset is Forest Research's share of C-Cure Solutions Ltd.

On the 1 April 2022 C-Cure board entered into a business purchase agreement, please see Note 17 page 87. After the initial agreement and as part of the winding up arrangements, Genomia transferred preference shares, with a face value of £50,000 to Forest Research for nil cost. This has raised the Forest Research shareholding to over 45%. The orderly winding-up of C-Cure has commenced with the Statutory Declaration of Solvency signed on 27 April 2023. The winding up will continue over the next 6 months, with an anticipated distribution of funds to Forest Research to crystallise over this period. The ultimate distribution of funds to Forest Research, from this event in 2023-24, is still uncertain, but is likely to be in the region of £50,000, increased from the estimated £22,000 in 2021-22 due to the change in shareholding.

All financial liabilities on the Statement of Financial Position are classified as other financial liabilities, except for £62,000 (31 March 2022: £180,000) taxation and social security costs and £302,000 (31 March 2022: £424,000) deferred income.

8.2 Exposure to risk

Credit risk

Forest Research is exposed to credit risk to the extent of non-payment by its counterparties in respect of financial assets receivable. The majority of assets relate to services provided to other public sector bodies and the risk of non-payment is considered low.

Liquidity risk

As the cash requirements of Forest Research are met primarily through funding from the Forestry Commission and devolved forestry bodies, it is not exposed to significant liquidity risks.

Interest rate risk

Forest Research has no significant interest-bearing assets or liabilities and as such income and expenditure cash flows are substantially independent of changes in market interest rates.

Foreign currency risk

Forest Research's only exposures to foreign exchange rates are through a bank account denominated in Euros and through receipt of EU funding for contracts which are denominated in Euros and New Zealand Dollars. Contracts denominated in foreign currency form less than 1% of Forest Research's total income. Therefore, fluctuations in exchange rates do not have a significant impact on Forest Research.

Note 9. Receivables

9.1 Analysis by type

	2022-23 £000	2021-22 £000
EU trade receivables	10	8
Other trade receivables	7,874	5,258
Total trade receivables	7,884	5,266
Other receivables	1	1
House purchase loans to employees	5	7
Prepayments and accrued income - EU	-	-
Prepayments and accrued income - non-EU	1,428	720
Total receivables	9,318	5,994

The carrying amounts of trade and other receivables are a reasonable approximation of their fair value. As of 31 March 2023, £7,743,000 (31 March 2022: £3,457,000) were fully performing and not overdue or impaired and provided for.

As of 31 March 2023, trade receivables of £141,000 (31 March 2022: £1,809,000) were overdue and regular exercises to assess recoverability have been undertaken post 31 March, resulting in the majority of the balance either being settled or where outstanding determined low risk, as due from public sector customers or the EU. The age analysis of these trade receivables is as follows:

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Months overdue	2022-23 £000	2021-22 £000
Less than one month	78	180
One to two months	15	1,516
Two to three months	0	26
More than three months	48	87
Total	141	1,809

The other classes within trade and other receivables do not contain impaired assets.

The maximum exposure to credit risk at the reporting date is the carrying value of each class of receivable mentioned above. Forest Research does not hold any collateral as security.

The carrying amounts of trade and other receivables are denominated in the following currencies:

Current	2022-23 £000	2021-22 £000
Pounds sterling	9,295	5,986
NOK Kr	13	-
Euros	10	8
Total	9,318	5,994

Note 10. Cash and cash equivalents

The following balances at 31 March are held at Government Banking Service banks and as cash in hand:

	2022-23 £000	2021-22 £000
Opening balance at 1 April	3,608	4,536
Net change in balances	(1,724)	(928)
Balance at 31 March	1,884	3,608

Forest Research had neither bank overdraft nor short-term investments as at 31 March for either of the two years.

Forest Research maintains Euro bank accounts for sums held on behalf of partners in European Commission projects, which are treated as third-party assets and not included in the balances shown (see Note 16).

Note 11. Trade and other payables

	2022-23 £000	2021-22 £000
Current		
Payments received on account	603	771
Trade payables	1,921	787
Taxation and social security costs	62	180
Other payables	676	10
Current part of finance leases	8	-
Accrued expenses	1,533	1,380
Contract liabilities	302	424
Non-Current		
Finance lease	9	-
Total	5,114	3,552

The carrying amounts of trade and other payables are a reasonable approximation of their fair value. All payables are to bodies external to central government and local authorities as at 31 March 2023 and 31 March 2022, with the exception of £257,000 (31 March 2022: £92,000) due to central government bodies. Funds held on behalf of partners in European Commission projects are treated as third-party assets (see Note 16). At 31 March 2023 the amount held in Forest Research bank accounts on behalf of partners was £27,000 (31 March 2022: £34,000).

The carrying amounts of trade and other payables are denominated in the following currencies:

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Current	2022-23 £000	2021-22 £000
Pounds sterling	4,749	3,049
Euros	310	459
US Dollars	39	38
New Zealand Dollars	7	6
Total	5,105	3,552

Note 12. Capital commitments

There were £1,879,224 contracted capital commitments as at 31 March 2023 (31 March 2022: £970,000).

Note 13. Commitments and receivables under operating leases

Total future minimum lease payments under operating leases are given in the tables below for each of the following periods.

Obligations under operating leases comprise:

Land and buildings:	2022-23 £000	2021-22 £000
Not later than one year	7	7
Later than one year and not later than five years	8	15
More than five years	-	-
Total	15	22

Total minimum lease payments under operating leases for land due to Forest Research are:

	2022-23 £000	2021-22 £000
Not later than one year	5	5
Later than one year and not later than five years	20	20
More than five years	48	53
Total	73	78

During 2012–13, the Environment Agency had a building constructed at Alice Holt and under the Memorandum of Terms of Occupancy has an obligation to pay Forest Research an annual capital allowance for occupation of the land for the 25-year term.

Note 14. Other financial commitments

There were no other financial commitments at 31 March 2023 (31 March 2022: £nil).

Note 15. Related party transactions

During the year, Forest Research has had a significant number of material transactions with the Forestry Commission and Defra, who are regarded as related parties. In addition, Forest Research has had operational transactions with other government departments and other central government bodies. James Pendlebury is also a Director of C-Cure Ltd, which is held as an investment of £75,000 by Forest Research, and detailed at Note 8.1 to the Financial Statements.

15.1 Transactions with the University of Stirling

	2022-23 £000	2021-22 £000
Sales	107	16
Purchases	99	15

The above transactions, for student stipend and a collaboration agreement, occurred on an arm's length basis. These transactions are disclosed as Chris Quine holds a visiting professorship at the University of Stirling.

There were balances outstanding of sales £10,000 (31 March 2022: £nil) and purchase £nil at 31 March 2023 (31 March 2022: £nil).

15.2 Transactions with the Institut Europeen de la Foret Cultivee (IEFC)

	2022-23 £000	2021-22 £000
Sales	-	-
Purchases	18	13

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The above transactions, for European networking support, occurred on an arm's length basis. These transactions are disclosed as James Pendlebury is a member of the Board of IEFC and received no remuneration for this role. There was a £nil balance outstanding at 31 March 2022 (31 March 2022: £nil).

15.3 Transactions with the Oxford University

	2022-23 £000	2021-22 £000
Sales	1	9
Purchases	4	-

The above transaction, for a research project, occurred on an arm's length basis. These transactions are disclosed as Matthew Perkins is on the board of three wholly owned subsidiaries of Oxford University, Forest Research had no direct transactions with the subsidiary but for transparency all transactions with Oxford University are disclosed. There was an outstanding balance of £nil as at 31 March 2023 (31 March 2022: £9,000).

15.4 Transactions with the Bangor University

	2022-23 £000	2021-22 £000
Sales	8	-
Purchases	91	-

The above transactions, for project-based research work, occurred on an arm's length basis. These transactions were disclosed as Julian Evans is an Honorary Fellow of Bangor University and received no remuneration for this role. There were transactions in the prior year which were not material. There was an outstanding balance of £nil as at 31 March 2023 (31 March 2022: £nil).

15.5 Transactions with the Scottish Forestry Trust

	2022-23 £000	2021-22 £000
Sales	12	19
Purchases	-	-

The above transactions, for conference and membership fees, occurred on an arm's length basis. These transactions were disclosed as Julian Evans is a Fellow and past president of the Institute of Chartered Foresters and received no remuneration for this role. There was an outstanding balance of £nil as at 31 March 2023 (31 March 2022: £nil).

15.6 Transactions with the Institute of Chartered Foresters

	2022-23 £000	2021-22 £000
Sales	-	-
Purchases	1	-

The above transactions, for project-based research work, occurred on an arm's length basis. These transactions were disclosed as Julian Evans is a Fellow and past president of the Institute of Chartered Foresters and received no remuneration for this role. There was an outstanding balance of £nil as at 31 March 2023 (31 March 2022: £nil).

Note 16. Third-party assets

As a coordinator for a number of projects partially funded by the European Commission in Euros, Forest Research receives funds on behalf of partners for onward transmission once work programmes have been approved. These third-party assets are not recognised in the accounts.

	2021-22 £000	Gross inflows £000	Gross outflows £000	2022-23 £000
Monetary third-party assets -	34	-	-	27
Government Banking Service balances				

Note 17. Events after the reporting date

The orderly winding-up of C-Cure has commenced with the Statutory Declaration of Solvency signed on 27 April 2023. The winding up will continue over the next 6 months, with an anticipated distribution of funds to Forest Research to crystallise over this period. The ultimate distribution of funds to Forest Research, from this event in 2023-24, is still uncertain, but is likely to be in the region of £50,000, increased from the estimated £22,000 in 2021-22 due to the change in shareholding.

FR's interest in this is shown on the Statement of Financial Position as at 31 March 2023, and detailed at Note 8.1 to the Financial Statements. It is not anticipated that this matter will have a significant (or material) impact to the Financial Statements of FR as at 31 March 2023, and is a non-adjusting post balance sheet event/matter. In accordance with the requirements of IAS 10, events after 31 March 2023 are considered up to the date on which the accounts are authorised for issue by the Accounting Officer. This is interpreted as the date of the Comptroller and Auditor General's Audit Certificate.

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