Scion™

FORESTS · PRODUCTS · INNOVATION

Annual Report 2024

MAI I TE NGAHERE ORANGA *PROSPERITY FROM TREES*

SCION
FORESTS • PRODUCTS • INNOVATION

Annual Report 2024

Presented to the House of Representatives pursuant to section 44 of the Public Finance Act 1989.

This annual report meets our reporting responsibilities under the Crown Research Institutes Act 1992 for the year ended 30 June 2024.

The report is available in digital format at www.scionresearch.com/annual-reports

Published by: Scion, Private Bag 3020, Rotorua 3046, New Zealand. www.scionresearch.com

September 2024

© 2024 New Zealand Forest Research Institute Limited trading as Scion

ISSN 1177-1763 (print version)
ISSN 1178-5276 (online version)

Printed on FSC mixed paper source.

Sign up online

Get your *Scion Annual Report and other publications* delivered by signing up at www.scionresearch.com/subscribe

Contents

Cover: Backpack-mounted LiDAR technology gathers precise 3D maps of forests, identifying individual trees and providing data that can be used to estimate wood volume, carbon storage, and forest age. Built using AI technologies, Forest Insights offers a deep view into commercial forests. (See story on page 18).

This page: Scion: New Zealand's leading institute for forestry, industrial biotech, and advanced manufacturing. Our technology can turn sustainable biomass and industrial waste into high-value bioproducts. Scion is collaborating with commercial partners on funding and pilot plant projects to scale up and de-risk new innovation.

Chair and chief executive report

On behalf of Scion's Board of Directors and Executive Management Team, we are pleased to present Scion's Annual Report for the 2023-24 financial year.

In doing so we would like to acknowledge the leadership of Dr Helen Anderson QSM, whose tenure as Board chair ended at the end of the financial year. Helen's time as Board Chair spanned some very significant changes for Scion, from the challenges of the COVID pandemic to the significant shift in Scion's strategy taking Scion from a science-focussed organisation to one focussed squarely on impact. Scion's ongoing financial and organisational health and stability is due in no small measure to her strategic leadership. We also farewell and give thanks for the service of Jon Ryder, Steve Wilson, Greg Mann, and Melinda Webber whose terms on Scion's board ended during the year, and welcome our new Board Chair Richard Westlake and two new Board members, Tony Allison and Murray Sherwin CNZM, who joined the Board in July 2024.

Scion has finished the year delivering $68m of revenue. A number of one off costs during the year, including recognition of the holiday pay remediation and redundancy provisions has seen the net loss before tax for the year at $2.9m compared to the budget of $3.0m. The budgeted loss was also a result of it becoming apparent that expected revenue from the Climate Emergency Response Fund to deliver work in support of the Forestry and Wood Processing Industry Transformation Plan and the first Emissions Reduction Plan would not be realised within the year. Achieving this result in the challenging economic environment whilst still delivering science excellence is testament to the efforts from the Board, management and staff.

Achieving that result required an 'all hands on deck' effort from Scion's staff in the last half of the year. Shifts in government fiscal priorities saw a significant reduction in potentially contracted revenue as the year progressed. Our commercial partners also tightened their belts as they faced challenging economic headwinds of volatile international markets, and the forecast post-COVID effects of high inflation and reduced revenue impacted on their investment in research and innovation.

As we looked ahead to the 2024/25 financial year, our normal forecasting and budget-setting process made clear that Scion will continue to face reduced revenues from both government and private sector sources. As well as identifying areas where we can cut costs, we needed to identify a number of positions for review, resulting in 25 positions being disestablished by the end of the year.

Despite those challenges, our staff have continued to deliver significant impact, driving innovation and growth to create economic value and contribute to beneficial environmental and social outcomes for New Zealand, cementing Scion's place as New Zealand's leading institute for forestry, industrial biotechnology, and advanced manufacturing. Some examples of that impact are included here, and others are available in editions of our Scion Connections magazine and online.

Significant change is on the horizon for New Zealand's science and innovation sector. This change is both needed and overdue, and Scion is well prepared to respond and help shape that change.

Scion's value proposition is very clear. Our strong roots in establishing and growing New Zealand's third largest goods export sector, bringing more than $6 billion in export revenue, underscore our value in helping New Zealand grow a prosperous and sustainable low-carbon future. We make no secret of the fact our aspirations for New Zealand are ambitious – we often talk of a potential $30 billion opportunity from the transition to a circular bioeconomy – but we won't grow the economy by that amount without significant investment in science and innovation and the on-shore processing needed to double the value of our forest-based exports.

As we reflect on Scion's achievements of this last year, we look forward to a science, innovation and technology system that is able to deliver greater benefit to New Zealand, enabled by a funding system better aligned to purpose and to an ability to invest alongside the private sector.

New Zealand needs to accelerate this transformation, or risk being left behind. It is essential that our science, innovation and technology sector is aligned to deliver on these great opportunities for New Zealand and our people.

Richard Westlake
Chair

Dr Julian Elder
Chief Executive

Year at a glance

- 332 permanent employees across three offices
- 50.6% male, 49.1% female and 0.3% gender diverse
- Zero serious harm events
- $68m total revenue
- $4.71M loss after tax
- 124 peer-reviewed science publications
- 314 commissioned reports to end users

About us

Scion is one of seven Crown Research Institutes that carry out research for the benefit of New Zealand. Since its origins as the Forest Research Institute in 1947, Scion has promoted forests and forestry for multiple benefits.

As New Zealand's leading institute in forestry, industrial biotechnology and advanced manufacturing we drive innovation and growth to create economic value and contribute to beneficial environmental and social outcomes.

The global imperative to transition away from fossil fuels and petrochemicals to sustainable biobased alternatives is a huge opportunity for New Zealand. New Zealand's natural competitive advantage in growing sustainable biomass combined with Scion's world-leading science and technology expertise, linked to an emerging biotechnology and biomanufacturing sector, is a generational opportunity to create new levels of prosperity from this transformation.

Our core purpose

To drive innovation and growth from New Zealand's forestry, wood product and wood-derived materials and other biomaterial sectors, to create economic value and contribute to beneficial environmental and social outcomes for New Zealand.

Our vision

Prosperity from trees. Mai i te ngahere oranga.

Our mission

Enhancing New Zealand's prosperity, wellbeing and environment through trees.

Kia piki te ora, te taiao me te whai rawa o Aotearoa mā te ngāherehere.

Our strategy responds to critical imperatives for New Zealand. Our structure is aligned to clearly focus on impact, and our research enables the aspirational outcomes we seek.

IMPERATIVES

- Grow Aotearoa New Zealand's exports
- Accelerate Māori economic development
- Meet consumer demand for products that are sustainable and do not harm the environment
- Respond to global trade changes and competition
- Meet climate change commitments
- Reduce environmental stress and land erosion and enhance water quality
- Build more affordable homes in our cities and regions
- Increase disposable household incomes

IMPACT AREAS AND PORTFOLIOS

Forests and landscapes

To grow healthy, resilient forests primarily for their standing-forest benefits

- *Establishing indigenous forests*
- *Restoration, Protection & Mauri o Te Waonui a Tāne*
- *Designing forests - Mahi Tahi Whaihua*

Forests to timber products

Enhancing our production forest value chains, creating high-value timber products for Aotearoa New Zealand and the world

- *Trees to high-volume wood products*
- *Trees to high-value wood products*
- *Distinct value indigenous wood products*
- *New value digital forests and wood sector*

Forests to Biobased products

To replace petrochemicals and non-sustainable materials with products from trees and other biomaterials

- *High-value biorefineries*
- *Bioproducts and packaging*
- *Distributed and circular manufacturing*
- *Integrated bioenergy*

ASPIRATIONS

- A productive, prosperous and resilient low-carbon economy supporting high-value jobs and exports
- New opportunities for sustainable regional economies and communities
- Significant improvement in productivity and wellbeing
- Healthy environments recognised as a key to resilience
- Thriving and sustainable Māori economy
- Net-zero emissions reduction target met through domestic action
- Protect and grow the value of New Zealand's planted forests, including with more diverse forest types and management systems

Ngā Hapū e Toru: Ngāti Hurungaterangi, Ngāti Taeotu me Ngāti Te Kahu

After the 2022 signing of the Kawenata between Scion and the tangata whenua for our Rotorua campus – Ngāti Hurungaterangi, Ngāti Taeotu, Ngāti Te Kahu (Ngā Hapū e Toru – the three hapū) – we have endeavoured to increase staff awareness and understanding of Ngā Hapū e Toru connection and history on this whenua.

As we move forward together, the Kawenata and associated mātāpono (principles) of whakapapa, kotahitanga, rangatiratanga, manaakitanga and tiakina te mana o te whenua, provide a framework for our enduring partnership into the future. For the true essence of the Kawenata to be realised, we have sought to embed and integrate it within our organisation through our people, processes, reporting and values.

To this end, we undertook several actions.

- Our Matariki celebrations in July 2023 included a series of presentations from the Hunga Whakahaere Matua (Hapū Operations Manager) about Ngā Hapū e Toru history on this whenua and within Te Arawa (iwi of Rotorua).
- In the refresh of Scion's organisational values in 2023/24, we incorporated a new value 'Whakamana te Kawenata' to give recognition to the Kawenata with Ngā Hapū e Toru, while leaving space for other Kawenata that Scion may pursue with tangata whenua at Scion's other sites (Christchurch and Wellington). This integration represents the greatest opportunity to encourage staff engagement with the Kawenata.
- We have implemented formal engagement mechanisms at different levels as required. These include annual meetings between Ngā Hapū e Toru trustees and Scion's Board, quarterly meetings between the Hunga Whakahaere Matua and Scion's Executive Management Team, and monthly meetings with the Chief Executive. The physical co-location of the Hunga Whakahaere Matua within Scion enables regular staff engagement with the Hapū, and provides a voice, visibility and constant presence for Ngā Hapū e Toru. This has also led to more involvement and input by the Hapū into Scion's science projects. At Scion's Urban Forests symposium held in Christchurch in April 2024, the Hunga Whakahaere Matua presented on a tangata whenua perspective of urban forests and how this can be incorporated.

Recognising the fundamental importance of the whenua to the Hapū, we have established processes that ensure the Hapū trustees are included in decisions regarding new developments, activities and tenants on the Rotorua campus. This also includes the appointment of a Hapū trustee to Scion's Master Planning Committee where all decisions are taken regarding our facilities and infrastructure.

Ngā Hapū e Toru continue to provide support and leadership on the kawa (protocols) and tikanga (rules) that apply when whakatau or pōhiri are held to welcome manuhiri (visitors) to Scion's Rotorua campus.

Together we have produced a guideline for staff and external users of our spaces to help clarify the whakatau and pōhiri process that we follow at Scion. Providing manaaki to visiting iwi, Māori partners, Indigenous groups and esteemed manuhiri strongly aligns with Scion's organisational values.

Working collaboratively within many communities

Over the year we have continued to support and work with key customers and partners from across the private sector, government, iwi/Māori, and the science, innovation and technology sector.

We're open for business, and our revised stakeholder engagement strategy and tools are helping sharpen our customer focus, making sure we're working with the right people to drive innovation and economic growth for New Zealand. Scion has a long involvement with a wide range of stakeholders in the forestry industry, from nurseries to forest owners and managers, and wood processing and manufacturing (timber and pulp and paper) companies. Our research has underpinned the success of the industry and the sector continues to invest strongly in the work that we do. Close, mutually beneficial partnerships enable us to support the sector's business objectives.

FORESTRY

Tāmata Hauhā, Forest Growers Research, Ngā Pou a Tāne, JNL Juken New Zealand Ltd, Rayonier Matariki Forests, Pūniu River Care Inc, Forest Owners Association, My Native Forest, Te Māra Rākaunui o Aotearoa National Arboretum of NZ, Tane's Tree Trust, Whenua Oho, RPBC, Sequal, Ernslaw One Limited, Timberlands, PF Olsen, New Zealand Farm Forestry Association, Port Blakely NZ Essential Oils, New Zealand Institute of Forestry, Taitokerau Māori Forests Inc, Ngāti Hine Forestry Trust, Te Rōroa, Rotoiti 15

INDUSTRIAL BIOTECHNOLOGY

bp, Z Energy, ecogas, NZ Bioforestry, Futurity, Cetogenix, Humble Bee Bio, Air New Zealand, GreenChem, Upflow, Jooules, LanzaJet, BioTech New Zealand

ADVANCED MANUFACTURING

eLandNZ, techlam, imagin plastics, epl, Windsor Engineering, AgriSea New Zealand, WPMA, OJI, New Zealand Timber Design Society, RTA Studio, convex, Zespri, Appita, Plentyful, Usedfully, Plastics NZ

GOVERNMENT

Fire and Emergency New Zealand, Venture Taranaki, Ministry of Business, Innovation & Employment – Hīkina Whakatutuki, Ministry for Primary Industries – Manatū Ahu Matua, Te Uru Kahika Regional and Unitary Councils Aotearoa, New Zealand Trade & Enterprise – Te Taurapa Tūhono, Rotorua, Ministry for the Environment, Te Uru Rākau New Zealand Forest Service, NZ Transport Agency Waka Kotahi, Department of Conservation, Maritime New Zealand, Biosecurity New Zealand, Kāinga Ora Homes and Communities, Trust Tairāwhiti

INTERNATIONAL PARTNER

INRAE, vito, VTT, Horizon Europe, University of Cambridge, Luke Natural Resources Institute Finland, AHK, RISE, US Forest Service, IUFRO, University of Oregon, World Bioeconomy Forum, World Bioeconomy Association, CSIRO

NZ RESEARCH PARTNER

AgResearch, BRANZ, Callaghan Innovation, ESR, GNS Science, Plant & Food Research, Manaaki Whenua Landcare Research, Bioprotection Aotearoa, NIWA, nzppi, WSP, Cawthron, University of Otago, University of Canterbury, Massey University, The University of Auckland, AUT, Lincoln Agritech, Minginui Nursery, Product Accelerator

Horizon Europe: Partnerships for international success

Horizon Europe is a significant new opportunity for building partnerships between collaborators in New Zealand and Europe.

Funding through Horizon Europe will provide a growing and increasingly strategic revenue source for Scion. One year ago, New Zealand joined Horizon Europe and the partnership is already turning into a success story. Partnerships - locally and globally are so important when addressing the challenges and opportunities of the coming decades.

Scion has already had success in building partnerships to secure Horizon Europe funding (see story on page 12). The international networks formed will be very beneficial for our partners in New Zealand.

Businesses built on diversity, connectivity and sustainability have the competitive edge in today's global markets. New Zealand is an export nation, and our existing and new partners are on an exciting journey. How can we turn New Zealand's natural competitive advantages - for example growing sustainable biomass – into globally relevant biotechnology, biomanufacturing and bioenergy driven business opportunities. When it comes to science, technology and innovation - global connectivity is key. This will accelerate economic growth, productivity, high value jobs and new high value export products.

Sharing our work – learning from others

Science papers and quality

Calendar year Jan-Dec 2023		
H-index factor (5-year rolling average)	124.29	(up from 107.09)
Mean Citation Score	from 5.44	(up from 5.08)

Output Types	Output Total	Scion Target
Commissioned reports to users	314	250
Internal Reports	95	100
Key note and plenary presentations	3	10
New or improved processes, products, or services	7	5
Peer reviewed articles	124	130
Presentations on technical information and research results	194	300
Publications on technical information and research results	216	150
Total	**953**	**945**

Collaborations

Publication collaborations with international research institutions (comprises peer-reviewed articles, technical publications and contract reports)	160	(up from 130)
Publication collaborations with other New Zealand institutions (comprises peer-reviewed articles, technical publications and contract reports)	104	(up from 89)

Tech transfer

Commissioned reports to users	314	(up from 227)
Peer-reviewed articles	124	(down from 138)
Presentations on technical information and research results	194	(up from 190)
Publications on technical information and research results	216	(down from 247)

Communication

Media mentions	398	(14.4% decrease)
Media Impact Score	4.7	
Subscribers to Scion Connections magazine	3877	(77.4% increase)
Followers on social media channels	19,755	(15.8% increase)
Views of YouTube videos	28,227	(56.9% increase)
Website page views	262,291	(407% increase)

Collaboration with Māori

Scion acknowledges Māori as essential collaborators in research, science, and innovation. This recognition extends to their roles as kaitiaki of important natural resources and mātauranga across generations, as well as their responsibilities as owners and managers of commercial assets.

We are committed to engaging with Māori from a Te Tiriti-based approach. For Scion, this means engaging early, actively responding to the needs of our Māori partners, and co-designing and co-implementing research and development programmes to allow for Māori research, knowledge and development aspirations to flourish.

Producing tools, information and resources to support Māori decision-making on their whenua remains a key focus. This year, Scion, Cognitus Economic Insight and Ngā Pou a Tāne (Māori Forestry Association) began work to frame, assess and realise the Total Economic Value of Māori Forestry Interests. This framework rethinks the value of forests on Māori land to incorporate the added value of Māori principles and tikanga being practised and applied to forests (e.g. biodiversity, stewardship and bequests to future generations). With this framework, Ngā Pou a Tane intends to create market and non-market uses for Māori forestry interests to be customised to meet the purchasing requirements of niche markets and buyers, including payments for ecosystem services, climate and nature-based disclosures and solutions.

Scion's Te Ao Māori team also supported Ngā Pou a Tāne by mapping the Māori Forestry Paradigm system – its historical context, current state, and potential future state. This contributed toward the draft National Māori Forestry Strategy Consultation Document which was launched in February 2024, and due for finalisation in December 2024.

Scion continues to support Ngā Pou a Tāne to advance forestx.io, a data management system for managing the national Māori forest inventory.

As we came to the end of the National Science Challenges in June 2024, it was great to see tangible outcomes from the contributions of our Te Ao Māori researchers and wider Scion team in the Our Land and Water, Biological Heritage Challenge, Science for Technological Innovation and Resilience to Nature challenges.

In strong alignment with Scion's objective to support and enable Māori landowners and decision-makers to have the best information possible regarding their whenua, we collaborated with Manaaki Whenua, Plant and Food, and AgResearch, Māori landowners and Māori knowledge holders, and external technical consultants to produce a number of outputs including the Data Supermarket – a data repository produced under the Whitiwhiti Ora programme that provides a broad understanding of the benefits and consequences of a wide range of land use opportunities; Matarau - regional-scale data packages and fact sheets for multiple land-use options that consider the biophysical character of the whenua, and pressures on wai and future suitability to our changing climate; Pohewa Pai Tawhiti – guidelines to help decision-making on land-use change, and ensuring these potential changes align with landowner values and aspirations; and the Matatau Whenua Guidelines, co-piloted with Waerenga East and West Incorporation, to assist whenua Māori landowners and decision-makers to gather mātauranga to inform past, present, and future land-use decisions.

Impact Area: Forests to biobased products

This impact area is at the forefront of turning New Zealand's natural competitive advantage in growing sustainable biomass into biotechnology and advanced manufacturing-driven business, unlocking economic growth, productivity, high value jobs and new high value export products.

We can manufacture many everyday industrial and consumer products in New Zealand, replace fossil fuel energy with renewable energy, and replace carbon-intense materials and products with sustainable alternatives. Working with our partners across several value chains, this shift will give us the power to grow prosperity, jobs and resilience while reducing waste, pollution and greenhouse gas emissions.

Impacts are delivered through our four research portfolios.

Goals for the Impact our research will enable

- Enabling investment in new infrastructure, including three biorefineries, one of which is Māori-owned
- $20 billion sustainable GDP growth driven through existing and new companies
- Reduce CO_2-e emissions by 10 million tonnes
- 300 million litres of fossil feedstock replaced by biobased alternatives for the production of sustainable energy and materials
- Generate 2500 new regional jobs which support the circular bioeconomy

This past year we have also made significant progress in the areas of biotech, cleantech and advanced biomaterials.

We have taken big steps towards demonstrating how Scion technology can accelerate new high value export products. A successful research partnership with Scion is bearing fruit for PolyNatural®, a Christchurch company exporting biodegradable vine clips to replace traditional plastic clips that hold nets over ripening grapes to keep birds and other pests away. Reaching the export milestone follows extensive product development and comes five years after the first prototype clip was created by Scion scientists in collaboration with PolyNatural®'s parent company EPL. Read more in Scion Connections*.

Scion is supporting UsedFULLY to turn unwanted textiles into an ingredient used to create roads, and climate tech company Cetogenix to unlock the hidden potential of organic waste streams to deliver renewable carbon resources. We are working with biotechnology company Humble Bee Bio to develop biomaterials for multiple billion-dollar markets, including cosmetics, biomedical, and textiles. Scion is supporting Upflow to build a pilot scale plant that turns carbon dioxide and methane emissions into animal feed. Jooules draws on Scion's precision fermentation and gas fermentation capabilities turning carbon dioxide and methane emissions into proteins. Read more in Scion Connections*

Two examples of our technology and capability being recognised and used globally are our involvement in the Horizon Europe programme UPWEARS, and a partnership with University of French Polynesia to develop biomaterials to make pearl farming in the Pacific more sustainable, replacing plastic-based pearl oyster with innovative bioplastic alternatives. Read more in Scion Connections*.

Ecogas opened New Zealand's first commercial scale anaerobic digestion bioenergy plant in Reporoa, six years after the technology was piloted with Scion.

The $30 million facility will turn 75,000 tonnes of organic food waste into renewable clean energy and biofertiliser, while providing 40 jobs. We continue to explore further research opportunities with Ecogas. This complements significant progress towards commercialising Scion's proprietary marine biofuels technology as well as our contributions to the Sustainable Aviation Fuel Consortium (Air New Zealand, Z Energy, Scion, LanzaTech and LanzaJet).

Distributed manufacturing, the right process for the right product in the right region, is receiving more and more interest, accelerated by the impact wrought by Cyclones Hale and Gabrielle. We are currently working on an immediate solution to woody debris in the form of a mobile, container-sized mini-factory to process forestry waste on-site, turning it into new high-value products.

Scion is working alongside local communities and other Crown Research Institutes on a five-year programme focussed on creating self-sustainability and restoring an ancient landscape on the Chatham Islands. It is an inspiring story of what can be achieved when driven by the principles of a circular bioeconomy. Read more in Scion Connections*.

* Get *Scion Connections* and other publications delivered by signing up at www.scionresearch.com/subscribe

IMPACT STORY

Scion's central role in €7.5 million Horizon Europe project

Scion's leading biomaterials, 3D printing, packaging, and machine-learning knowledge is being called on as part of a €7.5 million (NZD$13.25m) research project funded in partnership with the European Union.

The EU's key research and innovation funding programme, Horizon Europe, awarded the funds to a four-year project led by INRAE, France's National Research Institute for Agriculture, Food and Environment.

The project is bringing together 15 partners from seven countries. Scion will play a central role in the project and contribute approximately NZ$3 million of research to the project.

The research programme, UPWEARS, aims to develop a sustainable e-textile (electrically conductive textile) using cork, hemp, flax and paper byproducts, and develop ways to recycle and reuse textile waste. The overall aim is to contribute to a sustainable economy by unlocking the potential of bio-based and hybrid fabrics. To demonstrate the e-textile, the team will create high-performance clothing for biking that is abrasion and tear-resistant, waterproof or repellant, stretchable, and breathable. The product will also be biodegradable, and this will be tested in Scion's biodegradation facility in Rotorua.

Scion's expertise in sustainable electronics will be used to create flexible sensors from biomaterials for integration into the clothing, sending temperature and humidity data to a user's device. Scion will lead in turning recovered textile waste into filament or pellets for 3D printing meaning the clothing will be recyclable and a zero-waste product. Scion will also contribute to using AI/machine learning to optimise the production process reducing waste and increasing zero-defect products. Overall, the project will help with the transition to a modern textile fabrication process using natural fibres and reducing waste during and post-production.

The other organisations involved include research organisations, universities and textiles companies from France, Sweden, Portugal, Italy, Belgium and the United Kingdom covering the technical e-textile value chain, from fibre to prototype manufacturing and testing, as well as stakeholder engagement and market analysis.

UPWEARS will be integrated into a cross-country biking suit. [Image generated with AI elements.]

IMPACT STORY

Growing forests for bioenergy

Scion has produced a 'how-to' guide for landowners, forest investors and government agencies that outlines the promising potential of short rotation forestry to supply feedstock for bioenergy production in New Zealand.

Growing trees dedicated for biofuel not only diversifies regional economies but also contributes to sustainable land management and helps New Zealand meet its net-zero emissions targets by 2050.

Why it matters

- The forestry model provides an alternative investment option for landowners on lower value land (Land Use Capability Class 5-7).
- By 2035, 150,000 hectares of dedicated bioenergy forest could displace 3 million tonnes CO_2-e emissions per year.

A two-year research project has identified the opportunities for regional New Zealand to adopt short rotation forestry (SRF) for bioenergy production.

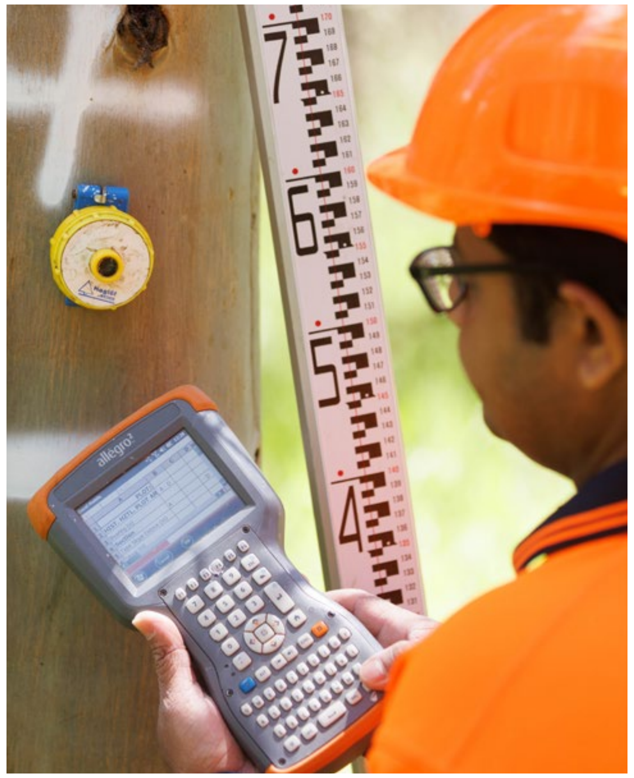
Scion's modelling shows that short rotation forestry as a feedstock for bioenergy has the potential to replace 6% of New Zealand's annual fossil fuel demand from less than 1% of the land area. This finding reinforces the feasibility of scaling up bioenergy production from forests, particularly in regions well-suited for short rotation forestry including the Central North Island, Northland, the East Coast, and Otago. These areas offer ideal conditions for SRF on lower-value land (Land Use Capability Class 5-7), where transport distances to processing locations can be minimised.

Pinus radiata, known for its rapid growth and adaptability, is identified as the ideal species for SRF, with *Eucalyptus fastigata* and *Eucalyptus regnans* also showing promise for high biomass yields. These species are planted in dense stands and managed to optimise wood production for renewable energy, such as wood pellets, torrefied briquettes, or liquid biofuels for the marine and aviation sectors.

SRF cycles, ranging from 12 to 18 years, are significantly shorter than the conventional 28-year harvesting cycles, providing a steady supply of biomass and contributing to greenhouse gas reduction by displacing fossil fuels and promoting carbon sequestration.

Scion is developing forest bioenergy trials with the Ministry for Primary Industries to validate the theoretical findings.

Read more and download a copy of the guide for short rotation forestry from Scion's website:



Impact Area: Forests and landscapes

The establishment of new high performing forests and forest systems and landscapes able to provide a range of natural system services and economic derivation from the land is the future means to enabling a healthy, sustainable and profitable future.

These high performing forests provide a range of natural services including carbon sequestration, nitrogen regulation (avoided leaching), erosion control, natural pollination, flood regulation, waste treatment, water supply protection, recreation and species conservation and biodiversity. New evidence shows trees on farms increases productivity and economic proficiency.

Impacts in this area of work are delivered through three research portfolios.

Goals for the impact our research will enable

- 20,000 hectares of highly erodible land planted with trees to enhance soil stability and protect against loss of livelihood
- Major cities on track to achieve 30% tree canopy cover for the health and wellbeing of their populations
- Seven million tonnes of CO_2-e is removed from the atmosphere by forests and forest soils
- Enabling investment in forest and landscape ecological systems that enhance soil and water resources, biodiversity and landscape resilience, including three demonstrations, one of which is a transition forest and one Māori-led

Our work is providing the knowledge, innovation and tools for establishing new, permanent forests, and protecting our existing standing ngahere (native forests).

Achieving our Impact Goals requires availability of indigenous forest tree species for afforestation at scale. We took the first steps to advance New Zealand's ability to plant indigenous tree species at scale. Multiple projects have created guidelines for the collection, germination, and propagation of a range of indigenous tree species. Other work has classified the seeds of New Zealand's indigenous trees based on their propagation needs. This information will help identify the native tree species with the greatest potential to support indigenous afforestation.

We increased capability and capacity to deliver Te Ao Māori approaches for ngahere research through interdisciplinary and collaborative approaches for bioprotection and biosecurity of our forests. The 'E heke e Heka!' an interactive learning app, discussed on page 15, is empowering rangatahi and community with knowledge about myrtle rust. This app was highlighted in a presentation at Parliament's Speakers Science Series during its Matariki: The stars of Māori innovation session. We have also delivered Ngā Ataata Rokiroki, an innovative video series to translate science work to a rangatahi audience.

Over the year our research has supported government initiatives to meet New Zealand's domestic climate change targets and international obligations.

Our work, including in partnership with Manaaki Whenua Landcare Research, has helped update standard carbon tables (also known as look-up tables) for softwood, redwood, radiata and indigenous tree species to improve operation of the New Zealand Emissions Trading Scheme. Our work on the national Land Use and Carbon Accounting System (LUCAS) has helped New Zealand meet its international climate change reporting obligations. Scion houses the only capability able to deliver these LUCAS data. Scion's soil carbon experts and field crews were subcontracted by Manaaki Whenua Landcare Research to help deliver the Ministry for the Environment's work to prepare New Zealand Greenhouse Gas Inventory, produced each year as part of New Zealand's obligations under the Paris Agreement and United Nations Framework Convention on Climate Change.

One of our Principal Researchers was funded by MPI to represent New Zealand on the Technical Advisory Committee of Forest Scientists for the Montreal Process Working Group on Criteria and Indicators for the Conservation and Sustainable Management of Temperate and Boreal Forests (the Montreal Process).

IMPACT STORY

Empowering rangatahi through innovation

Scion has launched an innovative app to empower rangatahi (young people) and communities with knowledge about myrtle rust. Combining technology with culturally relevant content in Te Reo Māori and English, the app ensures accessibility and engagement for a diverse audience aged 12 and above.

Why it matters

- Myrtle rust, an invasive fungal disease, threatens New Zealand's indigenous and exotic Myrtaceae species.
- Engaging Māori with science, while respecting the values and knowledge they already have, can produce new methods and outcomes.
- Translating research into an accessible bilingual digital platform inspires the next generation of scientists and kaitiaki (guardians) who already have a connection with te taiao.

The app, 'E heke e Heka!', was launched in June 2024 with feedback from users highlighting the app's potential to have a meaningful impact on their understanding of myrtle rust on forests and biodiversity in Aotearoa.

"We believe it's a fundamental right for all people, regardless of background, to access critical information about our environment," says Katerina Pihera-Ridge, who leads Scion's Restoration, Protection and Mauri o Te Waonui a Tāne portfolio.

"This app, led by Māori voices and supported by scientific expertise, bridges the gap between science and communities, offering a user-friendly platform that transforms learning into an interactive and immersive experience."

Developed by Kiwa Digital, the 'Mātaihia te heka' Augmented Reality (AR) feature complements the app. By visualising the fungus on four plant species, the AR feature empowers users to identify and monitor myrtles in their surroundings, merging traditional knowledge with scientific information.

"We wanted to create an experience that resonates personally with users," says Sierra De La Croix, Te Ao Māori Research Group Leader. Rangatahi say the AR feature brings the ngahere (forest) to life, making learning enjoyable and informative.

'E heke e Heka!' is available for download on the Apple and Android app stores. Mātaihia te heka - AR app is available on the Apple Store, inviting users of all ages to embark on a journey of discovery and learning.

The Patua te Tukumate Rāwaho (Myrtle Rust Busters) project is funded by the MBIE Unlocking Curious Minds fund.

Read more:

Wānanga rangatahi

IMPACT STORY

Uniting for a purpose

The Myrtle Rust Jobs for Resistance programme, Te Rātā Whakamaru, is a Scion-led project delivered in partnership with Rotoiti 15 Trust and funded by Jobs for Nature | Mahi mō te Taiao, through the Department of Conservation | Te Papa Atawhai. The project has been developing knowledge in myrtle rust, working with and for mana whenua.

Scion researchers, Rotoiti 15 Trust and indigenous communities from Australia came together in 2023 to tackle the pressing threat of myrtle rust and its impact on biodiversity loss on both sides of the Tasman.

Why it matters

- Repeated severe infection of myrtle rust can cause decline or death of large trees, threatening ecosystems.
- Cultural exchanges show the benefits of integrating traditional Indigenous knowledge with Western science to protect the environment, showcasing the value of both perspectives and global collaboration in addressing ecological threats.

In November 2023, Scion and Rotoiti 15 Trust hosted a cultural exchange in Rotorua, welcoming representatives from the Department of Agriculture and Fisheries; Queensland and New South Wales Department of Climate Change, Energy, the Environment, and Water; the University of Tasmania; the Butchulla Nation (K'gari Queensland); the Gumbaynggirr Nation (Coffs Harbour, New South Wales) and the Bundjalung Nations (New South Wales).

The visit was an opportunity for Indigenous people and researchers to demonstrate how they each have a valuable role in protecting the environment from exotic diseases.

The video "Whakakotahitanga i te Kaupapa | Unity of Purpose" captured the respect both cultures have for nature and the interconnectedness of all living things. The message is clear: healthy forests are essential for healthy people.

Since 2022, field technicians have been monitoring sites around Rotorua for signs of myrtle rust on ramarama, rōhutu and their hybrids. That work has led to propagating cuttings in the first stage of a long-term resistance breeding programme. It has also positively impacted people who have found new employment and a passion for conservation.

Lessons from the Te Rātā Whakamaru programme are forming the basis for cutting protocols that could be applied to other indigenous species.

The cultural exchange was funded by Catalyst Seeding from the New Zealand Ministry of Business, Innovation, and Employment.

Watch the video:

Impact Area: Forests to timber products

Scion's work is helping to address the pressing need for transformation in New Zealand's commercial forests and wood product sectors.

It recognises the historical reliance on forests and wood-based products for economic stability, community welfare, and carbon sequestration. It aims to adapt to the evolving complexities of market environments and mitigate the risks associated with dependence on *Pinus radiata*, a single dominant species. It drives transformative change by leveraging advanced technologies, diverse value chains, and inclusive practices. It supports economic growth, environmental sustainability, and community welfare while honouring the perspectives and knowledge of Māori culture.

We deliver impacts through four planned research portfolios to achieve these objectives, each encompassing targeted research programs.

Through these efforts, we are committed to transforming New Zealand's commercial forests and wood product sectors, ensuring they remain sustainable, resilient, and economically viable for future generations.

Goals for the impact our research will enable

- Increase annual growth of commercial forest, measured as Mean Annual Increment (MAI), by 20%
- Increase wood processing by 3.5 million m3 (25%)
- Export earnings from value-added wood products grow by $300 million
- Planting of diverse species and new genetic material increase to 20% of all planting
- Increase the use of domestic timber in construction by 25%, reducing emissions of 1 million tonnes CO_2–e each year

The Forest Flows research programme is investigating how water flows through forests, and how water can be managed sustainably in the face of climate change. This research is particularly important for the forestry industry, as it provides insights into how extreme weather events affect forests and how forests can be managed to prevent or mitigate flood damage. Thanks to unprecedented and generous support from the Forest Growers Levy Trust and industry, the programme will continue monitoring and analysis until the end of 2025.

As part of the Transforming Tree Phenotyping research programme we have developed a predictive model to allow outbreaks of Red Needle Cast (RNC) to be managed more effectively, integrating large-scale observations from satellite imagery with climatic data. The model has been tested against observations of RNC in the Gisborne region, and the final model was 89% accurate in predicting outbreaks. By monitoring environmental conditions, targeted interventions can be implemented to protect vulnerable areas before symptoms are visible, ensuring the health and productivity of radiata pine forests and mitigating the impacts of the disease on growth.

Our Rangipo Accelerator trial provided valuable insights into wind damage in radiata pine plantations following Cyclone Gabrielle in February 2023. Genetic variation significantly influenced damage susceptibility, with some clones consistently suffering less damage than others. Trees with greater wood density sustained less damage, suggesting that selecting for higher wood density could reduce wind damage risk.

Scion is partnering with NZ Transport Agency Waka Kotahi to trial the construction of road bridges built from mass timber. A timber bridges focus group has been formed with Scion, Timber Unlimited, the Timber Design Society, and government ministries. A timber bridge between Paeroa and Kōpū will be the first bridge built using timber in New Zealand in 50 years. Timber bridges have the potential to be one of the most impactful showrooms for timber in the country, as the engineering requirement is extreme. Materials have to survive for 100 years, they have to bear dynamic load and they are exposed to many hazards. If we can make timber bridges, we build proof of the high value of timber as a construction material.

IMPACT STORY

Data key to unlocking forestry investment

A new interactive tool is revolutionising inventory management for the forestry sector. The tool provides the forestry industry with powerful inventory information to make management, harvesting and wood processing decisions easier and was developed in collaboration.

Why it matters

- As forests are a critical tool in our fight against climate change, it's important we understand how they will adapt under current and future conditions.
- Sensed data inside our digital forest can help us simulate the future and improve decision making in the forestry sector.

Built using cutting-edge technologies, including AI models, Forest Insights can detect and identify stands of trees to quantify their volume and maturity over time.

It can provide forest owners, managers and wood processors with essential details, such as age class, production area, and stems per hectare, giving an overview of the changing availability and growth of planted radiata pine over time.

Collaborating with Indufor Asia Pacific Ltd allowed the prototype to go a step further by automatically tracking forest activities like harvesting. Indufor also contributed valuable dashboarding experience.

To create the tool, Scion's Data and Geospatial Intelligence team developed a deep learning-based model that can detect and map planted forests using only aerial imagery allowing development of a high-resolution map of New Zealand's planted forests.

Initially the prototype focussed on modelling East Coast pine forests and was used to try and map the impacts of Cyclone Gabrielle on Gisborne and the Hawkes Bay. Since then the team has also mapped the Bay of Plenty, Waikato and Manawatū.

In the longer term, we aspire to turn this into a national-scale 'digital twin' of the productive forest estate in New Zealand. There are hopes the tool can also be used for species identification in the future and could provide a means to assess forest damage following natural disasters.

Researchers are also planning features that will provide additional value, expand its functionality and develop layers of complexity over time.

Scion portfolio leader for New Value from Digital Forests and Wood Sector, Grant Evans, says the prototype will support forestry and wood processing companies to make more informed management decisions.

Forest Insights also levels the playing field for smaller forest owners giving them a tool to see where other small lots in their region are maturing at a similar time and potentially co-operate to negotiate better pricing from mills. This democratisation of information ensures that the benefits of Forest Insights extend to all players in the industry.

Read more:

[Image generated with AI elements.]

IMPACT STORY

UAVs for pest control take off

UAVs could be optimised and adopted for biosecurity incursion responses, and recent Scion research into accuracy and efficiency could improve license to operate in sensitive urban areas.

Why it matters

- As climate change increases the risk of invasive pests reaching our shores and affecting New Zealand's multibillion-dollar primary sector, more efficient urban biosecurity solutions are needed.
- Fast and effective pest control is vital to prevent pest and pathogen establishment. Response time and accuracy could mean the difference between eradication and establishment.

Scion has been involved with pest incursion responses and field research in aerial spray methodology for decades looking for new, more targeted ways to tackle pest and insect outbreaks.

Recent work explored improving the effectiveness of unmanned aerial vehicles (UAVs) for spot spraying during biosecurity incursions, making pest control more targeted, safer and less invasive.

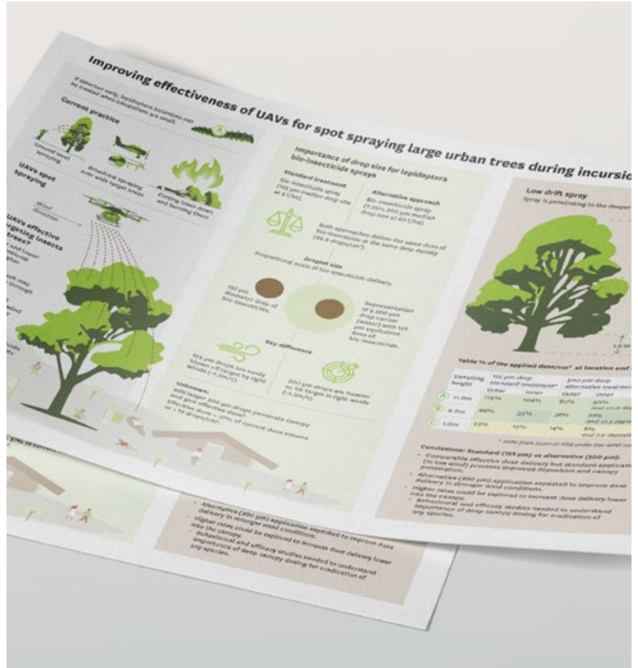
A two-year research project, funded by B3 (Better Border Biosecurity) and led by Scion's Plant Protection Physics and Chemistry team-lead Dr Justin Nairn, identified a low-drift alternative spray method to improve spot spraying in higher wind conditions. The method involves using a larger, but less concentrated droplet reducing off-target drift.

With historic reluctance to spraying insecticides in urban environments, producing less off-target spray will improve license to operate in these areas. Ultimately the work improves target accuracy, reduces drift and widens suitable operational wind thresholds all while adding a new tool to the biosecurity toolbox.

As a result of the work, unmanned aerial vehicle sprayers will be optimised and adopted for biosecurity incursion responses where spot spraying is an option.

There is no one tool that will work in every situation so it's important we maximise what's in our toolbox to better tailor responses. This is a great example of adapting existing technology into an applied biosecurity tool.

In aligned research Scion social scientist Dr Andrea Grant explored the social and cultural considerations of UAV spraying including public perception, social issues, and safety and ethics.

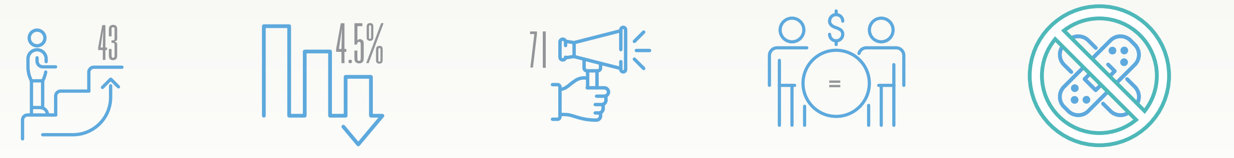


Grant and her collaborators also held a co-design workshop where participants noted the role for mātauranga Māori and the need to work with Māori alongside key agencies.

Using UAVs for pest control is growing quickly as operational limitations like cost, weight and flight time are reducing as technology advances. Their use avoids the use of imposing aircraft.

Dr Justin Nairn and Dr Andrea Grant researched the social acceptance and practicalities of UAV use for aerial spraying.

Our People



- 43 internal promotions
- Turnover decreased 4.5%
- 71% of departing staff recommend Scion as an employer
- Zero significant Gender pay gap at band level
- Zero notifiable injuries

Scion is committed to be a good employer and promoter of equal employment opportunities.

Our people and performance practices and organisational values help the good employer principles to thrive by building a culture and working environment that supports empowerment, diversity, equity, inclusion, innovation and accountability.

We fulfil the good employer obligations through our Board Good Employer Policy and our Equal Employment Policy, along with our management policies, programmes and practices.

Leadership, accountability and culture

During the period Scion continued its Active Manager Programme ensuring a consistency of language and practice for all our people managers. This encompasses practical management and leadership skills such as delegation, difficult conversations and personal organisation, and is delivered via individual learning, group collaborations and one-to-one coaching with assigned internal mentors. Feedback remains extremely positive and ongoing participation is high.

Staff engagement is measured annually through our Pulse survey. Results from the 2024 survey saw a small drop in comparable engagement index of 3% from 2023, noting that the Pulse survey was conducted during a major organisational restructure. No measures showed any significant change from last year, with the exception of people receiving meaningful recognition (up 11%).

A significant values refresh has been conducted involving input from all staff with the official launch scheduled for October this year. The new Values are:

- Strive for Excellence: We do our best in all that we do
- Learn for Growth: We are continuously learning and improving
- Act with Integrity: We do the right thing even when no one is looking
- Achieve Together: Teamwork is at the heart of our achievement
- Whakamana te Kawenata: Our Kawenata partnership guides how we interact with hapū and whenua

Recruitment and selection

Our recruitment and selection practices ensure we recruit the best person for the job. Discriminatory terms and bias are excluded from our recruitment practices, and our interview panels follow the principles of the Human Rights Act 1993.

Due to the challenging financial environment our recruitment slowed significantly this year resulting in 24 vacancies filled through the year. In addition to this, we engaged 30 university students through the summer period.

Employee development, promotion and exit

Some 43 staff were recognised though promotion. The technologist pathway continues to enable those who focused on applied science, to progress their career.

Voluntary turnover of permanent appointed employees was 9.4%, a pleasing decrease from 13.9% in turnover from the previous year. Exit survey results were positive overall, with 71% recommending Scion as an employer.

Flexibility and work design

Flexible 'ways of working' options were were permanently implemented this financial year, including options for regular working from home, flexible hours and a nine-day fortnight.

Since the implementation of the trial, chargeable hours have been trending up, staff turnover and outstanding annual leave balances have reduced. A recent pulse survey indicated 26% of all comments indicated that what helps people succeed at Scion was "flexibility and work balance".

Rotorua staff are encouraged to make the most of the neighbouring Whakarewarewa Forest during breaks, and the Rotorua campus remained dog friendly.

Remuneration, recognition and conditions

Remuneration is based on job bands and remuneration ranges are sourced from external market surveys produced by Korn Ferry Hay Group. Benchmarking of our internal position and salary data is done against the "All of Organisations Public Sector" surveys to accurately allow us to set a competitive pay position for Scion. Annually we work with the PSA Union and our Board of Directors to set the remuneration budget. This year we introduced a competency-based remuneration system providing the mechanism to consistently recognise staff development within band.

The 2023-24 year saw a slight increase in our organisational Gender Pay Gap to 7.1%%, from 6.3% in 2022-23), however no significant gaps at any band/role level were identified. Our annual Staff Recognition Awards were successfully held to celebrate the outstanding contributions Scion people made to the organisation.

Safe and healthy environment.

Scion provides staff with the necessary skills to address relationship issues. Policies are in place to deal with problem resolution and challenging behaviour. Facilitated processes and discussions continued to positively resolve interpersonal issues and improved working relationships. No formal complaints of bullying were substantiated.

Scion staff can access the Employee Assistance Programme (EAP) for support with workplace and personal matters. This year, 49 staff used the service, up from 44 staff last year. Most issues resulting in EAP calls were personal (80%) rather than work-related. When work-related issues were reported, these related to career and conditions, which are any physical condition issues in the workplace that impact staff wellbeing.

Scion continued to promote staff wellbeing and improve the health and safety environment through initiatives such as *learning teams* to collaboratively manage identified risks, removing the blame culture.

We have continued to build relationships with industry. For example, delivering health and safety culture talks with Timberlands and have collaborated with Toi Ohomai to improve our safety with solid wood manufacturing. Scion joined the Business Leaders' Health and Safety Forum.

Working with the facilities team, we have updated our Asbestos Policy and Management process and our Contractor Management processes to align with industry best practices. We awarded 18 staff with monthly Health and Safety awards.

The year ended with one notifiable incident (non-injury) where a rod fell from the roof of the nursery building. Worksafe was notified and decided not to investigate further. We had three lost-time injuries. There were 22 incidents and 55 near misses reported, compared with 28 incidents and 55 near misses reported in 2022-23.

A company-paid influenza vaccination was taken up by 160 staff.

Workplace profile at 30 June 2024

Total staff

- 332 total permanent employees
- 4 fixed-term, 3 post-doc and 5 casual employees
- 50.6% male, 49.1% female and 0.3% gender diverse

FTEs

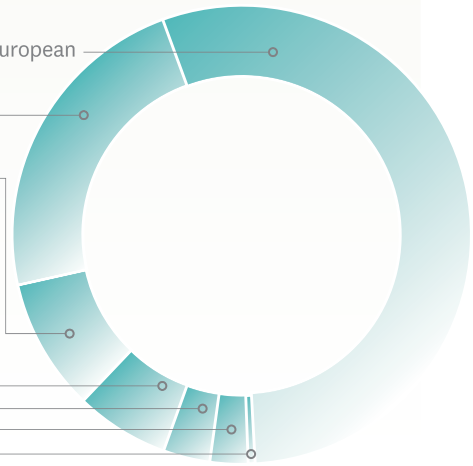
318

- 312.22 total full time equivalent (FTE) permanent employees

Excludes 6.15 fixed-term, post-doc and casual employees

Ethnicity

- New Zealand European 54.82%
- European 22.89%
- Asian 9.34%
- Māori 6.63%
- Other 3.31%
- MELAA 2.71%
- Pacific 0.30%



Awards and accolades

Principal Scientist Brian Richardson was awarded the Minister's Biosecurity Award acknowledging his outstanding contributions to New Zealand Biosecurity. The award was presented by Biosecurity Minister Andrew Hoggard in Wellington.

Sam Davidson was presented with the **Forest Growers Research Young Scientist Award**; recognising a promising young scientist who demonstrates passion, industry engagement, and communication skills.

Serajis Salekin was presented with **The New Zealand Institute of Forestry Chavasse Travel Award**, supporting international travel to increase their and the forestry sector's experience and knowledge.

Kiryn Dobbie was awarded the **Australasian Plant Pathology Society Student and Early-Career Researcher Conference** to support participation in the 2023 Australasian Plant Pathology Conference.

Rosie Sargeant was presented with the **Forest Growers Research Award for Contribution to a Science Team** at the 2023 Forest Growers Research Annual Conference.

Lisa Langer was presented with the **Best Oral Presentation Award at the International Electronic Conference on Toxics** for her presentation "*Up-The-Pipe Solutions: A Best-Practice Framework to Engage Communities in Reducing Chemical Contamination in Waste*".

Roya Rezanavaz received **Kiwi Innovation Network Emerging Innovator Funding.**

(Clockwise from top left)
Sam Davidson, Serajis Salekin, Kiryn Dobbie, Rosie Sargeant, Lisa Langer, Roya Rezanavaz.

Biosecurity Minister Andrew Hoggard with the Minister's Biosecurity Award winner Dr Brian Richardson.

Science New Zealand awards

Our scientists were celebrated at the annual Science New Zealand awards for work to help cut industrial CO_2 emissions, reduce microplastics in the environment, and connect Māori communities with research and science.

Early Career Researcher, Dr Bing Song. Bing joined Scion in 2019 and leads the Solid Biofuel Project while also mentoring colleagues, leading and supporting funding bids, and reviewing papers for journals in his field. Bing has produced 40 publications in his career so far (31 during his time at Scion), including three book chapters and 37 research articles. Of the 37 published papers, 32 have been in Q1 journals – the highest-ranking in a particular field.

Individual/Lifetime Achievement Award, Dr Tanira Kingi. Tanira's more than 30-year career has covered management, consultancy, and academic positions across the primary sectors. Tanira (Ngāti Whakaue, Ngāti Awa, Te Arawa) is a Climate Change Commissioner, an advisor to the Ministries for the Environment and Primary Industries and an independent research scientist. In his time at Scion, he worked collaboratively with teams across the organisation providing mentorship, and strategic advice while leading programmes in climate mitigation and land use change scenario modelling. In 2021 he was made an emeritus scientist at Scion.

Team Award – Microplastics Team. Scion's microplastics team includes Dr Lloyd Donaldson, Beatrix Theobald, Ross Anderson, Ben Davy, Dr Kate Parker (project leader), Dr Robert Abbel, Anna de Lena, Maxime Barbier, Steph Davy, Dr Jamie Bridson, Queenie Tanjay and Regis Risani. They have been determining how much microplastic is in our environment, its source and environmental consequences. Their work has contributed to a wide range of projects including fundamental research, community engagement and outreach, and commercial projects which include determining the amount of microplastic in our food.

(L) Early Career Researcher awardee Dr Bing Song, whose award was received on his behalf. (R) Individual/Lifetime Achievement Award recipient Dr Tanira Kingi.

The microplastics team (from left): Lloyd Donaldson, Beatrix Theobald, Ross Anderson, Ben Davy, Kate Parker (project leader), Robert Abbel, Anna de Lena, Maxime Barbier, Steph Davy, Jamie Bridson, Queenie Tanjay. Not pictured: Regis Risani.

Environmental Performance

In 2024, Scion achieved Carbon Conscious business operations certification for its operations between July 1, 2022 and June 30, 2023*.

The certification, awarded by carbon management company Ekos, means the business has committed to measuring its carbon footprint and taken steps towards being carbon zero by understanding its baseline emissions. Scion has been measuring its carbon footprint at a basic level for over a decade, but this is the first time it has been verified by an external third party and been expanded to include a broader range of emissions.

Installation of new chillers for our main chiller system at our Rotorua site is almost complete. Replacement of the 30-year-old main chiller system will increase efficiency, saving an estimated 180,000 kWh/yr; and allow the move to a lower GWP (global warming potential) refrigerant. The chiller system upgrade was supported by 40% co-funding through the State Sector Decarbonisation Fund (SSDF).

This year we moved our milk supply to a local supplier Volcanic Creamery who provide a milk in refillable containers. This eliminated over 3000 2L plastic milk containers and lids per year at our Rotorua site.

Income from recycling metal from broken science equipment and aluminium cans was used to purchase another 285 indigenous trees for restoration work through the Trees that Count programme. This programme provides funds to Trusts around NZ for purchasing and planting out the trees. This brings the total of indigenous trees planted in New Zealand through Scion's involvement in this initiative to 515 trees.

* Our carbon emissions for the 2023-24 year will be reported separately as we are getting our emissions independently verified. The verified report will be uploaded to our Sustainability page on our website when it is completed.

Waste to landfill	
2023-24	**2022-23**
29.97 t normal operations at our main site (up 9%)	27.38 t normal operations at our main site
28.52 t storage cleanouts at main site	31.48 t storage cleanouts (including 21 t Christchurch office cleanout)
Overall, 58.50 t (down 0.6%)	Overall, 58.86 t

Water usage	
2023-24	**2022-23**
72,370 m^3 (up 5%)	69,040 m^3

Verified Carbon emissions (Scope 1,2 &3)	
2023-24	**2022-23**
In process of verification	Scope 1 (1061.2 t CO_2-eq)
	Scope 2 (315.2 t CO_2-eq)
	Scope 3** (1333.4 t CO_2-eq)
	Total 2709.8 t CO_2-eq

** Scope 3 includes business travel (37.2%); fuel & energy related emissions (27.6%); staff commuting (22.7%); upstream freight (6.7%); downstream leased assets (4.5%); business waste (0.7%); upstream leased assets (0.4%); and purchased goods (0.2%).

Corporate Governance

Scion's Board of Directors is appointed by its Shareholding Ministers: the Minister of Science and Innovation and the Minister of Finance. All members of the Board are independent.

The responsibility of the Board is to guide and monitor the business of Scion and its subsidiaries including:

- reviewing and approving Scion's strategy and Statement of Corporate Intent;
- adopting policies of corporate conduct (including risk management and delegations of authority) and ensuring that systems and procedures are in place to carry out those policies;
- adopting annual operating and capital plans, and budgets;
- monitoring performance against key objectives and budgets on a monthly basis;
- ensuring Scion proactively meets all health and safety requirements;
- evaluating the performance of the Chief Executive; and
- reviewing and improving the effectiveness of the Board.

The Board operates in accordance with Scion's Constitution. It has up to seven directors who meet up to 11 times over the year either in person or by video conference. The Board may retain independent advisors, including independent legal counsel or other experts, as it deems appropriate.

The Board has three standing committees: the Audit and Risk Committee, the People and Culture Committee and the Master Plan Committee.

Audit and risk

The function of the Audit and Risk Committee is to assist the Board in discharging its responsibilities regarding financial reporting, regulatory conformance and matters of risk management. The committee is the liaison point for internal and external auditors, it assesses the performance of financial management (the investment cases for major items of capital expenditure), reviews audit findings, the annual financial statements and interim financial information, and has oversight of the development and review of policies to ensure compliance with statutory responsibilities.

People and culture

The function of the People and Culture Committee is to assist the Board in the establishment and regular review of remuneration and organisational policies and practices, and to assist the Board in discharging its responsibilities relating to the appointment, remuneration setting and review of Scion's Chief Executive. The committee also approves the appointment and remuneration of executives, and inputs into and monitors achievement of the annual Health and Safety Plan.

Master plan

The objective of the Master Plan Committee is to provide master planning oversight to the design, build and operations of facilities and significant capital investments across all locations and make recommendations to the Board. All discussions are made with full consideration to mana whenua.

Committee membership and workplans

Each standing committee comprises no less than three members of the Board, appointed by the Board from time to time; and meets at least twice annually and intersessionally as required. All Directors are entitled to attend all committee meetings.

While the Chair of the Board is an ex-officio member of each committee and has full voting rights, they may not be Chair of the Audit and Risk Committee. All discussions are to be made with full consideration to mana whenua. For the Rotorua campus those principles have been set out in the kawenata between Ngā Hapū e Toru and Scion which was signed in August 2022 and is available to read in Te Reo and in English.

Each committee establishes annual workplans and undertakes an annual review of its objectives and responsibilities and its terms of reference. Each committee also makes regular reports to the Board. The Board's risk management policy and procedures involve formal reporting by management of the most significant risks Scion is exposed to, and the Board regularly monitors management of those risks. There is also regular monitoring and reporting on progress in meeting recommendations made by external auditors.

Directors' report

Principal activities

New Zealand Forest Research Institute Limited (trading as Scion) is a company registered under the Companies Act 1993. Our principal activity is to conduct research in accordance with the purpose and principles specified in Sections 4 and 5 of the Crown Research Institutes Act 1992 (the Act). Scion has met all the obligations under the Act for the year ended 30 June 2024.

Scion, a Crown Research Institute, is a science and technology company delivering solutions to both commercial and government clients. While the principal research campus is in Rotorua, there are also offices in Christchurch and Wellington.

Our core purpose is to drive innovation and growth from New Zealand's forestry, wood product and wood-derived materials and other biomaterial sectors, to create economic value and contribute to beneficial environmental and social outcomes for New Zealand.

Scion has two wholly owned subsidiaries (Te Papa Tipu Properties Limited and Sala Street Holdings Limited) and has a 14.56% shareholding in Biopolymer Network Limited.

Te Papa Tipu Properties Limited owns the Group's land assets.

Sala Street Holdings Limited is currently a dormant holding company, its investment Terax 2013 Limited having been liquidated during the 2021-22 Financial Year.

Biopolymer Network Limited's purpose is to create technologies for advancing the utilisation of renewable biobased materials in industrial applications. Scion does not have director representation nor voting rights.

Summary of Group financial results to 30 June 2024

	2024 $000	2023 $000
Operating revenue	67,908	64,321
Profit/(loss) before tax	(2,946)	683
Taxation expense	(1,760)	(139)
Profit/(loss) after tax	(4,706)	544
Net comprehensive income attributable to shareholders	(4,517)	29
Equity		
Issued and paid up capital	17,516	17,516
Retained earnings	31,210	35,916
Reserve	713	524
Total equity	49,439	53,953

The state of the Company's affairs

A commentary on the year's performance is outlined in the Chair's and Chief Executive's Report (page 2), and in the opinion of the Directors, the state of the company's affairs continues to be satisfactory.

Dividend

No dividend was recommended for the year ended 30 June 2024 (2023: $0k).

Donations

No donations were made during the year ended 30 June 2024 (2023: $0k).

Executive remuneration

Executive remuneration is managed within the terms and conditions of the Executive Remuneration Policy, summarised below. This policy sets out remuneration elements and design principles informing the remuneration arrangements for executive management. Remuneration practice throughout Scion is transparent in the way in which it is determined and administered and will always conform to sound corporate governance principles.

The People and Culture Committee oversees the application and implementation of the executive remuneration policy.

Pay principles offer clarity and guide decisions around executive remuneration that ensure fair, competitive and appropriate pay for the markets in which Scion operates. Scion's executive pay principles aim to achieve the following:

- To pay executives at a level commensurate with their contribution to Scion and appropriately based on skill, experience and performance achieved.
- The level of remuneration paid is considered appropriate for motivation and retention of the calibre of executive required to ensure the successful formation and delivery of Scion's strategy and management of the environments in which it operates.
- Executive remuneration is set having regard to typical pay levels across organisations of a similar size along with public sector guidance.
- When reviewing remuneration, the committee considers all relevant factors, including:
  - Prevailing market and economic conditions;
  - Organisational performance and individual experience and contribution;
  - Internal equity and pay parity;
  - Accurate benchmark position and job size; and
  - Market benchmark survey results.

Executive pay position and structure

Scion participates in industry and profession-based market salary surveys using external remuneration consultants Korn Ferry Hay to understand what the market is paying for roles like ours.

Executive remuneration consists of base salary, KiwiSaver contributions and benefits, which makes up total remuneration.

The Base Salary and Total Remuneration Position in Range of individual executives are reviewed against the All Organisations Public Sector Base Salary Market Median Line and the All Organisations Public Sector Fixed Package Market Median Line.

Scion aims to position executive remuneration at the appropriate Position in Range (PIR) of the relevant All Organisations Public Sector Market Median Line.

Total executive remuneration for the 2023/24 financial year excluding Chief Executive remuneration was $1,655,067 (2022/23 $1,479,487).

Chief Executive remuneration

The structure of the Chief Executive's remuneration is as outlined below:

	2024	2023
Base salary	506,505	506,505
Benefits comprising KiwiSaver contributions, additional leave and insurance.	15,495	15,195
Base Remuneration Package	522,000	521,700
Discretionary Bonus*	25,785	-
Total Remuneration	**547,785**	**521,700**

*The discretionary bonus paid was in relation to the 2023 performance.

In addition to the benefits noted above, the Chief Executive receives three days Company Holidays, consistent with all Scion employees and 25 days annual leave.

Employee remuneration

Section 211(1)(g) of the Company's Act requires the disclosure of the number of people paid in excess of $100,000 in bands of $10,000. Remuneration and compensation included performance awards, superannuation benefits, and KiwiSaver subsidy. Some other benefits were not quantified and are therefore excluded, including staff parking, home broadband and membership of relevant professional societies.

Bands	Number
$540,000 - $549,999	1
$260,000 - $269,999	1
$240,000 - $249,999	1
$230,000 - $239,999	1
$220,000 - $229,999	1
$200,000 - $209,999	1
$190,000 - $199,999	2
$180,000 - $189,999	1
$170,000 - $179,999	1
$160,000 - $169,999	10
$150,000 - $159,999	3
$140,000 - $149,999	8
$130,000 - $139,999	24
$120,000 - $129,999	19
$110,000 - $119,999	37
$100,000 - $109,999	28
Total	**139**

During the year ended 30 June 2024, $621,089 was paid to 20 employees in relation to cessation of employment with Scion (2023: $104,087 to four employees).

Cessation payments included $153,208 for retirement benefits for five employees (2023: $47,087 for one employee).

Company Directors

Mr Steve Wilson's term concluded as a Director on 30 September 2023.

Mr Phil Taylor commenced as a Director on 10 July 2023.

Ms Kiriwaitingi Rei-Russell commenced as a Director on 10 July 2023.

Ms Nicole Anderson commenced as a Director on 10 July 2023.

Dr Helen Anderson's term concluded as Chair on 30 June 2024.

Mr Greg Mann's term concluded as Director on 30 June 2024.

Mr Jon Ryder's term concluded as Director on 30 June 2024.

Directors' interests

Any business the company has transacted with, or organisations in which a Director has an association has been carried out on a commercial 'arms-length' basis.

Director's interests included in the interest register during the year are:

Director's interests	Relationship
Helen Anderson	
Antarctica NZ	Director
Anderson Associates NZ Ltd	
Studio Pacific Architects and parent company Nationwide Architects Ltd	Chair
The Nature Conservancy NZ Ltd	Advisory Board Member
AWPT Ltd	Director
Ministry of Foreign Affairs & Trade	Member, Risk & Assurance Committee
Informing New Zealand Beef (INZB)	Chair
Hōhepa Wellington	Trustee
Stana Pezic	
Cerbere Investments Ltd	Director
Pink Ice Ltd	
NZFF Holdco Ltd and subsidiary companies	Director
ECL Group	Interim CFO (to 30 June 2024)
Jon Ryder	
Oji Oceania	Director
Wood Processors and Manufacturers Association	Chair
Bearing 360	Chairperson
OPIT China	Director
Greg Mann	
ArborGen ANZ Ltd Partnership	Employee
MBIE Tissue Culture Project	Member – Programme Governance Group
Bragato Research Institute (bri.co.nz)	Director

Director's interests	Relationship
Steve Wilson	
SW Holdings 2021 Ltd (formerly Talbot Technologies Ltd)	Director and Shareholder
Product Accelerator Advisory Board	Co-Chair
Design Energy (Robotics)	Advisor and Investor
Te Papa Tipu Properties Ltd	Director
Future Post Ltd	Technical Consultant
Brendon Green	
Tainui Kawhia Incorporation	Director
Hiringa Energy Ltd	Director
Hiringa Refueling Investments Ltd	Director
Wattstock LLC (USA)	Australia-NZ representative
Runanga Manukau Institute of Technology	Te Whakakitenga o Waikato representative
University of Canterbury – Department of Chemical Engineering	Adjunct Senior Fellow
Climate Change Commission	Member of Nominating Committee
Rau Paenga	Director
Kaitiaki Advisory Ltd	Director and Shareholder
Te Taumata Aronui – Ministry of Education	Advisor (to March 2024)
Construction and Infrastructure Workforce Development Council	Member (to July 2024)

Director's interests	Relationship
Phil Taylor	
Port Blakely NZ Ltd	Managing Director
South Blakely Trust	Trustee
Port Blakely LLC	Officer
Port Blakely Essential Oils Ltd	Director
Tauranga Barge Company	Director
NZ Forest Owners Association	Executive Council Member
Forest Growers Levy Trust	Board Member
Kiriwaitingi Rei-Russell	
Ngāti Awa Group Holdings Ltd	Director, and Chair of People & Culture Committee
Pūtauaki Trust	Chair
Zespri International	Head of Māori Alliances
Climate Change Zespri Group	Member
Zespri International	
NZ Institute of Directors	Facilitator
Nicole Anderson	
International Accreditation Council	Chair
Far North Holdings Ltd	Director
Te Rūnanga A Iwi O Ngāpuhi	Trustee
Te Ohu Kaimoana	Director
Top Energy Ltd	Director
Northland Inc	Director
Kainga Ora	Director

Directors' remuneration

Director	30 June 2024	
Helen Anderson	70,158	Chair
Nicole Anderson	35,079	
Brendon Green	35,079	
Greg Mann	35,079	
Stana Pezic	37,079	Chair – Audit and Risk Committee
Kiriwaitingi Rei-Russell	35,079	
Jon Ryder	43,849	Deputy Chair/Chair – People and Culture Committee
Phil Taylor	35,079	
Steve Wilson	8,770	Chair – Master Plan Committee
Total	**$335,251**	

Subsidiary entities

Steve Wilson, Dr Julian Elder and John Kahukiwa are directors of Te Papa Tipu Properties Limited. There were no changes to directors during the year and no remuneration was paid to these directors for the year ended 30 June 2024.

The directors' interests are:

Director name	Director's interests	Relationship
Julian Elder	The Elder Group	Director
	Sala Street Holdings Ltd	Director
	Te Papa Tipu Properties Ltd	Director
	New Zealand Forest Certification Association	Chair
John Kahukiwa	Te Papa Tipu Properties Ltd	Director

Use of company information

During the year no notices were received from members of the Board requesting to use Scion information received in their capacity as Directors which would not otherwise have been available to them.

Directors' indemnity and insurance

Scion has insured all Directors and the Directors of its subsidiaries against liabilities to other parties (except to Scion or a related party of Scion) that may arise from their position as Directors. The insurance does not cover liabilities that may arise from criminal actions.

Auditor

In accordance with Section 21 of the Crown Research Institutes Act 1992, the Office of the Auditor General is Auditor for the Company and, pursuant to Section 29 of the Public Finance Act 1977, has appointed Ernst & Young to undertake the audit on its behalf. Auditor remuneration is detailed in note 4 to the financial statements, (page 42).

Measuring performance

CRI generic performance indicators

Indicator name	Measure	2023/2024 Target	2023/2024 Actual	
End user collaboration	Revenue per full-time employee (FTE) from commercial sources	$51,326	$62,631	Achieved
Research collaboration	Publications with collaborators (Peer-reviewed publications from Scopus database)	100	100	Achieved
Technology and knowledge transfer excellence	Commercial reports per scientist FTE	>2.0	2.29	Not achieved
Science quality	Impact of science publications – mean citation score	4	5.4	Achieved
Financial indicator	Revenue per FTE	$176,031	$213,547	Achieved

Additional performance indicators

Indicator name	Measure	2023/2024 Target	2023/2024 Actual	
Stakeholder engagement	Relevant partners (number and %) that have a high level of confidence that Scion sets research priorities relative to their industry	>85%	n/a	See note 1 below
	Percentage of stakeholders who have engaged with Scion about their strategic direction	>90%	n/a	See note 1 below
	Relevant end-users (%) who are likely or very likely to recommend working with Scion.	>90%	n/a	See note 1 below
	Māori partners' relationships measures are "Very good" or "Improving" through customer survey	establish benchmark	n/a	See note 1 below
Māori economic development	Partnerships (number (n) and value ($)) established with Māori entities to support economic development through the forest industry	>15 $2.5m	20 $11.4m	See note 2 below
Accelerated commercialisation	Technologies in Scion's pipeline (number and co-investment ($)); projects that progress to the business case stage (case studies)	14 and $500,000; Cases ≥2	14 and $1,095,553; 1 Case	See note 3 below
Good employer	Staff engagement	>80%	52%	
	Staff retention – staff turnover	12%	9.4%	
	Health and safety – serious harm events	-	-	
	Staff diversity – % of permanent staff of Māori decent	>12%	6.3%	
	Gender neutral – pay equity (Median – total compensation unexplainable differences below <5%)	0%	7.1%	

Notes:

1. As per MBIE requirements we track and report stakeholder engagement biennially, so this was not measured in 2023/24
2. Within this annual reporting period, 20 of Scion's projects involved partnering with Māori to support economic development through the forest industry. Scion's revenue across these projects totaled $11.4 million, not all of which was allocated to the Māori partnership component of the project.
3. Progress of projects to business case (validation) stage target of 2 not met. Balance of pipeline at later Development stage and early Assessment. Limited projects suitable to move to Validation stage.

CONSOLIDATED STATEMENT OF COMPREHENSIVE INCOME

FOR THE YEAR ENDED 30 JUNE 2024

	Note	ACTUAL 2024 $000	BUDGET (unaudited) 2024 $000	ACTUAL 2023 $000
Revenue	2 (a)	**67,908**	66,156	64,321
Other Income/(Expenditure)	2 (b)	**(89)**	-	17
Expenditure	3 (a)	**(70,744)**	(69,193)	(63,643)
Finance Costs	3 (b)	**(21)**	(12)	(12)
Share of Profit/(Loss) of Associates		**-**	-	-
Profit Before Tax		**(2,946)**	(3,049)	683
Tax Expense	9	**(1,760)**	-	(139)
Profit/(Loss) for the year after tax		**(4,706)**	(3,049)	544
Other comprehensive income that will not be reclassified to profit or loss in subsequent periods net of tax				
Remeasurement gain/(loss) on Defined Benefit Plan		**11**	-	8
Revaluation of Carbon Units		**178**	-	(523)
Total other comprehensive income, net of tax		**189**	-	(515)
Total comprehensive income for the period attributable to the shareholders of the parent company		**(4,517)**	(3,049)	29

The accompanying notes form part of these consolidated financial statements.

CONSOLIDATED STATEMENT OF CHANGES IN EQUITY

FOR THE YEAR ENDED 30 JUNE 2024

	Note	Ordinary Shares 2024 $000	Asset Revaluation & Pension Reserve 2024 $000	Retained Earnings 2024 $000	Total 2024 $000	Ordinary Shares 2023 $000	Asset Revaluation & Pension Reserve 2023 $000	Retained Earnings 2023 $000	Total 2023 $000
Opening Balance		**17,516**	**524**	**35,916**	**53,956**	**17,516**	**1,039**	**35,372**	**53,927**
Profit for the period		-	-	(4,706)	(4,706)	-	-	544	544
Other comprehensive income		-	189	-	189	-	(515)	-	(515)
Total comprehensive income		-	189	(4,706)	(4,517)	-	(515)	544	29
Closing Balance	**5**	**17,516**	**713**	**31,210**	**49,439**	**17,516**	**524**	**35,916**	**53,956**

The accompanying notes form part of these consolidated financial statements.

CONSOLIDATED STATEMENT OF FINANCIAL POSITION

AS AT 30 JUNE 2024

	Note	ACTUAL 2024 $000	BUDGET (unaudited) 2024 $000	ACTUAL 2023 $000
Equity				
Share capital	5	**17,516**	17,516	17,516
Revaluation reserves	5	**713**	528	524
Retained earnings	5	**31,210**	32,327	35,916
Total Equity		**49,439**	50,371	53,953
Non-Current Liabilities				
Provisions	6	**428**	411	411
Defined benefit plan	7(a)	**258**	461	461
Lease liability	10	**278**	278	443
Total non-current liabilities		**964**	1,150	1,315
Current Liabilities				
Trade and other payables	8	**13,515**	11,574	15,724
Provisions	6	**510**	48	48
Defined benefit plan	7(a)	**250**	143	143
Lease liability	10	**166**	166	165
Deferred tax liability	9(d)	**1,027**	-	-
Tax payable		**-**	-	169
Total current liabilities		**15,468**	11,931	16,249
Total equity and liabilities		**65,872**	63,452	71,520
Non-Current Assets				
Property, plant and equipment	11	**44,587**	42,848	43,468
Biological assets	12	**1,404**	1,476	1,476
Intangible assets	13	**1,066**	812	839
Investments	14	**68**	85	85
Right-of-use assets	10	**394**	411	564
Deferred tax asset	9(d)	**-**	850	850
Total non-current assets		**47,519**	46,482	47,282
Current Assets				
Cash and cash equivalents	16	**9,464**	4,725	12,432
Trade and other receivables	17	**8,712**	11,961	11,397
Tax Receivable	9(d)	**-**	66	-
Inventories	18	**177**	218	409
Total current assets		**18,353**	16,970	24,238
Total Assets		**65,872**	63,452	71,520

For and on behalf of the Board, who authorised the issue of these accounts on 3 September 2024.

Signatures

Richard Westlake
Chair

Stana Pezic
Director

CONSOLIDATED STATEMENT OF CASH FLOWS

FOR THE YEAR ENDED 30 JUNE 2024

	Note	ACTUAL 2024 $000	BUDGET (unaudited) 2024 $000	ACTUAL 2023 $000
Cash Received from Operating Activities				
Receipts from customers (excluding government grants)		**38,079**	38,272	34,573
Receipts from government grants		**27,354**	27,354	27,354
Interest received		**590**	530	492
		66,023	66,156	62,419
Cash disbursed on operating activities				
Payments to employees		**38,051**	38,538	34,305
Payments to suppliers		**23,140**	30,029	24,260
Interest paid		**21**	-	12
Restructuring costs		**488**	-	-
Income tax paid		**291**	92	280
		61,991	68,659	58,857
Net cash flows from Operating Activities	20	**4,032**	(2,503)	3,562
Cash Received from Investing ActivitieS				
Proceeds of property, plant and equipment		**-**	-	-
Government grant		**-**	-	-
Cash Disbursed on Investing Activities				
Investment in property, plant and equipment		**6,852**	(5,192)	3,776
Proceeds on sale of assets		**(17)**	-	(298)
		(6,835)	(5,192)	3,478
Net cash flows used in Investing Activities		**(6,835)**	(5,192)	(3,478)
Cash Received from Financing Activities				
Term loan drawdown				-
Total cash received from financing activities				-
Cash Disbursed from Financing Activities				
Repayment of the lease liabilities		165	(12)	379
		(165)	(12)	379
Net cash flow from financing activities		**(165)**	(12)	(379)
Total net cash flow		**(2,968)**	(7,707)	(295)
Net Increase/(Decrease) in Cash Held		**(2,968)**	(7,707)	(295)
Add opening cash brought forward		**12,432**	12,432	12,727
Ending Cash Carried Forward	16	**9,464**	4,725	12,432

The statement of accounting policies and the accompanying notes form an integral part of these financial statements.

MATERIAL ACCOUNTING POLICY INFORMATION

FOR THE YEAR ENDED 30 JUNE 2024

1. Statement of Accounting Policies

Reporting entity

New Zealand Forest Research Institute Limited is a Crown Research Institute registered under the Companies Act 1993. The registered office is Te Papa Tipu Innovation Park, 49 Sala Street, Rotorua. The consolidated financial statements consist of New Zealand Forest Research Institute Limited and its subsidiaries (the Group). The consolidated financial statements of New Zealand Forest Research Institute Limited for the year were authorised for issue in accordance with a resolution of the directors on the date as set out on the Consolidated Statement of Financial Position.

New Zealand Forest Research Institute Limited (the Company) is domiciled and incorporated in New Zealand and is wholly owned by the Crown.

The activities of New Zealand Forest Research Institute Limited include a range of research and development programmes aimed to drive innovation and growth from New Zealand's forestry, wood-derived materials and other biomaterial sectors to create economic value and contribute to beneficial environmental and social outcomes for New Zealand.

New Zealand Forest Research Institute Limited trades as Scion and these names have identical meaning in this report.

1.1 Summary of significant accounting policies

a. Basis of preparation

The consolidated financial statements have been prepared in accordance with generally accepted accounting practice in New Zealand (NZ GAAP) and the requirements of the Companies Act 1993, the Financial Reporting Act 2013, the Public Finance Act 1989, the Crown Entities Act 2004 and the Crown Research Institutes Act 1992. The consolidated financial statements have also been prepared on a historical cost basis, except for forestry assets, carbon credits and certain heritage assets that have been measured at fair value.

The consolidated financial statements are presented in New Zealand dollars and all values are rounded to the nearest thousand dollars ($000).

The financial statements have been prepared on a going concern basis, and the accounting policies have been applied consistently throughout the year. Following a structure review, management and the Board consider that the organisation is well placed to make the most of the research and revenue opportunities expected to be available while appropriately using its full capabilities. A financial management plan has been executed by management, with future financial periods projecting to return small surpluses. The Statement of Corporate Intent for future financial periods outlines the future revenue and expenditure of the organisation.

b. Statement of compliance

The consolidated financial statements have been prepared in accordance with NZ GAAP. For the purpose of complying with NZ GAAP, the Group is a for profit entity. They comply with New Zealand equivalents to International Financial Reporting Standards (IFRS), and other applicable Financial Reporting Standards, as appropriate for profit-oriented entities. The consolidated financial statements comply with IFRS.

c. Basis of consolidation

The consolidated financial statements comprise the financial statements of the Company and its subsidiaries as at 30 June. Control is achieved when the Group is exposed, or has rights, to variable returns from its involvement with the investee and has the ability to affect those returns through its power over the investee. Specifically, the Group controls an investee if and only if the Group has:

- Power over the investee (i.e. existing rights that give it the current ability to direct the relevant activities of the investee);
- Exposure, or rights, to variable returns from its involvement with the investee; and
- The ability to use its power over the investee to affect its returns.

When the Group has less than a majority of the voting or similar rights of an investee, the Group considers all relevant facts and circumstances in assessing whether it has power over an investee, including:

- The contractual arrangement with the other vote holders of the investee;

- Rights arising from other contractual arrangements; and
- The Group's voting rights and potential voting rights.

The Group re-assesses whether or not it controls an investee if facts and circumstances indicate that there are changes to one or more of the three elements of control. Consolidation of a subsidiary begins when the Group obtains control over the subsidiary and ceases when the Group loses control of the subsidiary. Assets, liabilities, income and expenses of a subsidiary acquired or disposed of during the year are included in the statement of comprehensive income from the date the Group gains control until the date the Group ceases to control the subsidiary.

All intra-group assets and liabilities, equity, income, expenses and cash flows relating to transactions between members of the Group are eliminated in full on consolidation.

A change in the ownership interest of a subsidiary, without a loss of control, is accounted for as an equity transaction. If the Group loses control over a subsidiary, it:

- Derecognises the assets (including goodwill) and liabilities of the subsidiary;
- Derecognises the carrying amount of any non-controlling interests;
- Derecognises the cumulative translation differences recorded in equity;
- Recognises the fair value of the consideration received;
- Recognises the fair value of any investment retained;
- Recognises any surplus or deficit in profit or loss;
- Reclassifies the group's share of components previously recognised in other consolidated income (OCI) to profit or loss or retained earnings, as appropriate, as would be required if the group had directly disposed of the related assets or liabilities.

d. Associate companies

The Group's investment in its associates is accounted for using the equity method of accounting in the consolidated financial statements. The associates are entities over which the Group has significant influence and that are neither subsidiaries nor joint ventures.

The Group deems it has significant influence if it has over 20% of the voting rights.

The reporting dates of the associates and subsidiaries, and the Company, are identical, and the associates' accounting policies conform to those used by the Company for like transactions and events in similar circumstances.

Associate companies have been reflected in the consolidated financial statements on an equity accounting basis which shows the Group's share of profit in the Consolidated Statement of Comprehensive Income and its share of post-acquisition increases or decreases in net assets, in the Consolidated Statement of Financial Position.

The Group's investment in fair value through profit and loss is accounted for using the equity method of accounting in the consolidated financial statements. The investments in fair value through profit and loss are entities over which the Group has less than 20% of the voting rights and that are neither subsidiaries nor joint ventures.

e. Intangible assets

Intangible assets acquired separately are capitalised at cost and those acquired from a business combination are capitalised at fair value as at the date of acquisition. Following initial recognition, the cost model is applied to the class of intangible assets.

Research costs are not capitalised and expenditure is charged to profit and loss in the year in which the expenditure is incurred. Other intangible assets are capitalised where they meet the relevant criteria and include the purchase price and any directly attributable cost of preparing the asset for its intended use.

The useful lives of these intangible assets are assessed to be either finite or indefinite.

Where amortisation is charged on assets with finite lives, this expense is recognised in profit and loss.

Intangible assets are tested for impairment where an indicator of impairment exists, and in the case of indefinite life intangibles, annually, either individually or at the cash generating unit level. Useful lives are also examined on an annual basis and adjustments, where applicable, are made on a prospective basis.

Gains or losses arising from de-recognition of an intangible asset are measured as the difference between the net disposal proceeds and the carrying amount of the asset and are recognised in the profit and loss when derecognised.

Software. A summary of the policies applied to the Group's capitalised software is as follows:

	Software
Useful lives	Finite
Method used	Four years – straight-line
Type	Acquired
Impairment test/ recoverable	Amortisation method reviewed at each financial year-end
Amount testing	Reviewed annually for indicators of impairment

Carbon credits. New Zealand emission reduction units (NZUs) are recognised when the Group controls the units, provided that it is probable that economic benefits will flow to the Group and the fair value of the units can be measured reliably. Control of the NZUs arises when the Group is entitled to claim the NZUs from the Government.

NZUs are initially measured at fair value on entitlement as an intangible asset unless the Board has determined they are held for sale, in which case they would be recorded at fair value as inventory.

Following initial recognition, the intangible asset is measured at fair value when the Board considers there is an active market for the sale of NZUs. NZUs determined as held for sale at recognition and recorded as inventory, are subsequently measured at the lower of cost and net realisable value.

The liability arising from the deforestation of eligible land is measured using the market value approach. A liability exists and is recognised on pre-1990 forests if the land use changes from forestry.

f. Biological assets

Biological assets consist entirely of tree plantations which are measured at fair value less any point of sale costs. Gains and losses arising on initial recognition or change in fair value, less estimated point of sale costs, are included in profit and loss in the period in which they arise.

The fair value of tree plantations is determined by an independent valuer.

The valuation method for immature trees is the net present value of future net harvest revenue less estimated costs of owning, protecting, tending and managing trees. For mature trees, fair value is deemed to be the net harvest revenue value.

g. Property, plant and equipment

All items of property, plant and equipment are initially recorded at cost, where relevant on purchase from the Crown as at 1 July 1992, adjusted for subsequent additions at cost, disposals, depreciation and impairment. Plant and equipment are recorded at cost less accumulated depreciation less accumulated impairment losses (if any). Land and capital work in progress are recorded at cost. Some library books have been identified as heritage assets and are recorded at fair value as determined by an independent valuer. Valuations are obtained every five years or more often where circumstances indicate that a significant change in fair value has occurred.

Expenditure incurred on property, plant and equipment is capitalised where such expenditure will increase or enhance the future benefits provided by the asset. Expenditure incurred to maintain future benefits is classified as repairs and maintenance.

When an item of property, plant and equipment is disposed of the difference between the net disposal proceeds and the carrying amount is recognised as a gain, or loss, in profit and loss.

Depreciation is provided for using the straight-line method to allocate the historical cost, less an estimated residual value, over the estimated useful life of the asset.

The useful lives of the major classes of assets have been calculated as follows:

Buildings and land improvements	20 – 60 years
Plant and equipment	3 – 20 years
Furniture and fittings	10 – 20 years
Motor vehicles	3 – 7 years
Library books and periodicals	20 years or longer

h. Recoverable amount of non-financial assets

At each reporting date, the Group assesses whether there is any indication a non-financial asset may be impaired. Where an indicator of impairment exists, the Group makes a formal estimate of recoverable amount. Where the carrying amount of an asset exceeds its recoverable amount the asset is considered impaired and is written down to its recoverable amount.

Recoverable amount is the greater of fair value less costs to sell and value in use. It is determined for an individual asset, however, if the asset's value in use cannot be estimated to be close to its fair value less costs to sell, and it does not generate cash inflows that are largely independent of those from other assets or Groups of assets, it is determined for the cash-generating unit to which the asset belongs.

In assessing value in use, the estimated future cash flows are discounted to their present value using a pre-tax discount rate that reflects current market assessments of the time value of money and the risks specific to the asset.

i. Trade receivables

Trade receivables are classified as financial assets at amortised costs. Trade receivables are initially recognised at fair value and subsequently valued at amortised cost less impairment allowance.

The Group applies a simplified approach in calculating expected credit losses (ECLs) for trade receivables, i.e. a loss allowance for trade receivables is based on lifetime ECLs at each reporting date. The Group has established a provision matrix that is based on its historical credit loss experience, adjusted for forward-looking factors specific to the debtors and the economic environment.

The provision rates are based on days due for grouping of various customer segments with similar loss patterns. The calculation reflects the probability-weighted outcome, the time value of money and reasonable and supportable information that is available at the reporting date about past events, current conditions and forecasts of future economic conditions.

j. Inventories

Consumable stores are valued at the lower of cost, on a weighted average price of stock on hand, and net realisable value.

Nursery stocks are valued at lower of cost or net realisable value. Changes in net realisable value are recognised in the profit and loss account in the period in which they occur.

k. Research costs

Research costs are expensed in the period incurred.

l. Provisions

Provisions are recognised when the Group has a present obligation (legal or constructive) as a result of a past event, it is probable that an outflow of resources embodying economic benefits will be required to settle the obligation and a reliable estimate can be made of the amount of the obligation.

Provisions are measured at the present value of management's best estimate of the expenditure required to settle the present obligation at the consolidated statement of financial position date using a discounted cash flow methodology.

m. Employee benefits

(i) Wages, salaries and annual Leave

The liability for wages, salaries and annual leave recognised in the Consolidated Statement of Financial Position is the amount expected to be paid at balance date. Provision has been made for benefits accruing to employees for annual leave in accordance with the provisions of employment contracts in place at balance date.

(ii) Long service leave

The liability for long service leave (which includes service recognition leave) is recognised and measured as the present value of expected future payments to be made in respect of services provided by employees up to the reporting date using the projected unit credit method. Consideration is given to expected future wage and salary levels, experience of employee departures, and periods of service. Expected future payments are discounted using market yields at the reporting date on national government bonds with terms to maturity and currencies that match, as closely as possible, the estimated future cash outflows.

(iii) Defined benefit plan

The defined benefit plan is unfunded. The cost of providing benefits under the defined benefit plan is determined using the projected unit credit actuarial valuation method. Actuarial gains and losses are recognised through other comprehensive income in the period in which they arise.

The defined benefit liability recognised in the Consolidated Statement of Financial Position represents the present value of the defined benefit obligations.

Long service leave and defined benefit plan provisions are based on an actuarial valuation.

n. Leases

The Group assesses at contract inception whether a contract is, or contains, a lease. That is, if the contract conveys the right to control the use of an identified asset for a period of time in exchange for consideration.

Group as a lessee

The Group applies a single recognition and measurement approach for all leases, except for short-term leases and leases of low-value assets. The Group recognises lease liabilities to make lease payments and right-of-use assets representing the right to use the underlying assets

(i) *Right-of-use assets*. The Group recognises right-of-use assets at the commencement date of the lease (i.e. the date the underlying asset is available for use). Right-of-use assets are measured at cost, less any accumulated depreciation and impairment losses, and adjusted for any remeasurement of lease liabilities. The cost of right-of-use assets includes the amount of lease liabilities recognised, initial direct costs incurred, and lease payments made at or before the commencement date less any lease incentives received. Right-of-use assets are depreciated on a straight-line basis over the shorter of the lease term and the estimated useful lives of the assets, as follows:

Building	3–6 years
Forestry rights	70 years

(ii) *Lease liabilities*. At the commencement date of the lease, the Group recognises lease liabilities measured at the present value of lease payments to be made over the lease term. The lease payments include fixed payments (including in-substance fixed payments) less any lease incentives receivable, variable lease payments that depend on an index or a rate, and amounts expected to be paid under residual value guarantees. The lease payments also include the exercise price of a purchase option reasonably certain to be exercised by the Group and payments of penalties for terminating the lease, if the lease term reflects the Group exercising the option to terminate.

Variable lease payments that do not depend on an index or a rate are recognised as expenses (unless they are incurred to produce inventories) in the period in which the event or condition that triggers the payment occurs.

In calculating the present value of lease payments, the Group uses its incremental borrowing rate at the lease commencement date because the interest rate implicit in the lease is not readily determinable. After the commencement date, the amount of lease liabilities is increased to reflect the accretion of interest and reduced for the lease payments made. In addition, the carrying amount of lease liabilities is remeasured if there is a modification, a change in the lease term, a change in the lease payments (e.g., changes to future payments resulting from a change in an index or rate used to determine such lease payments) or a change in the assessment of an option to purchase the underlying asset.

(iii) *Short-term leases and leases of low-value assets*. The Group applies the short-term lease recognition exemption to its short-term leases of temporary buildings (i.e., those leases that have a lease term of 12 months or less from the commencement date and do not contain a purchase option). It also applies the lease of low-value assets recognition exemption to leases of office equipment that are considered to be low value. Lease payments on short-term leases and leases of low-value assets are recognised as an expense on a straight-line basis over the lease term.

Group as a lessor. Leases in which the Group retains substantially all the risks and benefits of ownership of the leased asset are classified as operating leases.

o. Cash and cash equivalents

Cash and cash equivalents in the Consolidated Statement of Financial Position comprise cash at bank and in-hand and short-term deposits with an original maturity of three months or less or greater than three months with no significant risk of a change in value from an early withdrawal.

For the purposes of the Consolidated Statement of Cash Flows, cash and cash equivalents consist of cash and cash equivalents as defined above, net of outstanding bank overdrafts.

p. Goods and services tax (GST)

All items in the financial statements are stated net of GST, with the exception of trade receivables and payables, which are inclusive of GST invoiced.

q. Foreign currencies

Functional and presentation currency. Both the functional and presentation currency of New Zealand Forest Research Institute Limited and its subsidiaries is New Zealand dollars.

Transactions and balances. Transactions in foreign currencies are initially recorded in the functional currency by applying the exchange rates ruling at the date of the transaction. Monetary assets and liabilities denominated in foreign currencies are retranslated at the rate of exchange ruling at the Consolidated Statement of Financial Position date.

Non-monetary items that are measured in terms of historical cost in a foreign currency are translated using the exchange rate as at the date of the initial transaction. Non-monetary items measured at fair value in a foreign currency are translated using the exchange rates at the date when the fair value was determined.

r. Revenue recognition

Revenue from contracts with customers

Research revenue. Research revenue from both Government and commercial sources is recognised over time using an input method to measure progress toward complete satisfaction of the service, because the Group's performance does not create an asset with an alternative use and the Group has an enforceable right to payment for performance completed to date. Revenue is recognised by reference to costs incurred to date and other contracted commitments. Work completed but not invoiced is recorded as accrued revenue while work invoiced but not completed is recorded as revenue in advance.

Government revenue under research revenue includes non-devolved revenue received from the Ministry of Business, Innovation and Employment in the form of Endeavour Funding, and Preseed Accelerator Fund programmes.

Sale of goods and rendering services (fee for services). Revenue from work programmes under Commercial Testing Services and Nursery crops is recognised at the point of time when control is transferred to the customer, generally on dispatch of crops to the customer or when service is completed.

Other revenue

Government grants. Government grants includes devolved revenue from the Ministry of Business, Innovation and Employment in the form of Strategic Science Investment Funding and COVID-19 Response and Recovery Funding. Government grant revenue is only recognised after all appropriate conditions have been met.

Rent revenue. Rent revenue is recognised on a straight-line basis over the lease term.

Interest revenue. Interest revenue is recognised when earned based on applicable interest rates applied to the Group's cash deposit balances.

s. Taxation

The income tax expense charged to the profit and loss includes both the current year's provision and the income tax effects of temporary differences calculated using the liability method. Current income tax relating to items recognised directly in equity is recognised in equity and not in profit or loss.

Tax effect accounting is applied on a comprehensive basis to all temporary differences. A debit balance in the deferred tax account, arising from temporary differences or income tax benefits from income tax losses, is only recognised if it is probable there will be taxable profits available in the future against which the deferred tax asset can be utilised.

Subsequent realisation of the tax benefit is subject to the requirements of income tax legislation being met.

t. Trade and other payables

Trade and other payables are classified as financial liabilities at amortised costs. They are carried at amortised cost and due to their short-term nature they are not discounted. They represent liabilities for goods and services provided to the Group prior to the end of the financial year that are unpaid and arise when the Group becomes obliged to make future payments in respect of the purchase of these goods and services. The amounts are unsecured and are usually paid within 60 days of recognition.

1.2 Significant accounting judgements, estimates and assumptions

The preparation of the Group's consolidated financial statements requires management to make judgements, estimates and assumptions that effect the reported amounts of revenue, expenses, assets and liabilities, and the accompanying disclosures.

a. Revenue recognition from contracts with customers

Revenue is predominately recognised based on the percentage of work completed on a project basis over time. Percentage of work completed is based on costs incurred from inception of the project as a percentage of total forecasted project costs. Management judgement is required in estimating total forecasted costs which impacts the revenue recognised (Note 2), the revenue in advance (Note 8) and accrued revenue (Note 17).

In determining if a customer contract can be recognised over time, management have considered their right to receive payment for work done up to the point of any termination of contract. In the absence of a termination clause management has assessed that the Group has a clear right to be paid for work completed up to the point of termination.

b. Heritage assets

The Group holds several heritage assets which have significant value due to being both rare, and having importance to the nation. Where a heritage cost can be measured reliably they are revalued at least every five years and included as part of property plant and equipment.

The increase/decrease in value is recognised in the Consolidated Statement of Financial Position through other comprehensive income.

Due to the nature of some heritage assets, management does not believe they can be valued reliably. These assets have been identified and disclosed. Details of heritage assets can be found in Note 11 and 22.

c. Biological assets

The Group's biological assets consist of tree plantations. These are valued at the net present value of future net harvest revenue less estimated costs of owning, protecting, tending and managing trees. The valuation process includes several judgements and estimations around discount rates, future costs, and future prices. Management used the experience of a registered forestry valuer to reduce the risk of misstatement resulting from these judgements and estimates.

1.3 Accounting standards issues but not yet effective

There are no standards that have been issued but not yet effective that we expect to have a material impact on the Group.

1.4 New accounting standards and amendments

There are no new accounting standards or amendments that have had a material impact on this years financial statements.

2. Revenue and Other Income

	ACTUAL 2024 $000	ACTUAL 2023 $000
(a) Revenue		
Revenue from research contracts		
Ministry of Business, Innovation and Employment revenue	**16,001**	17,516
Other Government and Crown Research Institute revenue	**9,639**	8,861
Commercial research revenue	**16,405**	12,553
	42,045	38,930
Government grants		
Strategic Science Investment Fund	**23,786**	23,786
COVID-19 Response and Recovery Fund	**-**	-
	23,786	23,786
Other Revenue		
Commercial lease revenue	**1,232**	1,096
Interest revenue	**551**	491
Other revenue	**294**	18
	2,077	1,605
Total Revenue	**67,908**	64,321
(b) Other Income/(Expenditure)		
Change in fair value of plantation trees	**(72)**	102
Revaluation of non-controlling interests	**(17)**	(85)
	(89)	17

3. Expenditure and Finance Costs

	ACTUAL 2024 $000	ACTUAL 2023 $000
(a) Expenditure		
Personnel remuneration and expenses	**37,547**	33,652
Other personnel related costs	**689**	887
Contractors and subcontractors	**18,098**	16,705
Consumables	**1,505**	1,154
Travel and accommodation	**1,427**	1,718
Rental and equipment hire costs	**285**	163
Depreciation on leases	**170**	152
Depreciation on owned assets	**5,585**	5,763
Amortisation	**50**	32
(Gain)/loss on disposal of fixed assets	**(189)**	(383)
Restructuring costs	**951**	-
Premises	**3,617**	2,832
Directors' fees	**341**	220
Other	**669**	742
	70,744	63,637
(b) Finance Costs		
IRD use of money interest	**-**	-
Lease interest	**21**	12
	21	12

4. Auditor's Remuneration

	ACTUAL 2024 $000	ACTUAL 2023 $000
Amounts paid or due and payable to the auditors for:		
Auditing financial statements		
Parent entity auditor	**191**	181
	191	181

5. Equity New Zealand Forest Research Institute Limited has authorised, issued and paid up capital of 17,516000 (2023: 17,516,000) ordinary shares. Shares do not have a par value.

All shares have equal rights with respect to voting, dividends and distribution on winding up. There are no restrictions on the distribution of dividends or repayment of capital.

No dividends were declared or paid to shareholders during the year (2023: $0).

The Asset Revaluation and Pension Reserve is used to record increments and decrements in the fair value of heritage assets, fair value movement in revaluation of carbon units and remeasurement of defined benefit plan liabilities. Movements in the asset revaluation and pension reserve are not reclassified to the profit and loss in subsequent periods.

Capital Management Scion is 100% Crown owned. Scion completes a five year plan on an annual basis and as part of that five year plan, any capital requirements for the future. When managing capital, management's objective is to ensure the entity continues as a going concern while balancing its financial goals of delivering returns in line with market cost of capital, with its public good goals of reinvesting in science that will benefit New Zealand. Management uses total equity as capital. The Group has no externally imposed capital requirements.

6. Provisions The Group has provisions for long service leave and restructuring. The long service leave provision was actuarially valued by Aon Hewitt Consulting, an independent risk management and consulting organisation.

The restructuring provision has arose as a reault of the recent change process undertaken by Scion in May 2024. As at 30 June 2024, there were a number of unpaid restructuring costs, and as such a provision has been made for this. The amount represents the unpaid portion of the redundacy cost.

The provisions are made up as follows:

	ACTUAL 2024 $000	ACTUAL 2023 $000
Current Provision	510	48
Non-Current Provision	428	411
	938	459

Movement in each class of provision during the year is as follows:

	Long Service Leave 2024 $000	Restructuring 2024 $000	TOTAL 2024 $000	Long Service Leave 2023 $000	Restructuring 2023 $000	TOTAL 2023 $000
Balance 1 July	459	-	459	426	-	426
Provision reversed during the year	-	-	-	-	-	-
Amounts used during the year	(106)	-	(106)	(61)	-	(61)
Provisions made during the year	122	463	585	94	-	94
Balance 30 June	475	463	938	459	-	459

7. Pension Plans

a) Defined Benefit Plan

Scion operates an unfunded final salary defined benefit plan. The level of benefits provided depends on the member's length of service and salary at retirement age. The plan is closed to new members and will cease when the current members have either retired or left the Group. There are no assets backing the unfunded liability.

The cost of providing benefits under the defined benefit plan is determined using the projected unit credit actuarial valuation method. Actuarial gains and losses are recognised in the profit and loss account. Past service cost is recognised immediately in profit or loss.

The defined benefit liability recognised in the Consolidated Statement of Financial Position represents the present value of the defined benefit obligations.

	ACTUAL 2024 $000	ACTUAL 2023 $000
Net plan expense		
Current service cost	**12**	16
Interest cost on benefit obligation	**27**	25
Net actuarial gains recognised in the year	**(11)**	(8)
Net plan expense/(income)	**28**	33

The net plan expense is included in the Personnel remuneration and expense line in Note 3(a) Expenditure.

	Defined Benefit Plan				
Benefit liability included in the Consolidated Statement of Financial Position	2024 $000	2023 $000	2022 $000	2021 $000	2020 $000
Present value of defined benefit obligation	508	604	618	670	819

	ACTUAL 2024 $000	ACTUAL 2023 $000
Changes in the present value of the defined benefit obligation are as follows:		
Opening balance	604	618
Current service cost	12	16
Interest cost	27	25
Actuarial gains recognised in the year	(11)	(8)
Benefits paid	(124)	(47)
Closing balance	508	604
Current provision	250	143
Non-current provision	258	431
	508	604

7. **Pension Plans (cont.)**

a) Defined Benefit Plan (cont.)

The principal actuarial assumptions used in determining the defined benefit plan obligations are shown below:

	Actual 2024	Actual 2023
10yr discount rate	5.33%	4.65%
Future salary increases	2.20%	2.20%

At 30 June a change in the assumed rates of salary growth and resignation rates, all other assumptions remaining unchanged, would affect the balance of the liability as follows:

	ACTUAL 2024 $000	ACTUAL 2023 $000
Current obligation	508	604
Salary growth		
Reduction of 1% per annum	499	583
Increase of 1% per annum	518	626
Resignation rates		
150% of assumed rates	504	604
50% of assumed rates	512	604

Interest rate assumptions are based on Treasury's published risk-free discount rates.

b) Defined Contribution Plan

During the period defined contributions totalling $1,016k (2023: $880k) were made to the Government Superannuation Fund and KiwiSaver.

	ACTUAL 2024 $000	ACTUAL 2023 $000
8. Trade and Other Liabilities		
Trade payables	5,027	3,588
Employee payables and accruals	4,101	3,348
Revenue in advance	4,387	8,788
	13,518	15,724

The carrying amount disclosed above is a reasonable approximation of fair value. Trade creditors are non-interest bearing and are normally settled within 60 days.

Revenue in advance includes advances received to 30 June each year. Total revenue recognised during the year that was in Revenue in Advance at the start of the year totals $8.8m (2023: $6.4m).

	ACTUAL 2024 $000	ACTUAL 2023 $000
9. Income tax	**Actual**	Actual
(a) Income tax expense	**2024**	2023
The major components of income tax expense in the Consolidated Statement of Comprehensive Income are:		
Current income tax		
Current income tax change	-	500
Adjustments to prior year current income tax change	(116)	45
	(116)	545
Deferred income tax		
Deferred tax expenses/(income) related to prior year	88	(37)
Relating to origination and reversal of temporary differences	1,788	(369)
Impact of changes to building depreciation	-	-
	1,876	(406)
Income tax expense/(income) reported in the Consolidated Statement of Comprehensive Income	1,760	139
(b) Amounts charged or credited directly to other comprehensive income		
Deferred income tax related to items charged (credited) directly to other comprehensive income		
Remeasurement of gain/loss on defined benefit plan	(3)	(2)
Revaluation of carbon credits	53	(181)
Deferred tax charged to other comprehensive income	50	(183)
(c) Reconciliation between the aggregate tax expense recognised in the Consolidated Statement of Comprehensive Income to tax expense calculated at the statutory income tax rate		
Accounting profit(loss) before income tax	(2,946)	683
Tax at the statutory income tax rate of 28% (2023: 28%)	(825)	191
Adjusted by:		
Prior year income tax	(28)	8
Entertainment	11	10
Impact of changes to building depreciation	2,518	-
Other	84	(70)
Income tax expense	1,760	139
(d) Deferred income tax relates to the following:		
Deferred tax liabilities		
Property, plant and equipment	(1,996)	278
Leases	14	12
Nursery inventory	-	-
Standing timber	(393)	(413)
Carbon credits	(253)	(200)
	(2,628)	(323)
Deferred tax assets		
Property, plant and equipment	-	-
Patents and trademarks	89	111
Payroll provisions	907	878
Allowance for impairment loss	9	19
Other	595	165
	1,601	1,173
Net deferred tax asset/(liability) per Consolidated Statement of Financial Position	(1,027)	850

The Group has $218k tax losses (2023: $0k) included in Other Deferred Tax assets above.

Legislation to remove the tax depreciation on commercial and industrial buildings was enacted at the end of March 2024. Building structure assets are now subject to 0% tax depreciation from the 2024/2025 income year onwards, but building fit-out assets will continue to be depreciable. This change reduced the tax base of building structure assets, and has therefore seen an increase to the income tax expense as a result of the increase to deferred tax due to the legislation change.

10. Leases

Group as a Lessee

The Group has lease contracts for buildings in Christchurch and Wellington plus Forestry rights in Puruki. The building leases are for terms of 3 to 6 years with the Forestry rights being for a period of 70 years. The Group obligations under its leases are secured by the lessor's title to the leased assets. Generally, the Group is restricted from assigning and subleasing the leased assets. The lease contracts include extension and termination options.

Set out below are the carrying amounts of right-of-use assets recognised and the movement during the period:

	Building $000	**Forestry Rights $000**	**Total $000**
As at 30 June 2022	168	102	270
Additions	446	-	446
Depreciation expense	(150)	(2)	(152)
As at 30 June 2023	464	100	564
Additions		-	-
Depreciation expense	(168)	(2)	(170)
As at 30 June 2024	**296**	**98**	**394**

Set out below are the carrying amounts of lease liabilities and the movements during the period:

	ACTUAL 2024 $000	**ACTUAL 2023 $000**
As at 1 July	**608**	324
Realignment of lease end date	**6**	436
Accretion of interest	**21**	12
Payments	**(191)**	(164)
As at 30 June	**444**	608
Current	**166**	165
Non-Current	**278**	443
The following are the amounts recognised in profit or loss:		
Depreciation expense of right-of-use assets	**170**	152
Interest expense on lease liabilities	**21**	12
Variable lease payments (included in Other Expenditure)	**36**	36
Total Amount recognised in profit or loss	**227**	200

The Group had total cash outflow for leases of $491k in 2024 (2023: $343k).

11. Property, Plant and Equipment

GROUP	**Land & Improvements**	**Buildings**	**Plant & Equipment**	**Furniture & Fittings**	**Motor Vehicles**	**Books & Periodicals**	**Capital Work in Progress**	**Total**
	$000	**$000**	**$000**	**$000**	**$000**	**$000**	**$000**	**$000**
At 1 July 2023								
Carrying amount net of accumulated depreciation and impairment at 1 July 2023	1,345	17,453	13,129	5,080	358	100	6,003	43,468
Additions	-	124	-	-	-	-	6,972	7,096
Transfers from CWIP	-	2,684	3,268	382	107	-	(6,441)	-
Disposals	-	-	(177)	(111)	(21)	-	(83)	(392)
Impairment provision	-	-	-	-	-	-	-	-
Depreciation expensed	(49)	(651)	(3,901)	(830)	(154)	-	-	(5,585)
Carrying amount net of accumulated depreciation and impairment at 30 June 2024	1,296	19,610	12,319	4,521	290	100	6,451	44,587
At 30 June 2024								
Cost or fair value	2,244	34,637	63,025	9,435	1,327	106	6,451	117,225
Accumulated depreciation and impairment	(948)	(15,026)	(50,706)	(4,914)	(1,037)	(7)	-	(72,638)
Net carrying amount	1,296	19,610	12,319	4,521	290	99	6,451	44,587
At 1 July 2022								
Carrying amount net of accumulated depreciation and impairment at 1 July 2022	1,394	18,097	14,188	5,889	470	100	5,568	45,696
Additions	-	-	61	-	5	-	3,597	3,663
Transfers from CWIP	-	-	2,984	16	26	-	(3,061)	(35)
Disposals	-	-	(2)	-	-	-	(91)	(93)
Impairment provision	-	-	-	-	-	-	-	-
Depreciation expensed	(48)	(644)	(4,104)	(824)	(143)	-	-	(5,763)
Carrying amount net of accumulated depreciation and impairment at 30 June 2023	1,346	17,453	13,127	5,081	358	100	6,003	43,468
At 30 June 2023								
Cost or fair value	2,244	31,827	61,443	9,165	1,266	106	6,003	112,054
Accumulated depreciation and impairment	(899)	(14,374)	(48,314)	(4,085)	(908)	(6)	-	(68,586)
Net carrying amount	1,345	17,453	13,129	5,080	358	100	6,003	43,468

Books and periodicals include some library books classified as Heritage Assets. Last year the Group engaged Rowan Gibbs, an antiquarian bookseller of 37 years' experience of Smith's Bookshop Limited to determine the fair value of the heritage library books as at 30 June 2022. Refer to Note 22 regarding other heritage assets.

12. Biological Assets

Biological assets consist of tree plantations. The Group has 65.5 hectares of trees planted initially for experimental purposes. When experiments are completed, they are classified as biological assets. Trees will be harvested when they reach maturity.

	ACTUAL 2024 $000	ACTUAL 2023 $000
Carrying amount 1 July	1,476	1,374
Sale of Trees	-	-
(Loss)/Gain from changes in fair value less estimated point-of-sale costs	(72)	102
Carrying amount 30 June	1,404	1,476

The above biological assets are level 3 in the fair value hierarchy.

The Group has tree plantations at two locations:

31 hectares of immature Radiata Pine is located at Puruki. The trees were planted for experimental purposes. The Group has a forestry right which expires in 2067.

(a) 34.5 hectares of immature Radiata Pine is located at Mamaku plus 2.2 hectares of mature Sitka Spruce. The trees were planted for experimental purposes. The Group has a forestry right which terminates when the trees are harvested or in 2043, whichever is the earlier.

(b) The tree plantations were valued as at 20 June 2024 by PF Olsen Limited, an independent forestry management and consultancy company.

The valuation method for immature trees is the net present value of future net harvest revenue less estimated costs of owning, protecting, tending and managing trees. For mature trees fair value is deemed to be the net harvest revenue value.

Fair value is sensitive primarily to log prices. Significant increase (decreases) in log prices would result in a significantly higher (lower) fair value.

13. Intangible Assets

	ACTUAL 2024 $000	ACTUAL 2023 $000
Software		
Opening balance 1 July		
At cost	2,401	2,356
Less accumulated amortisation	(2,342)	(2,311)
Opening net carrying amount 1 July	59	45
Opening carrying amount 1 July	59	45
Additions	102	45
Disposals	(3)	-
Current year amortisation	(50)	(31)
Amortisation write back	-	-
Closing carrying amount 30 June	108	59
Closing balance 30 June		
At cost	2,500	2,401
Less accumulated amortisation	(2,392)	(2,342)
Closing net carrying amount 30 June	108	59
Carbon Credits		
Carrying amount 1 July	780	1,484
Increase/(Decrease) in fair value	178	(704)
Carrying amount 30 June	958	780
Total intangible assets 30 June	1,066	839

The Group holds a total of 19,494 New Zealand Emission Reduction Units (NZUs). Of these units, 5,340 were allocated at zero cost and 14,154 were purchased for a cost of $61k.

These units are classed as level 1 in the fair value hierarchy.

14. Investments

	Shares	Percentage Held 2024	Percentage Held 2023	Balance Date
Subsidiaries				
Te Papa Tipu Properties Limited	100	100%	100%	30 June
Sala Street Holdings Limited	100	100%	100%	30 June

Sala Street Holdings Limited was incorporated on 9 November 2015.
The company holds the Group's 50% investment in Scion Terax technologies.

All subsidiaries are incorporated in New Zealand.

	Shares	Percentage Held 2024	Percentage Held 2023
Investments in fair value through profit and loss			
Biopolymer Network Limited	150	15%	15%
Kiwi Innovations Network Limited	18	7%	7%
WQI Limited (Liquidated)	12,500	5%	5%

	ACTUAL 2024 $000	ACTUAL 2023 $000
Investments in fair value through profit and loss		
Net Asset Valuation	68	85

Changes in valuation of the above are transacted annually through fair value through profit and loss.

WQI Limited was removed from the companies office register in September 2023 following the liquidation process.

15. Non-current assets available for sale

The Group was allocated a whole "Class B" internet address range in the early 1980's with the advent of the internet. The allocation resulted in approximately 65,000 IPv4 IP addresses. These addresses have been recorded with a nil cost and therefore have not been added onto the balance sheet as per the Intangible Assets accounting policy. This financial year, the Group sold a small portion of these addresses and intends to sell the remaining IP addresses next financial year. At this point, the sale will be recorded directly through the profit and loss as a gain and disposal of non-current asset.

16. Cash and Cash Equivalents

	ACTUAL 2024 $000	ACTUAL 2023 $000
Cash on hand	-	-
Bank	7	7
Call deposits	3,952	6,180
Short-term deposits	5,505	6,245
	9,464	12,432

	ACTUAL 2024 $000	ACTUAL 2023 $000
17. Trade and Other Receivables and Accrued Revenue		
Trade receivables	5,457	4,960
Allowance for impairment loss	(34)	(68)
Other debtors	49	88
Prepayments	1,177	1,345
Accrued revenue	2,055	5,072
Related party receivables:		
Investments in fair value through profit and loss	8	3
Carrying amount 30 June	8,712	11,400

(a) The carrying amount of trade and other receivables disclosed above is a reasonable approximation of fair value due to the short-term nature of the receivables.

(b) Accrued revenue is initially recognised for revenue earned from research projects as receipt of consideration is conditional on successful completion of projects. Upon completion of the project, the amounts recognised as accrued revenue are reclassified to trade receivables.

(c) Trade receivables are non-interest bearing and are generally on 30–60-day terms.

At 30 June, the ageing analysis of trade receivables is as follows:

	Total $000s	0-30 Days CNI* $000s	0-30 Days CI* $000s	31-60 Days CNI* $000s	31-60 Days CI* $000s	61-90 Days PDNI* $000s	61-90 Days CI* $000s	+91 Days PDNI* $000s	+91 Days CI* $000s
2024	5,465	4,659	-	511	-	-	-	261	34
2023	4,960	4,700	-	182	-	-	-	10	68

* Current not impaired (CNI)

* Past due not impaired (PDNI)

* Considered impaired (CI)

(d) For related party terms and conditions refer to Note 23.

	ACTUAL 2024 $000	ACTUAL 2023 $000
18. Inventories		
Consumable stores (at cost)	37	32
Nursery stock	140	377
Closing carrying amount	177	409

Consumable stores recognised as an expense for the year are $56k (2023 $62k). The expense has been included in the “consumables” line item in Note 3 (a). Consumable inventory write-down in the period was $0k (2023: $0k).

Nursery stock recognised as an expense during the year was $258k (2023: $260k)

19. Financial Instruments

Financial Instruments include:

Financial Assets at amortised costs

Cash and cash equivalents

Trade receivables

Other debtors

Related party receivables

Financial Liabilities at amortised costs

Trade payables

Other payables

Related party payables

All the above financial instruments are measured at amortised cost. Due to their short-term nature their carrying amount is a reasonable approximation of their fair value.

Management have not identified any concentrations of risk for any of the below risk categories.

Liquidity Risk

The Group’s objective is to maintain a balance between continuity of funding and flexibility through the use of a bank debt facility and a bank overdraft. Management monitors, on a monthly basis, our free capacity within the debt facility and our forecasted ability to pay for that debt.

Trade payables ($5030k) are non-interest bearing and are normally settled within 60 days. Other than lease liability which extends up to 46 years remaining, the Group liabilities all have contractual maturities of less than 120 days.

Credit Risk

Financial instruments that potentially subject the Group to credit risk consist of bank balances and accounts receivable. The Group generally does not require any security.

Significant new non-Government customers are credit checked. Trade receivable ageing is reviewed monthly and all aged trade receivables are followed up. Credit stops are used for non-paying customers.

Maximum exposures to credit risk as at balance date are:

	ACTUAL 2024 $000	ACTUAL 2023 $000
Current account	7	7
Call and short-term deposits	9,457	12,425
Trade receivables	5,431	4,892
Other debtors	49	88
Related party receivables	-	-

The above maximum exposures are net of any provision for impairment on these financial instruments.

Market Risk

Market risk on financial instruments comprise the following three types of risk:

Interest Rate Risk

The Group’s exposure to market interest rates relates primarily to cash deposits.

	ACTUAL 2024 $000	ACTUAL 2023 $000
Cash in hand	-	-
Current account	7	7
Call deposits	3,952	6,180
Short-term deposits	5,505	6,245
	9,464	12,432

19. **Financial Instruments (cont.)**

The current account is managed at low levels and interest returns on the current account are not material. Cash funds in excess of our current requirements are invested in short-term bank deposits to attract improved interest returns. At 30 June 2024 bank call and short-term deposits were earning variable interest at rates.

At 30 June 2024, if interest rates moved as indicated in the table below, with all other variables being held constant, post-tax profit and equity would have been affected as follows:

	2024 Change in Interest Rate	2024 Effect on Post Tax Profit & Equity $000	2023 Change in Interest Rate	2023 Effect on Post Tax Profit & Equity $000
Judgement of reasonably possible movements in interest rates	1%	68	1%	90
	-1%	(68)	-1%	(90)

Currency Risk

There are no cash balances are held in currencies other than New Zealand dollars. There is limited exposure to trade receivables and payables. Collection and payment on all these balances are expected within 30 days resulting in minimal foreign exchange risk.

Other Price Risk

Other price risk primarily relates to the market price of financial instruments. As Scion does not trade in financial instruments there is no perceived risk in this category.

	ACTUAL 2024 $000	ACTUAL 2023 $000
20. Reconciliation of operating profit after taxation with cash flows from operating activities		
Reported profit/(loss) after taxation	**(4,706)**	544
Add/(less) non-cash items:		
Depreciation	**5,755**	5,915
Amortisation	**50**	31
Movement on employee provision	**(32)**	(26)
Provision for doubtful debts	**-**	-
Movement on lease liability	**-**	-
Movement in deferred tax	**(1,877)**	(287)
	3,896	5,633
Add/(less) items classified as investing activity:		
(Gain)/loss on disposal of property, plant and equipment	**-**	-
Share in associate company (profit)/loss	**-**	-
Capital related items in creditors	**-**	-
Fair value movement in biological assets	**(17)**	(17)
	(17)	(17)
Movements in working capital items:		
(Increase)/Decrease in debtors and prepayments	**(2,698)**	(2,823)
(Increase)/Decrease in inventories	**(232)**	(225)
Increase/(Decrease) in creditors and accruals	**2,096**	304
Increase/(Decrease) in taxation payable	**297**	146
	4,859	(2,598)
Net cash flows from operating activities	**4,032**	3,652

21. **Contingencies**

Treaty of Waitangi Issues

Two verified land claims affecting the Group currently exist:

(i) Ngati Whakaue – covering the whole Rotorua Campus

(ii) Ngati Wahiao – covering the southern end of the Rotorua Campus

No reliable estimates can be made of the impact of these contingencies.

22. **Heritage Assets**

The Company has identified its library, herbarium and germplasm collections as heritage assets. For the herbarium and germplasm collections the Directors believe that there is no practical basis upon which to reliably value these collections. For the books and periodicals within the library refer to Note 11.

23. **Commitments**

Operating Lease – Group as Lessor:

The Group has entered into commercial property leases for buildings and land. These non-cancellable leases have remaining terms including rights to renew of up to 5 years on buildings and 13 years on land leases, with rights to renew for further 40 years. All leases include a clause to enable upward revision of the rental charge at a specified review date of between one and five years according to prevailing market conditions.

Future minimum rentals receivable under non-cancellable operating leases as at 30 June are as follows:

	ACTUAL 2024 $000	ACTUAL 2023 $000
Year one	**473**	581
Year two	**298**	393
Year three	**262**	244
Year four	**206**	219
Year five	**152**	153
Greater than five years	**1,333**	1,190
	2,724	2,780

Capital Commitments

Capital expenditure contracted for at balance date but not provided for	**4,703**	6,072

24. Transactions with Related Parties

(a) Group

New Zealand Forest Research Institute Limited is wholly owned by the New Zealand Government (the ultimate parent). All transactions with the Government, government departments and agencies and government entities are conducted on normal terms between government agencies. Government Endeavour Funding, Strategic Science Investment Funding and Preseed Accelerator funding from the Ministry of Business, Innovation and Employment comprises of 65% of research revenue earned by Scion and is disclosed in Note 2 (a).

	ACTUAL 2024 $000	ACTUAL 2023 $000
(b) Investments in fair value through profit and loss		
Biopolymer Network Ltd		
Supplied goods and services	9	-
Receivable at balance date	8	3

(c) Other

The Group has transactions with other parties that are related by virtue of the relationship Scion directors have with that other party, but these relationships do not alter the nature and amount of those transactions. These relationships and transactions are summarised below where annual transactions with a given related party in either FY23 or FY22 are greater than $100k.

Dr Jon Ryder is CEO of Oji Fibre Solutions and during the financial year held the role as the Deputy Chair of New Zealand Forest Research Institute Limited. His term as Director and Deputy Chair concluded on 30 June 2024.

i) Oji Fibre Solutions

Scion provided services during the period totalling $250k (2023: $5k) and received services totalling $4k (2023: $5k). The amount receivable at year end was $69k (2023 $22k).

Terms and conditions of transactions with related parties

Outstanding balances at year end are unsecured and interest free. No guarantees are provided or received for any related party receivables or payables.

No related party debts were written off during the year (2023: $0k) and no impairment allowance has been raised for any of these debts.

	ACTUAL 2024 $000	ACTUAL 2023 $000
(d) Key Management Personnel		
Short term employee benefits	2,146	1,939
KiwiSaver employee benefits	57	53
	2,203	1,992

Building a better working world

INDEPENDENT AUDITOR'S REPORT
TO THE READERS OF NEW ZEALAND FOREST RESEARCH INSTITUTE LIMITED'S GROUP FINANCIAL STATEMENTS FOR THE YEAR ENDED 30 JUNE 2024

The Auditor-General is the auditor of New Zealand Forest Research Limited group (the Group). The Auditor-General has appointed me, Simon Brotherton, using the staff and resources of Ernst & Young, to carry out the audit of the consolidated financial statements of the Group on his behalf.

Opinion

We have audited the financial statements of the Group on pages 32 to 54, that comprise the consolidated statement of financial position as at 30 June 2024, the consolidated statement of comprehensive income, consolidated statement of changes in equity and consolidated statement of cash flows for the year ended on that date and the notes to the consolidated financial statements including material accounting policy information and other explanatory information.

In our opinion the financial statements of the Group:

- present fairly, in all material respects:
  - its consolidated financial position as at 30 June 2024; and
  - its consolidated financial performance and cash flows for the year then ended; and
- comply with generally accepted accounting practice in New Zealand in accordance with New Zealand Equivalents to International Financial Reporting Standards and International Financial Reporting Standards.

Our audit was completed on 3 September 2024. This is the date at which our opinion is expressed.

The basis for our opinion is explained below. In addition, we outline the responsibilities of the Board of Directors and our responsibilities relating to the consolidated financial statements, we comment on other information, and we explain our independence.

Basis for our opinion

We carried out our audit in accordance with the Auditor-General's Auditing Standards, which incorporate the Professional and Ethical Standards and the International Standards on Auditing (New Zealand) issued by the New Zealand Auditing and Assurance Standards Board. Our responsibilities under those standards are further described in the Responsibilities of the auditor section of our report.

We have fulfilled our responsibilities in accordance with the Auditor-General's Auditing Standards.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Responsibilities of the Board of Directors for the consolidated financial statements

The Board of Directors is responsible on behalf of the Group for preparing consolidated financial statements that are fairly presented and comply with generally accepted accounting practice in New Zealand.

The Board of Directors is responsible for such internal control as it determines is necessary to enable it to prepare consolidated financial statements that are free from material misstatement, whether due to fraud or error.

A member firm of Ernst & Young Global Limited

Building a better working world

In preparing the consolidated financial statements, the Board of Directors is responsible on behalf of the Group for assessing the Group's ability to continue as a going concern. The Board of Directors is also responsible for disclosing, as applicable, matters related to going concern and using the going concern basis of accounting, unless there is an intention to merge or to terminate the activities of the Group, or there is no realistic alternative but to do so.

The Board of Directors' responsibilities arise from the Crown Research Institutes Act 1992.

Responsibilities of the auditor for the audit of the consolidated financial statements

Our objectives are to obtain reasonable assurance about whether the consolidated financial statements, as a whole, are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion.

Reasonable assurance is a high level of assurance, but is not a guarantee that an audit carried out in accordance with the Auditor-General's Auditing Standards will always detect a material misstatement when it exists. Misstatements are differences or omissions of amounts or disclosures, and can arise from fraud or error. Misstatements are considered material if, individually or in the aggregate, they could reasonably be expected to influence the decisions of readers, taken on the basis of these consolidated financial statements.

For the budget information reported in the consolidated financial, our procedures were limited to checking that the information agreed to the Group's budget.

We did not evaluate the security and controls over the electronic publication of the consolidated financial statements.

As part of an audit in accordance with the Auditor-General's Auditing Standards, we exercise professional judgement and maintain professional scepticism throughout the audit. Also:

- We identify and assess the risks of material misstatement of the consolidated financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.
- We obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Group's internal control.
- We evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by the Board of Directors.
- We conclude on the appropriateness of the use of the going concern basis of accounting by the Board of Directors and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Group's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditor's report to the related disclosures in the consolidated financial statements or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditor's report. However, future events or conditions may cause the Group to cease to continue as a going concern.
- We evaluate the overall presentation, structure and content of the consolidated financial statements, including the disclosures, and whether the consolidated financial statements represent the underlying transactions and events in a manner that achieves fair presentation.
- We obtain sufficient appropriate audit evidence regarding the consolidated financial statements of the entities or business activities within the Group to express an opinion on the consolidated financial statements. We are responsible for the direction, supervision and performance of the Group audit. We remain solely responsible for our audit opinion.

Building a better working world

We communicate with the Board of Directors regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

Our responsibilities arise from the Public Audit Act 2001.

Other information

The Board of Directors is responsible for the other information. The other information comprises the information included on pages 1 to 31 and 58 to 59 of the Annual Report, but does not include the consolidated financial statements , and our auditor's report thereon.

Our opinion on the consolidated financial statements does not cover the other information and we do not express any form of audit opinion or assurance conclusion thereon.

In connection with our audit of the financial statements, our responsibility is to read the other information. In doing so, we consider whether the other information is materially inconsistent with the consolidated financial statements or our knowledge obtained in the audit, or otherwise appears to be materially misstated. If, based on our work, we conclude that there is a material misstatement of this other information, we are required to report that fact. We have nothing to report in this regard.

Independence

We are independent of the Group in accordance with the independence requirements of the Auditor-General's Auditing Standards, which incorporate the independence requirements of Professional and Ethical Standard 1: *International Code of Ethics for Assurance Practitioners* issued by the New Zealand Auditing and Assurance Standards Board.

Other than the audit, we have no relationship with, or interests in, the Group.

Simon Brotherton
Ernst & Young
On behalf of the Auditor-General
Auckland, New Zealand

Directory

Directors	Dr Helen Anderson QSO (Chair) – term concluded 30 June 2024		
	Dr Jon Ryder (Deputy Chair) – term concluded 30 June 2024		
	Ms Nicole Anderson – commenced 10 July 2023		
	Mr Brendon Green		
	Mr Greg Mann – term concluded 30 June 2024		
	Ms Stana Pezic		
	Ms Kiriwaitingi Rei-Russell – commenced 10 July 2023		
	Mr Phil Taylor – commenced 10 July 2023		
	Mr Steve Wilson – term concluded 30 September 2023		
	Richard Westlake (Chair) - commenced 1 July 2024		
	Tony Allison - commenced 17 July 2024		
	Murray Sherwin CNZM - commenced 17 July 2024		
Registered Office	Rotorua, Te Papa Tipu Innovation Park, 49 Sala Street, Private Bag 3020, Rotorua 3046, New Zealand Telephone: +64 7 343 5899 Facsimile: +64 7 348 0952 Email: enquiries@scionresearch.com Website: www.scionresearch.com NZBN Number: 9429038975189		
Christchurch	10 Kyle Street, Riccarton Christchurch 8011. PO Box 29237, Riccarton, Christchurch 8440, New Zealand Telephone: + 64 3 363 0910		

Wellington	Level 6, 17-21 Whitmore Street Wellington Central 6011. PO Box 10 345, The Terrace, Wellington 6143, New Zealand Telephone: +64 4 472 1528
Executive Management	Dr Julian Elder Chief Executive
	Dr Henri Baillères General Manager, Forests to Timber Products
	Dr Roger Dungan General Manager, Strategic Partnerships and Communications
	Dr Florian Graichen General Manager, Forests to Biobased Products
	Dr Marie-Joo Le Guen General Manager, Science Services
	Mr Cameron Lucich General Manager, People, Culture and Safety
	Ms Shontelle Bishara General Manager, Māori Futures
	Dr Tara Strand General Manager, Forests and Landscapes
	Ms Justine Wilmoth General Manager, Finance and Corporate Services
Bankers	ANZ Bank of New Zealand Limited
Auditors	Ernst & Young, Auckland on behalf of the Auditor-General
Solicitors	Bell Gully, Auckland

Unlocking New Zealand's green energy future: Short rotation forestry holds the key to lowering fossil fuel dependency.

A two-year research project has shed light on the promising opportunities for regional New Zealand to adopt short rotation forestry (SRF) for bioenergy production.


scion™
FORESTS PRODUCTS INNOVATION