



Half Year Report 2023/24



HIGHLIGHTS

Scion’s Strategy to 2030 sets out how our research and innovation will help Aotearoa New Zealand make the transition to a circular bioeconomy. This is a \$30 billion economic

opportunity for New Zealand that will help meet our climate change targets, create high-value jobs, and develop resilient and prosperous rural and regional economies. Scion

is focussed on delivering impact from our research for New Zealand, and these highlights and half-year progress report show we are on the right path.

Bioenergy from the circular bioeconomy

Scion’s pilot-level research has culminated in Ecogas launching New Zealand’s first commercial-scale anaerobic digestion bioenergy plant. Scion helped de-risk the key technologies used in the facility during its early planning and development phase. The \$30 million plant can turn 75,000 tonnes of organic food waste collected from

households and businesses around the North Island into renewable clean energy and biofertiliser. Scion has been working with AgResearch to see how waste from animal processing waste can be used in the Ecogas plant. Heat and CO2 generated from biogas is used to enhance tomato growth in T&G Global’s greenhouses located

nearby, and methane from the digesters will be piped into the national gas distribution network. Ecogas is planning a similar plant in Christchurch, with significant potential to expand in other regional centers supporting high-value regional jobs, and reducing methane emissions from landfill.



Cover image:
A briquette made from forest residues burns as part of trials to develop sustainable bioenergy to replace coal in industrial boilers. See story on page two.

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Bioenergy scale-up trial

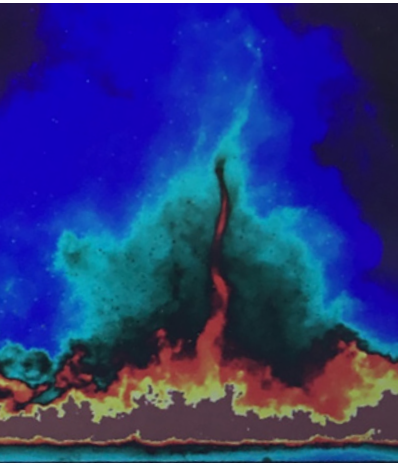
Scion worked with Auckland’s MOTAT on a successful scale-up trial to replace coal with briquettes made from forest residues. Successful commercialisation of this technology needs testing at a range of scales, and MOTAT was happy to run one of its vintage steam trams on the renewable fuel to demonstrate the effectiveness of biomass briquettes as a coal replacement. The briquettes are made using forest residues such as bark, branches, and low-quality stem wood – all woody biomass that



is currently seen as a waste product in the industry. Scion has developed the process for creating briquettes that have properties very similar to coal, making them an ideal biofuel for industrial processes. As well as creating economic opportunities for the estimated four million tonnes of harvest and thinning residues that currently remain in production forests, the briquettes could help reduce the 4.6 MT of CO2-e emissions produced by industrial and process heat in New Zealand every year.

Fire whirls

Scientists from Scion, US Forest Service, University of Canterbury and the US National Centre of Atmospheric Research collaborated in ground-breaking research aimed at protecting firefighters and communities from the devastating impact of future wildfires. They achieved a world first by successfully generating fire whirls in controlled experiments. Fire whirls, or fire tornadoes, occur during extreme wildfires. They are unpredictable and can lead to catastrophic loss of life and property. The experiments aimed to start a fire whirl in controlled conditions to study the factors that cause fire whirls to form.



Scion’s strong relationship with Fire and Emergency New Zealand (FENZ) was a key factor in locating the research in New Zealand. FENZ provided operational support during the experiments, with crews from several volunteer brigades and the Department of Conservation using the

fires as a valuable training opportunity. Climate change is increasing the occurrence of extreme wildfires. The direct cost of wildfire on New Zealand’s economy in 2020 was \$142 million. By 2050, this is predicted to cost \$547 million each year.

Scion’s Forest Insights set to revolutionise inventory management for forestry



Scion, in collaboration with industry partner Indufor Asia Pacific Ltd, has developed an interactive forest inventory tool powered by machine learning and deep learning models, to give forest managers powerful inventory information to make management, harvesting and wood processing decisions easier. Called ‘Forest Insights’, the tool has been built using cutting-edge

AI technologies as well as LiDAR, to detect and identify stands of trees to quantify their volume and maturity over time. It has been trained to define forest boundaries and provide managers with the information needed for effective forest management. This inventory data is more than statistics; it’s the key to unlocking investments and strategic decisions for stakeholders across the timber

supply chain. The ultimate aim is to create a digital twin of New Zealand’s entire forestry estate. The prototype is currently focussed on modelling of East Coast pine forests. Testing with a handful of industry users has yielded positive feedback, with at least one forestry company expressing interest in using Forest Insights to validate their commercial forestry decisions, with others looking to join the project.

SUMMARY OF KPI AND RISK REPORTING

Indicator name	Measure	Frequency	2023/2024 Target	July to December 2023
End user collaboration	Revenue per FTE (\$) from commercial sources (Note, the definition of commercial sources changes across these periods.)	Quarterly	\$51,326	\$28,643
Research collaboration	Publications with collaborators	Quarterly	100	42
Technology and knowledge transfer excellence	Commercial reports per scientist FTE	Annually	>2.0	0.88
Science quality	Mean citation score	Annually	4	5.85
Financial indicator	Revenue per FTE	Quarterly	\$176,031	\$94,219

FINANCIAL STATEMENTS

For the half year ended 31 December 2023

Statement of Comprehensive Income (Unaudited) For the six months ended 31 December 2023

<i>in thousands of New Zealand dollars</i>	Note	Half Year 31 Dec 2023	Half Year 31 Dec 2022	Full Year 30 Jun 2023
Revenue	2a	32,703	31,263	64,321
Other income/(expenditure)	2b	-	-	17
Expenditure	3a	(35,644)	(31,170)	(63,643)
Finance costs	3b	(11)	(6)	(12)
Share of profit/(loss) of associates		-	-	-
Profit/(loss) before tax		(2,952)	87	683
Tax expense		-	(24)	(139)
Profit/(loss) for the year after tax		(2,952)	63	544
Other comprehensive income that will not be classified to profit or loss in subsequent periods net of tax				
Remeasurement gain/(loss) on defined benefit plan		-	-	8
Revaluation of carbon units		575	-	(523)
Total other comprehensive income net of tax		575	-	-515
Total comprehensive income for the period attributable to the shareholders of the parent company		(2,377)	63	29

The accompanying notes form part of these consolidated financial statements.

Statement of Financial Position (Unaudited) As at 31 December 2023

<i>in thousands of New Zealand dolla</i>	Note	Half Year 31 Dec 2023	Half Year 31 Dec 2022	Full Year 30 Jun 2023
Equity				
Share capital	5	17,516	17,516	17,516
Revaluation reserves	5	1,099	1,039	524
Retained earnings	5	32,964	35,435	35,916
Total equity		51,579	53,990	53,956
Non-current liabilities				
Provisions - Term		411	396	411
Defined benefit plan- Term		491	538	461
Deferred tax liability		-	-	-
Lease liability - Term		358	170	443
Total non-current liabilities		1,260	1,104	1,315
Current liabilities				
Trade and other payables		14,647	15,602	15,724
Provisions - Current		48	30	48
Defined benefit plan - Current		72	110	143
Lease liability - Current		168	82	165
Tax payable		114	-	169
Total current liabilities		15,049	15,824	16,249
Total equity and liabilities		67,888	70,918	71,520
Non-current assets				
Property, plant and equipment		44,194	44,344	43,468
Biological assets		1,476	1,374	1,476
Intangible assets		1,448	1,521	839
Investments in associates		-	-	85
Investments in fair value through P&L		85	170	-
Right-of-use assets		479	204	564
Tax		-	222	-
Deferred tax asset		850	261	850
Total non-current assets		48,532	48,096	47,282
Current assets				
Cash and cash equivalents		8,349	13,127	12,432
Trade and other receivables		10,701	9,415	11,397
Inventories		306	280	409
Total current assets		19,356	22,822	24,238
Total assets		67,888	70,918	71,520

The accompanying notes form part of these consolidated financial statements.

For and on behalf of the Board, who authorised the issue of these accounts on 31 January 2024.



Dr Helen Anderson QSO
Chair



Stana Pezic
Director

Consolidated Statement of Cash Flows
For the six months ended 31 December 2023

<i>in thousands of New Zealand dollars</i>	Note	31 Dec 2023	31 Dec 2022	30 Jun 2023
Cash received from operating activities				
Receipts from customers (excluding government grants)		19,711	19,355	34,573
Receipts from government grants		11,893	10,339	27,354
Interest received		349	234	492
		31,953	29,928	62,419
Cash disbursed on operating activities				
Payments to employees		19,350	17,515	34,305
Payments to suppliers		12,707	10,201	24,260
Interest paid		11	6	12
Restructuring costs		-	-	-
Income tax paid		291	265	280
		32,359	27,987	58,857
Net cash flow from operating activities	4	(406)	1,941	3,562
Cash received from investing activities				
Proceeds for sale property, plant and equipment		-	-	-
Government grant		-	-	-
		-	-	-
Cash disbursed on investing activities				
Investment in property, plant & equipment		3,541	1,458	3,776
Purchase of other investments and intangible assets		54	12	(298)
		3,595	1,470	3,478
Net cash flow from investing activities		(3,595)	(1,470)	(3,478)
Cash received from financing activities				
Term loan drawdown		-	-	-
Total cash received from financing activities		-	-	-
Cash disbursed on financing activities				
Repayment of the lease liabilities		82	71	379
		82	71	379
Net cash flow from financing activities		(82)	(71)	(379)
Total net cash flow		(4,083)	400	(295)
Net increase/(decrease) in cash held		(4,083)	400	(295)
Add opening cash brought forward		12,432	12,727	12,727
Cash carried forward		8,349	13,127	12,432

The accompanying notes form part of these consolidated financial statements.

Consolidated Statement of Changes in Equity
For the six months ended 31 December 2023

	Ordinary Shares	Asset Revaluation & Pension Reserve	Retained Earnings	Total	Ordinary Shares	Asset Revaluation & Pension Reserve	Retained Earnings	Total	Ordinary Shares	Asset Revaluation & Pension Reserve	Retained Earnings	Total
<i>in thousands of New Zealand dollars</i>	Half Year 31 Dec 2023	Half Year 31 Dec 2023	Half Year 31 Dec 2023	Half Year 31 Dec 2023	Half Year 31 Dec 2022	Half Year 31 Dec 2022	Half Year 31 Dec 2022	Half Year 31 Dec 2022	Full Year 30 Jun 2023	Full Year 30 Jun 2023	Full Year 30 Jun 2023	Full Year 30 Jun 2023
GROUP												
Opening balance per reporting period	17,516	524	35,916	53,956	17,516	1,039	35,372	53,927	17,516	1,039	35,372	53,927
Profit for the period	-	-	(2,952)	(2,952)	-	-	63	63	-	-	544	544
Other comprehensive income	-	575	-	575	-	-	-	-	-	(515)	-	(515)
Total comprehensive income	-	575	(2,952)	(2,377)	-	-	63	63	-	(515)	544	29
Balance as at 31 December	17,516	1,099	32,964	51,579	17,516	1,039	35,435	53,990	17,516	524	35,916	53,956

The accompanying notes form part of these consolidated financial statements.

Statement of Accounting Policies
For the half year ended 31 December 2023

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).

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.

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 issued but not yet effective

The following standards that have been issued but not yet effective and have not been earlier adopted by the Group and may have an impact on the Group’s financial statements:

	Date Application for Scion
NZ IAS 1 Classification of Liabilities as Current and Non-Current	1 July 2024

There are no new accounting standards or amendments adopted this financial year.

Notes to and forming part of the consolidated financial statements
For the half year ended 31 December 2023

<i>in thousands of New Zealand dollars</i>	Half Year 31 Dec 2023	Half Year 31 Dec 2022	Full Year 30 Jun 2023
2 Revenue and other income			
(a) Revenue			
<i>Revenue from research contracts</i>			
Ministry of Business, Innovation and Employment revenue	8,047	8,122	17,516
Other Government and Crown Research Institute revenue	4,506	5,866	8,861
Commercial research revenue	7,169	6,193	12,553
	19,722	20,181	38,930
<i>Government grants</i>			
Strategic Science Investment Fund	11,893	10,339	23,786
COVID Response and Recovery Fund	-	-	-
	11,893	10,339	23,786
<i>Other revenue</i>			
Commercial lease revenue	581	544	1,096
Interest revenue	303	189	491
Other revenue	204	10	18
	1,088	743	1,605
Total revenue	32,703	31,263	64,321
(b) Other income/(expenditure)			
Change in fair value of plantation trees	-	-	102
Revaluation of non-controlling interests	-	-	(85)
	-	-	17
3 Expenditure and finance costs			
(a) Expenditure			
Personnel remuneration and expenses	18,833	16,694	33,652
Other personnel related costs	327	467	887
Contractors and subcontractors	9,260	7,946	16,705
Consumables	796	534	1,154
Travel and accommodation	925	718	1,718
Rental and equipment hire costs	181	79	163
Depreciation on leases	85	75	152
Depreciation	2,766	2,810	5,763
Amortisation	20	11	32
(Gain)/loss on disposal of fixed assets	22	1	(383)
Impairment of assets	-	-	-
Premises	1,900	1,460	2,832
Directors' fees	185	112	220
Other	344	263	748
	35,644	31,170	63,643
(b) Finance costs			
IRD use of money interest	-	-	-
Lease interest	11	6	12
	11	6	12

4 Reconciliation of operating profit after taxation with cash flows from operating activities

	Half Year 31 Dec 2023	Half Year 31 Dec 2022	Full Year 30 Jun 2023
Reported profit/(loss) after taxation	(2,952)	63	544
Add/(less) non-cash items:			
Depreciation	2,872	2,870	5,915
Amortisation	-	26	31
Movement on employee provision	30	30	(26)
Provision for doubtful debts	-	-	-
Movement on lease liability	-	-	-
Movement in deferred tax	-	-	(287)
	2,902	2,926	5,633
Add/(less) items classified as investing activity:			
(Gain)/loss on disposal of property, plant and equipment	-	1	-
Share in associate (profit)/loss	-	-	-
Capital related items in creditors	-	-	-
Fair value movement in biological assets	-	-	(17)
	-	1	(17)
Movements in working capital items:			
(Increase)/decrease in debtors and prepayments	752	(841)	(2,823)
(Increase)/decrease in inventories	103	(95)	(225)
Increase/(decrease) in creditors and accruals	(1,211)	128	304
Increase/(decrease) in taxation payable	-	(241)	146
	(356)	(1,049)	(2,598)
Net cash flows from operating activities	(406)	1,941	3,562

5 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.

6 Reporting period

These financial statements cover the period 1 July 2023 to 31 December 2023 and have not been audited.

DIRECTORY

DIRECTORS

Dr Helen Anderson QSO (Chair)

Mr Brendon Green

Mr Greg Mann

Ms Stana Pezic

Dr Jon Ryder (Deputy Chair)

Ms Nicole Anderson

Ms Kiriwaitangi Rei-Russell

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Dr Roger Dungan	General Manager, Strategic Partnerships and Communication
Dr Florian Graichen	General Manager, Forests to Biobased Products / Science Services
Mr Cameron Lucich	General Manager, People, Culture and Safety
Ms Shontelle Bishara	Acting General Manager, Te Ao Māori
Dr Tara Strand	General Manager, Forests and Landscapes
Ms Justine Wilmoth	General Manager, Finance and Corporate Services

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on behalf of the Auditor-General

SOLICITORS: Bell Gully, Auckland

