Submission

Science System Advisory Group – Consultation Phase 2

Submission to:

Science System Advisory Group
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Forest Growers Research Limited

Forest Growers Research Ltd (FGR) is an industry-owned, not-for-profit company established by the New Zealand forest-growing sector in 2007. FGR adds significant value to the sector by facilitating industry input to and funding of research programmes—managing research supported by the Forest Growers Levy Trust (FGLT) and major government-funded partnership programmes. FGR achieves leverage of 3.5:1 for every dollar invested.

General comments

We welcome the opportunity to make a submission to the Science System Advisory Group (SSAG).

Forestry is a key contributor to New Zealand's prosperity and wellbeing, underpinned by 75 years of research, development and innovation across industry and government. It is our fourth largest export earner ($6.7 billion[1]) employing around 40,000 people across New Zealand throughout its supply chain. It also strongly supports our international emissions targets commitments.

New Zealand's economy is built on, and will always rely on, its primary industries. If the government truly wants "growth for New Zealand's economy, environment and society[2]", it must acknowledge the importance of leveraging its current primary sector asset base, often through incremental advances. While FGR actively supports innovation and the drive towards a knowledge-intensive economy, research to protect and maintain what we already have is fundamental to New Zealand's future prosperity.

Forestry requires a long-term perspective. It takes 25-30 years to grow the resource. This creates challenges for research managed in short-term political and funding cycles, especially with market, social licence, and climate pressures driving rapid change. In forestry for example, there is a need to move beyond the current models of commercial plantation forestry as a risk mitigation for the country, not just the sector.

The success of research initiatives can only be validated in long-term tree/forest/product monitoring trials (e.g., wood durability can only be fully tested by very long term in-ground or environmental exposure testing). The current loss of social licence forces an increased burden of proof from society for any innovation—growing or processing. This requires research investment beyond the means of the current industry. Little of the required research is supported by the current funding system.

The single most important intervention required is to increase overall funding in the science system—there is not enough funding to maintain even the current knowledge base required to support New Zealand's economic sustainability, let alone innovate to address the issues caused by a rapidly changing environment. **We acknowledge that this means increasing both public and private funding to meet the industry's needs. Currently forestry's commodity levy funding is primarily invested in research and development, and forestry companies invest substantially on their own part, but we know that more needs to be done.**

Given the complexity of the questions posed in this consultation process and New Zealand's highly diverse research needs, we are adopting a narrow focus in this submission.

Question Set 1 – Areas New Zealand requires expertise

1. Stewardship science in forestry research: FGR supports the previous SSAG report's focus on stewardship science, particularly in long-term biological systems. We advocate for dedicated, enduring public investment in stewardship science across the primary sector, but particularly in forestry. We define stewardship science as research activity maintained across decades to validate findings, monitor long-term trends, and inform evidence-based forest management and policy approaches.

Forests function on timescales far longer than traditional funding and policy cycles, creating a fundamental mismatch that hinders our ability to manage these resources sustainably across economic, environmental and social domains, particularly under climate change.

As described above, commercial forests contribute significantly to New Zealand's GDP. But they also provide ecosystem services benefiting society as a whole: climate mitigation, biodiversity conservation, soil and water

[1] Facts_and_Figures_2022-2023_-_WEB.pdf (nzfoa.org.nz)
[2] SSAG-ToR-2024.pdf

protection, and recreation. Government support for forestry research is needed to enable the New Zealand public to keep enjoying these benefits.

Long-term stewardship science is also required to support evidence-based policy development. Effective forest policy needs evidence gathered over time, matching the timeframe of the forest systems being managed. Without long-term research, policies may rely on inadequate evidence, risking poor outcomes, wasted resources, unnecessary financial constraints on forestry companies and missed opportunities to effectively address national challenges. A recent example here is the Otago Regional Council's attempt to impose more stringent rules around setbacks than set by the existing national standards. Science and evidence were key in working with ORC to ensure that proposed rules were evidence based.

Climate change and other global drivers are altering the fundamental conditions under which forests grow, requiring continuous evidence gathering rather than reliance on historical data. Forests are also complex systems where interventions can create cascading effects that only become apparent over extended periods. For example, mandating slash clearance after harvesting to minimise potential flood damage may reduce the nutrient availability on the site—requiring increased nutrient addition under future rotations, with implications for water quality. By investing in forestry stewardship science as critical knowledge infrastructure, future policy interventions will be based on sound evidence, avoiding unintended consequences across environmental, economic, and social dimensions.

Without adequate long-term research, both commercial forest management and policy development face limitations. Decision makers must:

- extend limited datasets beyond their valid range to predict long-term effects
- rely on outdated information which is not validated for a rapidly changing environment
- rely on models without the on-the-ground evidence to validate their predictions.

Current research funding mechanisms create systemic barriers to generating the long-term evidence needed. Typical grants lasting up to 5 years are insufficient to gather data on processes that extend over decades. Interruptions to long-term data collection result in permanent gaps that cannot be retroactively filled. Inconsistent research priorities, influenced by political and funding cycles, hinder the collection of the continuous and reliable evidence needed when considering 30-year growth cycles.

2. Forestry feedstocks tailored to the future bioeconomy: The government has signaled support for research into the future bioeconomy through the formation of the Bioeconomy PRO. Trees, with their high cellulose content and ability to be harvested continuously while also sequestering carbon, will likely be the primary renewable feedstock for New Zealand's future materials, chemicals and energy products. The Product Accelerator[3] has identified the potential for a forest bioeconomy to capture significant value, with export returns alone increasing by up $19 million. While the report acknowledges the need to change forestry practices, we believe the importance of focusing on how to grow trees as bioeconomy feedstocks has not been sufficiently acknowledged.

Bioeconomy strategies, which often overlook key upstream innovations such as species choice and siting, tree improvement, and silvicultural and harvesting practices. Investing in research to optimise biological productivity and harvest effectiveness is crucial. Without this, the bioeconomy's potential will remain severely limited by a feedstock system that must be adapted for tomorrow's needs. A deliberate focus on feedstock research will position New Zealand more strongly to access future forest product markets. Focusing too much on products and processing may lead to continued low-margin commodity production.

3. Technology transfer/extension focus: Creating value from research investment is an ongoing challenge for both industry and government. Improving the uptake of new processes and ways of working has the potential to realise significant value. Although there has been a specific commercialisation focus through entities such as Callaghan Innovation and Kiwinet, there has been minimal recognition or financial support for ensuring that broader research outcomes are accessible, comprehensible, and applicable to end-users via multiple other impact pathways. While researchers excel at generating research outputs, successful implementation of those results is complex. It requires specialised knowledge and experience, extensive networks and most importantly—resourcing.

[3] Potential Value of Bio-Products from Forests

Bridging this implementation gap demands a distinct skillset: systems thinking, strategic stakeholder engagement, persuasive communication tailored to multiple non-academic audiences, effective facilitation and change management. Applying AI in this space is a rapidly evolving but necessary additional skillset for the future. AI technology, partnered with a strong technology transfer programme, offers a pathway to ensure that research findings get into the hands of entrepreneurs who can translate them into real world benefits for the primary sector and the economy.

4. Social science: In New Zealand, the role of social science in achieving research uptake has been overlooked. Without insights provided through social research, implementation strategies may not account for human factors and social contexts that strongly influence whether results will be adopted or rejected. Without social science perspectives, research on potentially transformative solutions (and this comment applies to the whole of the science system, not just forestry) may never gain traction. In forestry, social science has proved critical for adoption of new management practices and technologies and will continue to be important for understanding the role forests play in catchment management and communities.

Question Set 2: Does New Zealand need to rationalise its funding mechanisms?
Firstly, the entire system is chronically underfunded. This must be addressed if the government is to achieve its economic aspirations. Growth does not occur without research and innovation.

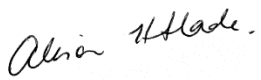
And yes, the funding mechanisms must be rationalised. We need a simplified funding system which clearly addresses the differing needs of each stage of the research and innovation pipeline. There are too many different funds and there is no linked pathway from idea to impact. We consider the pipeline to include not only basic research, applied research and experimental development but also technology transfer/extension (see discussion above) and commercialisation. Adapting and adopting technology and systems from overseas is also important.

There also need to be clearer mechanisms for public and private funding to be matched and enabled. Private funders often get frustrated with the bureaucracy of the public system, which lacks commercial acumen. We need to establish simpler pathways to link the new InvestNZ organisation with the science system, creating a pipeline that investors can easily access for partnership and collaboration.

Research funding across the pipeline should be centralised into one agency which supports mission-led national priorities, recognising that generating value from research investment requires a value chain. Any break in that chain and that value may not be realised. A single funding entity can develop an enduring strategy aligning priorities across different stages of the research. This means that early-stage research can feed into later stages without the need to relitigate arguments, reducing fragmentation and duplication of effort. Researchers can become familiar with one set of processes and minimise the need to "force fit" their ideas to particular, nuanced funding mechanisms.

One agency can ensure continuity between mechanisms and support the activity that often goes unsupported when funding systems are fragmented—currently within agencies let alone between agencies. A single agency could also broker connections between researchers in similar areas. A single funding agency overseeing the entire pipeline could track long-term outcomes, ensuring accountability for real-world impact and encouraging effective knowledge translation practices.

Signed:



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