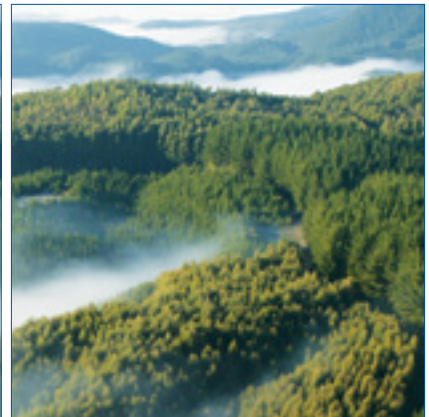
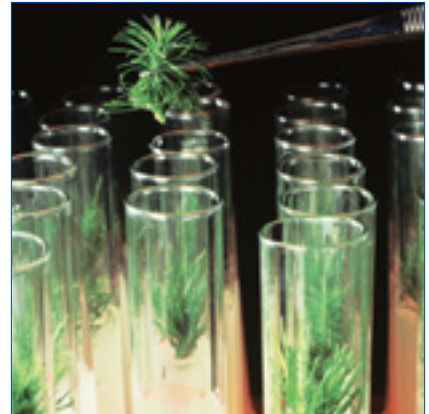


BUILDING A STRONGER FUTURE FOR WOOD



FOREST
INDUSTRY
STRATEGIC
STUDY
JUNE 2011



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DISCLAIMER

While every effort has been made to ensure the information in this publication is accurate, the Project Team does not accept any responsibility or liability for error of fact, omission, interpretation or opinion that may be present, nor for the consequences of any decisions based on this information or any reliance placed on it. Any view or opinion expressed does not necessarily represent the individual views of any of the members of the Project Team.

FOREWORD

In November 2010 the Woodco Board commissioned a project team to undertake a strategic study of the forest industry. The objectives of the study were to:

- gauge the level of support for developing a forest industry strategy;
- identify the key priorities and barriers to improve the industry's opportunities;
- gain industry agreement on the highest priorities to be addressed collectively.

The study involved interviews of industry leaders representing businesses from all parts of the value chain, as well as service providers, key stakeholders, the Minister of Forestry and a number of senior government officials.

I would like to thank everyone who took part in the study – your input was essential.

This study recommends that the industry proceed with developing an industry strategy that is focused on improving the industry's international competitiveness and increasing profitability. The strategy will need to target the highest priority strategic opportunities and challenges where there is sufficient support to do so collectively.

The study provides a pathway to move forward. In order to achieve this, industry participants will need to support their industry by finding ways to increase funding of industry-good activities and to build stronger industry associations.

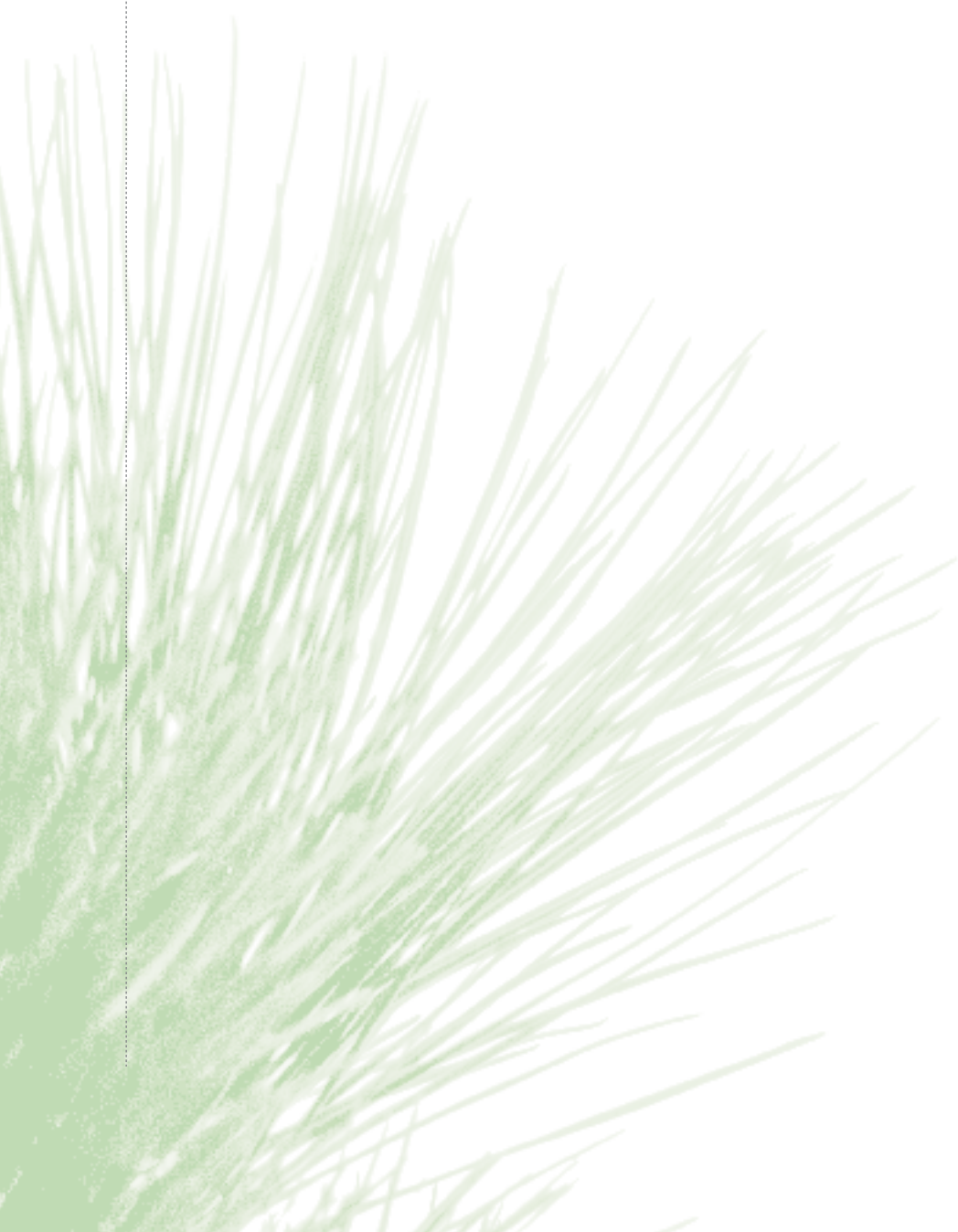
Once developed, an industry strategy will also provide the government and other key stakeholders with a road map that outlines the direction and priorities of the industry, something they have clearly asked for. This will assist the government in aligning its programmes and policies with the industry's direction and priorities.

The forest industry has the potential to make a greater contribution to the New Zealand economy in the future. Forests also provide many environmental and recreational services to New Zealanders, and the products produced from these forests are renewable, with strong sustainability credentials.

I look forward to your continued support in this key Woodco initiative.



Doug Ducker
Chair, Wood Council of New Zealand



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Executive summary

The main barrier to raising the productivity and international competitiveness of the New Zealand forest industry, say industry leaders, has been its inability to increase and sustain profitability.

A glance at the current market situation reveals a tale of mixed fortunes, with forest growers enjoying strong international demand for logs, while solid wood processors face low demand and increasing competition. Over the last twenty years, the forest industry has been characterised by cyclical conditions that have encouraged companies to take a short-term view and to concentrate on minimising costs. While this has provided a level of financial relief, it has worked against the long-term competitiveness of the industry. Remaining competitive internationally requires progressive investment in plant, equipment and skills, in order to steadily improve productivity.

The industry has also faced frequent changes in ownership, with the result that it now has very few vertically integrated companies.

It's not a sensible strategy to do nothing and wait for opportunities to arise. Forward-looking decisions on industry direction are more likely to give better long-term results. This study recommends the development of a high-level industry strategy that focuses on the future. An essential part of the process is the involvement of industry participants across the value chain. It's clear that better communication between growers, processors and end-users is needed, and that improved dialogue may also lead to groups of businesses finding new collective opportunities.

This study was undertaken to identify the key opportunities and challenges facing the New Zealand forest industry and to gauge the level of support for dealing with these matters in a collective and concerted manner. In other words, the study sought to establish the level of support within the industry for developing a pan-industry strategy and identifying the priorities. The strategy should clearly state a future vision and roadmap for the industry. It should also provide the government and other interested parties with a clear understanding of the industry's direction and its key priorities.

The Woodco Board, with support from the Ministry of Agriculture and Forestry (MAF), commissioned a small team of two industry people and two MAF staff to carry out this study. The team conducted 48 interviews with industry leaders between November 2010 and May 2011. Those interviewed were mainly senior managers or executives who were able to give perspectives on opportunities and challenges related to their businesses, their industry segment and the wider forest industry. The project team also took advantage of opportunities to meet with larger industry groups, to inform them of the study process and to gather broader feedback. These groups included the executive councils of the Forest Owners Association, Pine Manufacturers Association, Woodco Board, the Southern Wood Council and the Bay of Plenty Forestry Advisory Group.

The team's analysis of the information it obtained concentrated on those points or problems that interviewees identified as high priorities for industry. It also tried to identify areas of consensus where a significant number of interviewees shared the same or similar views. The key findings, summarised below, were derived from those areas of broad consensus. The findings and recommendations represent the opinions of industry leaders from a wide cross-section of the industry. They give Woodco a clear mandate and direction to develop strategic actions designed to lift the industry's long-term profitability and resilience.

SUMMARY OF KEY FINDINGS

STRATEGY

There is strong support for a pan-industry strategy and a mandate for Woodco to develop one. The strategy must focus on the highest priority areas where collective action is supported across the whole or significant parts of the forest industry.

INDUSTRY REPRESENTATION

It's essential for the industry to deal collectively with problems that are common across the value chain, and it should speak with a strong, single voice. Industry associations also need greater levels of resourcing to represent their members effectively across the range of matters that require attention.

The industry must also raise the level of funding for “industry-good” activities and broaden its funding base. Seventy-five percent of those interviewed favoured an industry levy as the best mechanism for doing this. One key activity is to promote the industry to government and the public as an attractive, sustainable industry that has an important role to play in growing New Zealand's export-based economy.

GOVERNMENT'S ROLE AND RELATIONSHIP WITH THE FOREST INDUSTRY

The industry needs to have a more effective relationship with the government, which wants to see the industry come up with a clear, pan-industry strategy that sets out how the industry plans to develop and position itself. Having a quality relationship with the government will increase the industry's ability to influence and gain support through government policy and to align sector activities with those of government agencies.

MARKET FACTORS

Industry behaviour inside markets, particularly export markets, has eroded trust between participants and lost value to the New Zealand industry overall. Collective action will help the industry to create opportunities for market growth that will benefit the whole industry.

The industry has to improve its collective understanding of international markets and promote radiata pine in targeted markets. It should explore options to develop a recognised international brand and supporting quality standards for radiata pine.

There is strong support for an ongoing programme of domestic promotion of wood in New Zealand, as well as strong endorsement of the NZ Wood programme.

WOOD PROCESSING

Lack of scale and current levels of productivity are significant barriers to investment in the wood processing industry. An economic analysis of wood processing and value-adding in New Zealand needs to be undertaken, along with a realistic look at what forms of new processing and expansion of existing plants would feasibly work.

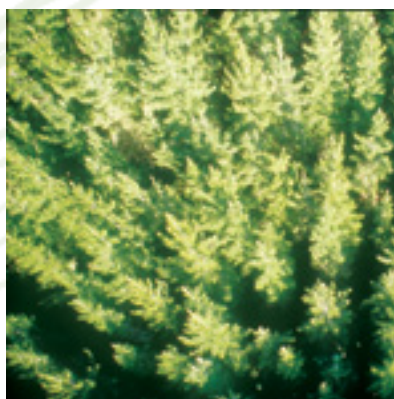
Security of log supply, pricing, and wood quality are central to wood processors and future investment in processing. For this reason, it's clear that greater alignment of interests between processors and growers is required, to raise the level of mutual understanding across the value chain.

RESEARCH AND DEVELOPMENT

Closer alignment of industry needs and the research carried out by publicly-owned research institutions is required, especially with respect to wood processing and products-related research. Industry funding for this research is inadequate and must be increased to support continued government funding.

Future research strategies should concentrate on topics that are priorities across the whole value chain and maintain a better balance between applied and “blue skies” research.

These findings form the basis of the recommendations put forward in this report. A full set of findings is presented in the main body of this report.



Recommendations

Based on the findings from interviews of a cross-section of leading industry representatives, the project team recommends the following actions:

NEED FOR A PAN-INDUSTRY STRATEGY

1. That the industry, led by Woodco, urgently proceed with the development of a pan-industry strategy based on the key themes identified in this report, noting that the government has stated it would like the industry to take a more strategic approach to industry direction.
2. That the central focus of the industry strategy should be to improve the international competitiveness of the industry and identify how the industry should position itself for the future.

RECOMMENDED THEMES THAT A STRATEGY SHOULD ADDRESS:

Market factors

- That the industry undertake coordinated generic marketing of radiata pine in targeted markets to improve its international reputation and enhance market share.
- That the industry increase resourcing for collective market research to ensure that it remains connected and responsive to market trends.

Wood processing

- That the strategy development process include an in-depth economic analysis of the value of wood processing to New Zealand.
- That this analysis be used to facilitate discussion between growers and wood processors to increase the understanding of their interdependency for the benefit of the whole forest industry.

Productivity and investment

- That the industry give priority to those findings in this study that will provide the greatest improvements in industry productivity and attract investment, particularly in the wood processing sector.
- That the industry engage with the government to minimise regulatory and trade barriers and find workable solutions to address imbalances arising from such barriers.

Research and development

- That the industry increase funding for research and development across the value chain.
- That the industry work closely with research providers and government to align research with industry's needs, including the use of the research consortium model to achieve this.

Infrastructure

- That infrastructure challenges be examined to find ways of improving the productivity and efficiency of key infrastructure at the regional level.

INDUSTRY REPRESENTATION

3. That Woodco's constituent industry associations collectively review the industry association structure and also determine the level of resources required to meet members' needs.
4. That Woodco promote stronger industry leadership by establishing itself as the lead industry body, with the resources needed to provide industry-wide leadership, undertake strategic planning and industry coordination, promote the industry, and take the lead role in engaging with government at a pan-industry level.
5. That the industry undertake research to better understand the long-term implications and impacts of changing ownership within the industry, with a particular focus on the increased participation of Māori.

"INDUSTRY-GOOD" FUNDING

6. That Woodco find effective mechanisms to increase "industry-good" funding of agreed activities within and across industry segments, including exploration of levy systems.

RELATIONSHIP WITH GOVERNMENT

7. That Woodco establish an Industry Leadership Group that meets regularly with key government officials to maintain an effective partnership between industry and government.
8. That Woodco request that the government must improve the coordination of forest industry-related activities across its agencies.

RECOMMENDED NEXT STEPS

9. That Woodco establish a Governance Group to oversee the next phase of the strategy development process.
10. That Woodco establish a team with the skills and resources needed to undertake the next phase of the strategy development process.
11. That a copy of this report be provided to the Minister of Forestry with a request for continued support from MAF for the development of an industry strategy.
12. That a copy of this report be approved for distribution to those interviewed and to the wider industry.
13. That Woodco aim to have the strategy development process completed before March 2012, in time for release at the ForestWood 2012 Conference.

1. Overview of the forest industry

This study covers the industries based around plantation forests in New Zealand. The majority of these industries are represented by Woodco. The focus of the study is on wood and wood fibre production, with industry development the central emphasis. Plantation forests produce more than ninety-nine percent of New Zealand's annual harvested timber volume. Commercial indigenous forests and associated businesses were outside the scope of the study. Likewise, the study does not attempt to cover the broader environmental benefits and services that forests provide.

In the context of this study, “forest industry” refers to the businesses and organisations that make up the forest-growing and wood products value chain – from seedling through to end product. This value chain includes forest owners, processors, manufacturers and ancillary service industries (such as research providers, industry associations and consultants).

INDUSTRY METRICS

The forest industry is based on a plantation forest estate of 1.79 million hectares – 7 percent of the land area of New Zealand. Radiata pine is the dominant species, making up 90 percent (1.56 million hectares) of the forest estate. Annual harvest volumes hovered around 20 million cubic metres from 2004 to 2009, with significant increases since then – in the year to December 2010, 24.8 million cubic metres were harvested.¹ Between 13 and 17 million cubic metres (roundwood equivalents) are exported as logs or processed wood products. For the year ended December 2010, these exports had a total value (FOB) of NZ\$4.3 billion – making the industry New Zealand's third-largest merchandise export earner (15 percent of total merchandise exports). The industry contributes around 3 percent of New Zealand's gross domestic product.

Total employment in the industry stands at around 18,000 full-time equivalents (February 2010), with more than 70 percent of these positions in the wood processing sector. Other significant activities contributing to employment are logging and support services.

Demand from China, in particular, has driven significant increases in the volume of logs exported since 2009. Log exports for the year ended 31 December 2010 were 10.9 million cubic metres, resulting in a 41.9 percent increase in export log revenue over the 2009 year. This increased demand and revenue has certainly benefitted forest owners and associated service providers. Nevertheless, a significant proportion of the solid wood processing and manufacturing sector has experienced very challenging market conditions during this same period. This is a result of a number of factors, including depressed domestic lumber demand; depressed demand in the high-value US market; increased competition in Australia; increased log prices; exchange rate volatility; and low levels of capital investment in processing.

It's also worth noting that the plantation forest estate is at the centre of New Zealand's climate change response efforts – hence the key role of forests in absorbing and storing carbon in the New Zealand Emissions Trading Scheme. There is also increasing recognition of the other environmental and social benefits provided by forests.

¹ <http://www.maf.govt.nz/news-resources/statistics-forecasting/forestry/forestry-production-and-trade-publications.aspx>

OWNERSHIP STRUCTURE

FORESTS

New Zealand plantation forest ownership is dominated by the private sector, with substantial areas owned or influenced by international companies and organisations. It is estimated that over 70 percent of the total area is in foreign ownership, dominated by the US at around 48 percent. Sixteen forest owners each hold net stocked forest areas in excess of 10,000 hectares, and account for about 62 percent of the total forest resource.²

In contrast, there are around 14,000 forest owners who hold less than 100 hectares each, but who in total account for about 20 percent of the total plantation area. New Zealand investors and smaller-scale growers dominate the ownership of forests planted during the 1990s – these forests will start to be harvested leading into the 2020s.

WOOD PROCESSING

Around 350 sawmills operate in New Zealand, but only seven produce more than 100,000 cubic metres of sawn timber per year, and another 10 produce between 50,000 and 100,000 cubic metres per year. Many sawmills operate at a very small scale, with some family mills producing less than 1000 cubic metres per year.

Panel products are produced by 10 companies at 13 sites around New Zealand. Fibreboard is produced at four of these sites, particle board at two, and veneer/plywood/LVL at eight sites.

Five companies produce pulp, paper and paperboard at seven sites, all in the North Island.

Ownership of the sawmilling industry is largely New Zealand-based in terms of numbers, with a small number of the larger operations owned by overseas investors. However, the rest of the wood processing industries are dominated by overseas owners, with the exception of Carter Holt Harvey (wood products and pulp and paper businesses) which is a privately-owned New Zealand company.

INDUSTRY ASSOCIATIONS

The forest industry has a comparatively large number of industry associations, as well as cluster groups that are active in some regions. The main associations are:

- Wood Council of New Zealand (Woodco) – www.woodco.org.nz
- New Zealand Forest Owners Association (NZFOA) – www.nzfoa.org.nz
- Wood Processors Association of New Zealand (WPA) – www.wpa.org.nz
- Pine Manufacturers Association (PMA) – www.pine.net.nz
- Forest Industry Contractors Association (FICA) – www.fica.org.nz
- Farm Forestry Association (FFA) – www.nzffa.org.nz
- New Zealand Timber Industry Federation (TIF) – www.nztif.co.nz
- New Zealand Douglas-fir Association (DFA) – www.douglasfir.co.nz
- New Zealand Institute of Forestry (NZIF) – www.nzif.org.nz

Woodco is a pan-industry body which represents the common interests of the forestry and wood processing sectors. It has been set up as an “association of associations” and its members are the Forest Owners, Farm Forestry, Forest Industry Contractors, Wood Processors, and Pine Manufacturers Associations.

² <http://www.nzfoa.org.nz/publications/facts-and-figures>

In general, the associations and Woodco have lower levels of resourcing than do associations in other primary industries, such as Federated Farmers of New Zealand, Beef + Lamb NZ, Meat Industry Association, and SeaFIC.

INTERNATIONAL CONTEXT

International trade is critical for New Zealand's forest industry, with about 70 percent of current roundwood removals destined for overseas markets as either logs or processed products. This percentage will probably increase over the next two decades as the volume of wood harvested in New Zealand increases.

New Zealand is a small player in the international forest industry, accounting for 1.1 percent of the world's total supply of industrial wood and 1.3 percent of the world's trade in forest products.³ Even so, New Zealand supplies almost 9 percent of the Asia Pacific forest products trade volume, representing nearly 20 percent by value.

Seven countries – China, Australia, Japan, the Republic of Korea, the US, India and Indonesia – account for more than 80 percent of the value of New Zealand's forestry exports (refer to Table 1). As previously mentioned, demand from China has risen significantly in the past couple of years – log export volumes increased by 32.6 percent and sawn lumber by 13 percent in 2010 over 2009 volumes. India, Vietnam and Indonesia have also recently become more prominent export markets, and may assume higher levels of importance in the future.

For the year ending December 2010, export value from processed timber products was \$2.89 billion. This figure includes sawn timber, pulp, paper and paperboard, panel products and other manufactured wood products (refer to Figure 1). Revenue from log exports was \$1.35 billion. It is estimated that 70 percent of New Zealand's forestry export revenue comes from processed products (representing 40 percent of export volumes), and 30 percent of the export revenue is derived from export logs (60 percent of export volume).

³ Roundwood removals worldwide are about 3.5 billion cubic metres per year, with just under half (1.64 billion cubic metres) used for industrial purposes. The remainder is used as fuelwood (<http://www.fao.org/docrep/013/i1757e/i1757e00.pdf>).

Table 1: Top seven export countries of destination, accounting for more than 80% of value (year ended December 2010)

COUNTRY	VALUE (NZ\$ 000)	MAIN PRODUCTS
China	1 218 135	logs, sawn timber, pulp
Australia	824 090	sawn timber, pulp, paper and paperboard, panel products, other*
Japan	511 054	logs, pulp, panel products, other
Korea	427 960	logs, pulp, panel products, other
USA	229 529	sawn timber, other
India	172 751	logs
Indonesia	156 803	pulp, sawn timber

* Other products include chips, mouldings, furniture and miscellaneous forestry products.

Source: MAF (provisional figures available at <http://www.maf.govt.nz/news-resources/statistics-forecasting/forestry/annual-forestry-export-statistics.aspx>)

INTO THE FUTURE

The United Nation's Food and Agriculture Organisation states that demographic changes, economic growth, regional economic shifts and environmental and energy policies will be decisive in the long-term global demand for wood products.⁴ Production and consumption of key wood products and wood energy are expected to rise up to 2030, largely following historical trends.

It's expected that the population in Asia and the Pacific will be around 4.2 billion by 2020 – 60 percent of the world's population. The highest population increases will continue to be in Asia, and will result in significant changes in production, consumption and trade in forest products in the Asia Pacific region. Growth in wealth is resulting in changes in the values, perceptions and demands for goods and services. Industrial roundwood production in Asia will fall far short of consumption, increasing the dependence on imports. The region will be the major producer and consumer of wood-based panels and paper and paperboard (although per capita consumption will remain higher in Europe and North America).

The potential for large-scale commercial production of cellulosic biofuel may have unprecedented impacts on the forest sector. Increasing transport costs will also influence the demand for wood products. These factors and others, including changes in exchange rates, will influence the competitiveness of the forest sector and affect production and consumption of most forest products. Industrial roundwood will be increasingly likely to come from planted forests in the future. This continuing shift presents future opportunities and challenges for forest management and wood and wood fibre based manufacturing.

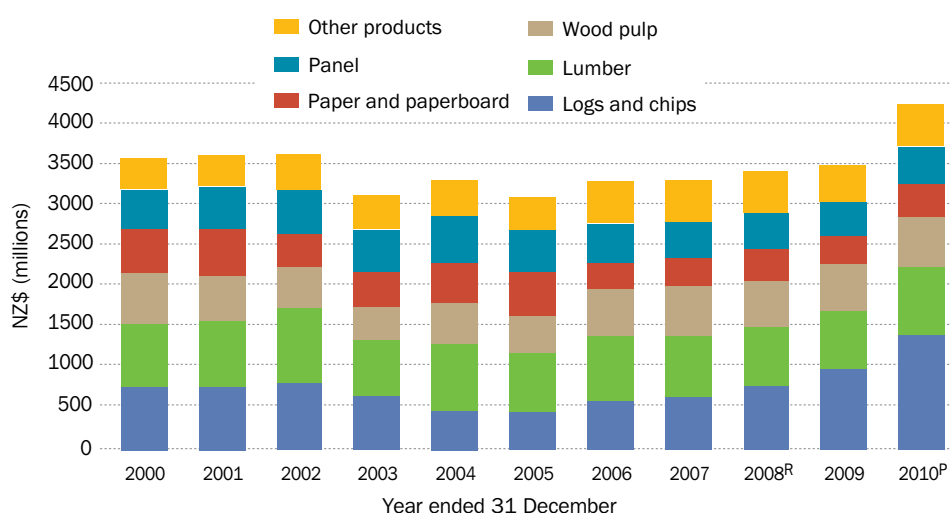
4 Refer to the following FAO reports:

State of the World's Forests 2009: <http://www.fao.org/docrep/011/i0350e/i0350e00.htm>

State of the World's Forests 2011: <http://www.fao.org/docrep/013/i2000e/i2000e00.htm>

Asia-Pacific Forests and Forestry to 2020: Report of the Second Asia-Pacific Forestry Sector Outlook Study: <http://www.fao.org/docrep/012/i1594e/i1594e00.htm>

Figure 1: Major export earners



Source: Statistics NZ. Compiled by Ministry of Agriculture and Forestry.

Notes

1. Excludes Re-exports.

2. From 2007, Paper and paperboard does not include Newsprint owing to confidentiality rules applied by Statistics New Zealand.

Symbols

R Revised

P Provisional

In 2009 MAF produced a forestry sector study⁵ that highlighted five key future drivers:

- **A forest is more than wood:** Globally, communities will demand more from forests, such as carbon sequestration and storage, maintenance of biodiversity and water quality, and demonstration of sustainable management.
- **Changing lifestyles:** Lifestyles and ways of working will be transformed by issues relating to climate change and production systems, energy prices, and a greater focus on renewable resources and energy-efficient and sustainable environments.
- **Energy supply and cost:** Energy is a key cost for processing and delivering wood products, and may also be a key output of the forestry sector.
- **The markets are overseas:** An increasing New Zealand wood supply that already greatly exceeds domestic demand will dictate an even stronger focus on export markets.
- **The forest resource:** The existing plantation forest resource predetermines potential wood availability and quality, but supply dynamics will change.

THE NEW ZEALAND WOOD SUPPLY

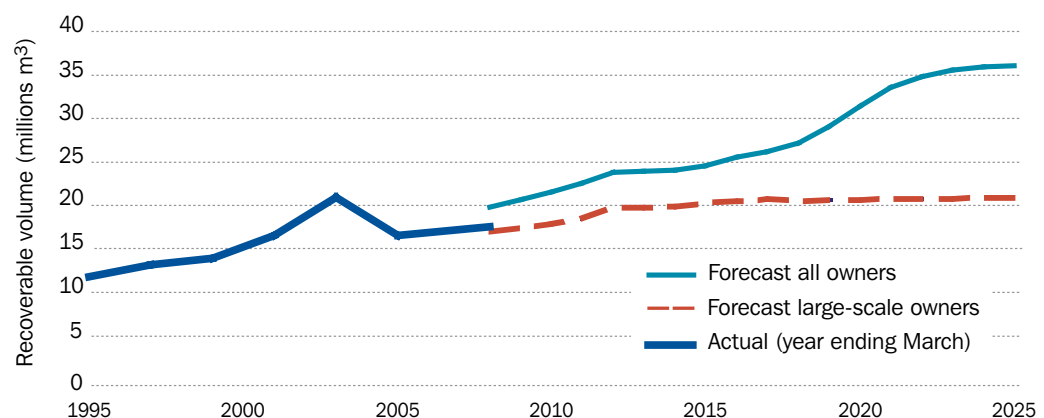
The forest industry has considerable ability to increase its output volume as the existing forest estate matures. MAF's wood availability forecasts⁶ show that wood supply has the potential to significantly increase for a period to levels of up to 35 million cubic metres a year from the early 2020s – an increase of around 40 percent over current harvest volumes (refer to Figure 2). Much of this is due to the large areas afforested in the early 1990s.

Nevertheless, there are likely to be challenges associated with harvesting some of these 1990s forests. Many of them are geographically dispersed, are contained in smaller blocks, have received variable management and are generally located on steeper land. On average, the costs of harvesting and transporting these forests are going to be higher than those for the forests that are currently being harvested. Given the diverse ownership and smaller individual sizes of these forests, the transaction costs are likely to be higher and the

⁵ *A Forestry Sector Study*. April 2009. Ministry of Agriculture and Forestry, Wellington.

⁶ <http://www.maf.govt.nz/forestry/statistics-forecasting/forestry-statistics.aspx>

Figure 2: Historic harvesting and forecast future wood availability (radiata pine only)



Source: MAF.

Note: The forecast shown in this graph is one of many possible future scenarios. For other scenarios and for a description of forecast methodology and assumptions see *New Zealand Wood Availability Forecasts 2010-2040*, March 2010, Ministry of Agriculture and Forestry.

certainty of log supply more difficult to predict. There will also be opportunities for greater levels of coordination and collaboration between these growers to maximise their returns at harvest time.

Markets for additional material will clearly be offshore – unless there is a dramatic development of a large, totally new domestic market for wood.

Significant investment and expansion of wood processing and manufacturing capability in New Zealand remains a major challenge. Investment in processing has not kept pace with wood harvest increases. There has been little significant capital investment in new wood processing capacity over the best part of the last decade. MAF's projections assume that this state of affairs will continue to hold – at least for the next two or three years. Forecasts show export logs increasing to around 45 percent of total harvest in 2012/13 before declining (in 2014) to around 43 percent.

Regardless of the final use or product from all of this additional timber harvest, key infrastructure in New Zealand will have to be able to cope with significantly higher demands (roading, rail, ports and electricity). Human capability will also be a key issue for the future – at all levels (labour through to senior leadership levels).



2. The importance of having an industry strategy

The development of an industry-wide strategy is a golden opportunity to develop a considered view of any industry's direction.

Industry strategies provide an opportunity to articulate a future vision and a roadmap. They assist with providing industry coherence, and the engagement process gets participants to look above and outside of their own businesses and take a broader perspective of the whole industry.

A critical factor in the development of a meaningful strategy is effective industry consultation to get buy-in from a majority, or at least a workable coalition. This can lead to businesses finding opportunities to collaborate for mutual benefit. Some good examples of collaboration in the forest industry are the research consortia (FFR, SWI and STIC), while Bodyguard® is a good example of a commercial success.

A further key benefit of having an industry strategy is that it provides the government and other key external stakeholders with a clear understanding of industry direction and the key priorities. This allows the government and other stakeholders to align their activities and to better support the industry within the constraints of their own organisations' policies and budgets.

OTHER PRIMARY INDUSTRY STRATEGIES

Most primary industries in New Zealand have an industry strategy. Examples include:

- *Strategy for New Zealand Dairy Farming 2009/2020*, DairyNZ;
- *Horticulture Growth Strategy 2020: Growing a New Future*, 2009;
- *New Zealand Aquaculture Strategy*, New Zealand Aquaculture Council, 2006 (a new strategy is in development);
- *Smarter, Faster, Better – Leading Niche Player – A development strategy for the New Zealand Pipfruit Industry* – Innomarch Consulting Project Team, 2006.

The practice of developing and implementing industry strategies appears more prevalent in profitable, progressive and emerging industries. The ease of developing an industry strategy will depend on the structure and ownership of the industry, whether they share a similar vision, the level of intra-business competition and many other unique factors.

The forest industry isn't alone in working to build support for an industry strategy. For example, after several years of industry debate, the "red meat" sector engaged Deloitte in early 2011 to develop an industry strategy. The stated ambition of the resulting strategy is for the "industry to reclaim its proud position as a cornerstone of the New Zealand economy and its rural communities". The charter states that "*The lack of a guiding coordinating industry strategy is one of the barriers the industry must overcome*" and that "*Many participants recognise that things need to change within the industry, and are looking for leadership from their industry groups to build a roadmap able to return sustainable profits to all participants within the value chain. The industry's progressive operators recognise that they need to collaborate to increase their returns and are looking for likeminded partners within the value chain who are looking to do things differently ...*".

Case study 1: Bodyguard®

Successful collaboration between competitors

The Bodyguard® project is a rare example of a successful commercial cluster in the New Zealand business world. It achieved market success using collaboration amongst competitors, rather than the cooperative or fiercely competitive business models so familiar in the New Zealand context.

Bodyguard® is a range of exterior building products made from premier finger-jointed New Zealand radiata pine. Wood is sourced from plantation forests under Forest Stewardship Council (FSC) certification. The end product is unique in that it is resistant to degradation and does not contain hazardous additives, which means it is both safe to work with and environmentally friendly.

The project started in 2001, with the help of the New Zealand Pine Manufacturers Association. Its goals were to develop new markets, new process technologies and to grow export earnings. The initial Bodyguard® “buzz group” included a number of manufacturers and four financial backers, including the government, along with the involvement of two chemical companies. The collective undertook business development activities that the individual companies could not have done on their own. It:

- undertook in-market investigation of the US building products market;
- achieved regulatory approval for the innovative wood treatment system with both the US Environmental Protection Agency (EPA) and the Environmental Risk Management Agency (ERMA) in New Zealand;
- developed and registered the Bodyguard® brand;
- appointed distributors on the East and West Coasts of the US and undertook a product launch that included buyer groups along with contractor and retail yards;

- developed support materials including technical manuals and product sample boards.

By 2004, Bodyguard® exports to the US were under way and it was moved to a commercial footing with the formation of a limited liability company, Bodyguard® Wood Products Ltd. The Bodyguard® project is now made up of three PMA member companies: Jenkin Timber in Auckland, Taranakipine in New Plymouth and Pacific Timber (NZ) in Ashburton. While these companies work together under the Bodyguard® single banner in the US market, they remain competitors in other markets.

The collective approach of the Bodyguard® project has been very different from anything previously attempted by the “timber industry” and key learnings throughout the process have required:

1. Tenacity – there are lots of bumps along the way, and you therefore need to continually keep the end-game in mind.
2. Commitment from all participants.
3. Trust – this needs to be built in the organisation.
4. The need to leave other “baggage” (and other markets) at the door.
5. A structure within which to operate (first it was the Collective Agreement, then establishment of a company structure complete with a shareholders’ agreement and constitution).
6. A trusted, impartial person to moderate and manage the initiative.

The Bodyguard® project has shown that a collective of competitors can develop new markets, new process technologies and grow export earnings. The collective, with the strong support of the PMA, its industry association, has created economies of scale and overcome issues with market access for a key New Zealand industry sector.

www.bodyguardwood.com

At the request of the Minister of Agriculture, a Wool Industry Task Force was established when the coarse wool industry reached a crisis of confidence when its members voted against the continuation of an industry levy in 2009. The Task Force put together a report titled *Restoring Profitability to the Strong Wool Sector* and has since established a Wool Industry Umbrella Group. The Umbrella Group is responsible for providing a single industry voice to improve industry alignment, move the industry forward and help to provide confidence to those who need to invest.

The government, along with the aquaculture industry and iwi, are developing a new aquaculture strategy and associated action plan that is due for completion in August 2011. This is an opportunity for the aquaculture industry, iwi and stakeholders to shape the government's vision and objectives for the aquaculture sector and influence the work plans to realise those objectives.

PREVIOUS FOREST INDUSTRY STUDIES, STRATEGIES AND REPORTS

Over the past two decades there have been a series of reports produced on the forest industry in New Zealand. The five most relevant reports have been reviewed for this study:

1. Edgar MJ, Lee D, Quinn BP. 1992. *New Zealand Forest Industries Strategy Study*. New Zealand Forest Industries Council.
2. Brown C, Ortiz G. 2001. *The Forest Processing Investment Environment – Opportunities in Wood Processing*. Forest Research.
3. Ortiz G. 2004. *Benchmarking the Competitiveness of the New Zealand Wood Processing Industry*. Forest Research.
4. Maplesden F, Turner J. 2006. *New Zealand Forest Industry Position and Opportunities*. Scion, Chandler Fraser Keating, LEK.
5. MAF. 2009. *A Forestry Sector Study*. Ministry of Agriculture and Forestry.

The key points from the executive summary of each of these reports are provided in Appendix 4.

The five reports have produced reasonably consistent findings and recommendations. The principal actions they recommend include:

- building New Zealand's presence (and brand) in emerging and high-value markets, in a coordinated manner;
- developing industry and association structures that support collaborative efforts and encourage strategic planning;
- benchmarking industry practices against international best practice to achieve productivity gains, economies of scale and technology adoption;
- working with local government to address the perceived obstacles in resource planning and the identification of sites for processing activities;
- investing in research to improve productivity and remove costs from the supply chain (for example, improved steep country harvesting techniques);
- capitalising on the growing market demand for sustainable products; and
- investing in human capital, to address skill shortages and support productivity gains.

The key themes from these five reports are in Appendix 3.

In 2006 the Forest Industry Development Agenda (FIDA) Steering Group commissioned DANA Ltd to provide advice on the strategic issues that would affect the profitable commercial development of the New Zealand forest industry. The DANA study suggested three possible pathways forward for the industry:

- Do nothing.
- Do something – find agreement on the issues where the industry can support a pan-industry agreement.
- Undertake an industry-wide strategic planning exercise – noting that this would be challenging if the sector and companies were to take a reasonable degree of ownership.

The DANA study led to the commissioning of the report *New Zealand Forest Industry Position and Opportunities: March 2006*.

A central theme that comes through all these earlier studies is that New Zealand's forest growers and processors need to make a step-change in their thinking and practices, as the Pacific Rim is an increasingly competitive market for timber products.

While the major industry players have generally been supportive of these reports and their findings, there has been surprisingly limited uptake of the recommendations. There are a number of reasons for this. The principal factor has been the ongoing ownership and structural changes experienced by the industry over the past twenty-five years, which has led to regular changes in senior management and operational structures. This situation has been compounded over the past eight years by extended periods of poor profitability, where the industry has been in survival mode rather than looking at business opportunities and strategic positioning.

HOW PREVIOUS REPORTS CONTRIBUTED TO THE CURRENT STUDY

Earlier reports were reviewed at the outset of the present study. This was done to develop an appreciation of the issues that the industry has faced over the past twenty years, and where future attention should be focused.

3. The interview process

WHO WAS INTERVIEWED

Forty-eight interviews were undertaken with industry leaders between November 2010 and May 2011. Interviewees were selected to make up a representative sample across the whole industry, and were usually senior managers or executives able to provide broad perspectives on opportunities and challenges related to their businesses, their industry segments and the forest industry as a whole. A breakdown of the number of interviews by industry segment is provided in Table 2.

Table 2: Interviewees by industry segment

INDUSTRY SEGMENT	COMPOSITION	NUMBER OF INTERVIEWS
Forest owners	Forest growers: owners, managers (only involved in the management of forests), and the industry associations (NZFOA and FFA)	10 (21%)
Processors	Sawmills, pulp, paper and panels, (re)manufacturers, and the industry associations (WPA and PMA)	13 (27%)
Integrated companies	Companies with a degree of vertical integration (growing and processing)	3 (6%)
Service providers	Consultants, R&D providers, education and training, port companies, NDU, EPMU, NZIF and FICA	16 (33%)
Government	Government department Chief Executives and senior advisors	6 (13%)
Total		48 (100%)

HOW THE INTERVIEWS WERE CONDUCTED

Intensive one-on-one interviews were regarded as the most effective method to gather industry leaders' perspectives for the study and to start the engagement process of developing an industry strategy. Before the interviews took place, each interviewee was provided with a briefing letter that outlined the purpose and objectives of the interview and the broader study. Interviewees were also assured of confidentiality of their responses. Each interview followed the same structured approach, with participants initially asked to identify the key strategic drivers, opportunities and most significant challenges that, if addressed, would be likely to improve the profitability and resilience of their business or industry segment and the wider forest industry. Follow-up questions then sought to clearly explain each of these themes, as well as to identify the optimal situation and key actions and responsibilities to achieve this. Finally, a set of standard questions were posed to determine interviewees' perspectives on priorities and the process for development of an industry strategy, industry funding and the role of government in supporting the forest industry. The interview questions are provided in Appendix 2. The duration of each interview was generally 1.5 to 2 hours.

Following the interviews, a detailed summary was prepared of the key points discussed and answers to each of the standard questions. This summary was then provided to the

interviewee for review, which gave them the opportunity for any additional comment.

In addition to these intensive interviews, more informal discussions were held with a number of other industry leaders throughout the study, as the opportunity arose. These discussions added to the depth of information gathered from the interviews, and findings were incorporated into the analysis process. There were also opportunities for members of the project team to engage with larger industry groups during the study, both to inform them of the study process and to gather broader feedback and perspectives. These groups included the executive councils of the Forest Owners Association, Pine Manufacturers Association, Woodco Board, the Southern Wood Council and the Bay of Plenty Forestry Advisory Group.

ANALYSIS OF INTERVIEWS

To ensure the anonymity of respondents, only the collated results are presented, so as not to identify any particular interviewee.

Each interview transcript was analysed to capture the key points that the interviewees identified as being the main themes or issues for the forest industry to address. These key points were then grouped under nine broad theme headings:

1. Strategy
2. Industry representation
3. Government's role and relationship with the forest industry
4. Research and development
5. Market factors
6. Wood processing
7. Productivity and investment
8. Infrastructure
9. Other topics

Where possible, these high-priority issues were further broken down by industry segment (forest owners, processors, and so on, as set out in Table 2). Note that it was not possible to do this for all themes. In some cases there were insufficient responses to meaningfully separate the data according to industry segments. As well, this was possible only where the different industry segments either displayed differing views or provided additional perspectives not covered by other industry segments.

The analysis approach did not cover every comment made by each interviewee. Rather, it focused on those points or issues which were identified as being high priorities. In addition, the analysis attempted to identify areas of consensus where a significant number of interviewees shared the same or similar views. Accordingly, the key findings detailed under each of the nine themes were derived from these identified areas of consensus.

4. What interviewees said

Strategy

All interviewees were asked the question: “On a scale of 1 (=little support) to 5 (=completely supportive) do you believe a pan-industry strategy is needed?”

Of the forty-six interviewees that responded, 81 percent (38) ranked this as 4 or 5 (that is, very or completely supportive of the need for a pan-industry strategy). They emphasised that the most critical part of this strategy development is to have clear and realisable actions to deliver the strategic goals and benefits to the industry, and some way of monitoring and reporting on progress. Some pointed out that the strategy would need to be regularly updated, as no strategy can be static.

Others, however, emphasised that delivering one pan-industry strategy is not necessarily a simple task – it’s essential to recognise that the industry is made up of a number of different industry segments (for example, growers, processors, manufacturers and service providers). It was suggested that a more pragmatic approach could be first to ensure that the strategies for these individual industry segments are robust, and then to identify common elements from each of the strategies to form the basis of a pan-industry strategy. This is where the high-level issues that are common to all industry stakeholders can be identified – the pan-industry strategy should focus only on these strategic issues or goals. Any that are specific to certain parts of the industry are best left to those relevant industry groupings (through their associations or representative bodies) to deal with. If this approach was followed, the pan-industry strategy would gain buy-in and support – *“You could enunciate a strategy that might represent the majority of the players in the industry reasonably well”*, as one said.

Many felt that a pan-industry strategy must focus on the collective views of where the industry can or wants to work together, and disregard those areas where it doesn’t. The strategy also needs to focus on the key “enablers” that will contribute to lifting the performance of the industry. The focus must be on the matters that can be realistically changed, not those that cannot. *“There are no silver bullets – the industry must take a long-term view and build a consensus on future direction”*, as one commented.



Reasons provided for lack of significant progress from previous strategic initiatives focused on the fact that they lacked cohesion and did not reflect high-level and common issues; instead, they delved into detail or were too specific to particular segments of the industry. There was also a lack of broad buy-in and support from the key decision-makers in the industry because they were not engaged effectively in the process. To counter this, some said, future strategic initiatives have to be driven and led by key decision-makers in the industry – people with decision-making ability and influence. Implementation needs to be driven through a strong and active leadership structure (Woodco was mentioned as playing a key role here). Industry needs to own and lead the strategy development and the strategy itself. The target audience for the strategy should be the industry, not the government.

Some also suggested that external expertise in strategy development and across various sectors will be essential to any strategy development process. Other primary sector industries have had success with strategy development – the forest industry should tap into this expertise and knowledge. Solid, in-depth economic analyses to underpin strategy development are also important, so that focus is placed on those areas that really are the top priorities and will result in the biggest gains for the industry.

No significant differences were found between industry segments – points related to strategy also emerged throughout interviews (see comments under other themes).

Key Findings – Strategy

1. **There is strong support for a pan-industry strategy and a mandate for Woodco to develop one.**
 2. **Development of an industry strategy has to be led by industry leaders and decision-makers to ensure genuine support and, most importantly, change.**
 3. **The strategy must focus on the highest priority areas where collective action is supported across the whole industry, and where that action will improve international competitiveness and profitability of the industry.**
 4. **External expertise in strategy development is essential for any strategy development process. Solid, in-depth economic analysis is also required to underpin strategy development, to ensure that the focus is on the areas that will result in the biggest gains for the industry.**
-



Industry representation

Sixty-eight percent of interviewees (32) regarded this theme as a high priority for industry action, with their breakdown by industry segment shown below:

THEME	FOREST OWNERS	GOVT	INTEGRATED COMPANIES	PROCESSORS	SERVICE PROVIDERS	TOTALS
Industry representation	6	4	3	7	12	32

A wide range of views was expressed under this theme. These views have been categorised into three sub-themes: industry promotion, association structure, and industry leadership.

INDUSTRY PROMOTION

“There really is a good story to tell” – this quote sums up the views of many respondents about the raft of benefits the industry delivers to New Zealand – from an economic, environmental, social and cultural perspective. Together, these benefits are recognised as a strategic advantage that most competing materials do not have, and are a major opportunity for the industry. However, most respondents also went on to say that the industry does not promote and defend these benefits effectively and persistently enough. They saw an urgent need to develop effective and ongoing promotional mechanisms to drive these messages through to the public and government, regarding both audiences as critical. Industry leaders must place effort into promoting the relevance and importance of the industry with senior government officials and politicians, they said.

At an international level, many felt, the New Zealand forest industry has the opportunity to be an example to the rest of the world in sustainable plantation forest management (which consists of social, cultural and environmental sustainability) – even to be the world leader in this regard. However, the industry also needs to guard against and fight the capacity of our global competitors to attain market advantage through non-compliance or avoidance of the sustainable management practices that we adhere to and champion so strongly.

As well as promoting the industry and its benefits, many respondents also saw a need for promoting wood and wood products. Variations of this view appear again under the “market factors” theme. Educating the public and end-users on the benefits of wood products and their appropriate use and application is essential. Delivered effectively, such a promotion would result in greater acceptance and use of wood products and would be a good opportunity for collective action. Respondents also emphasised the need to educate the public and promote the use of wood in commercial construction, highlighting the opportunities for wood presented by the rebuild of Christchurch. Many respondents commented that the NZ Wood Programme has provided a great start in this area, but it needs to be built upon and extended or developed for overseas markets.

Many commented that the industry needs to be promoted as an attractive career option. They expressed concern that the industry generally does not attract the “top talent” – high-performers who will contribute to a successful and prosperous industry, and remain committed to it. Nurturing and developing the future leaders of the industry is important, and obviously relies on attracting talented individuals. Training and education institutions should focus on attracting top-quality individuals – they have a major role to play here, as

does Woodco in promoting the industry to potential employees and the public. Some respondents commented on the lack of clear career pathways for people wanting to advance in the industry.

Respondents generally felt that the current levels of funding for industry-good activities are insufficient to support these promotional and educational activities (as well as some R&D – see later section) that the industry needs to undertake. Table 3 summarises the different views on the question of “how best to fund industry-good activities”. Interestingly, 75 percent of respondents suggested that some form of levy should be considered to provide adequate and ongoing funding for these critical activities – and two-thirds of this group favoured a compulsory levy. With respect to the point of application of a levy, the most common suggestion was to place it on export logs. This idea clearly requires further study, given the relatively high level of support for a levy mechanism.

ASSOCIATION STRUCTURE

Many respondents felt that the lack of a strong, single industry voice was a problem, particularly when it comes to effective engagement with government. The senior government officials who were interviewed commented that the industry is not strategic enough in direction and priority setting and that its engagement is too fragmented and not persistent enough in seeing issues through, as the following quotes explain:

- “The industry is dispersed and disaggregated and this makes it challenging for government to engage with it.”
- “Does Woodco have a strong-enough industry leadership role? You need to have a really strong pan-industry association.”

This fragmentation makes it challenging for government to have a quality engagement with the industry.

On the other hand, some respondents pointed out that the industry is fragmented for good reasons, citing as an example the diverse ownership structures and the clear separation of interests between growers and processors. Nevertheless, greater unity in representation, promotion and lobbying for common issues across the industry was widely supported.

Table 3: Interview participant views on the best way to fund industry-good activities

INDUSTRY SEGMENT	LEVY MECHANISM			OTHER MECHANISM	UNDECIDED OR NOT DISCUSSED	TOTALS
	COMPULSORY	VOLUNTARY	COMPULSORY OR VOLUNTARY			
Forest owners	5	3			2	10
Government	3		2		1	6
Integrated company	2		1			3
Processors	5	3		1	4	13
Service provider	9	2		1	3	15
Total	24	8	3	2	10	47

Opinion varied widely about how a stronger and more effective voice for the industry could be achieved – ranging from support for a single and well-resourced industry body (Woodco) through to maintaining the status quo (with its multiple industry associations), but with further coordination across the associations, which may require greater capacity and resourcing. Many felt strongly that the industry has neither adequate resources nor funding to coordinate and address the key issues effectively and persistently through its associations.

INDUSTRY LEADERSHIP

Many respondents thought the industry needs stronger and more visible collective leadership to promote and represent it in the key areas outlined in this report – and that leadership at the most senior level of the industry is crucial for its success. The mechanisms for achieving this collective leadership need to be worked through. The need for strong industry “champions” – people who have the charisma, political savvy and depth of industry knowledge to engage and be effective at the highest levels of the industry and government – was often raised. However, this task was seen as a demanding and difficult one that requires considerable effort and stamina. Concerns were raised as to who the next generation of champions will be – some of those currently in the industry who have devoted themselves tirelessly to this task are now moving into retirement.

Several respondents also called for greater alignment of the industry across the value chain. Identification of common issues across the value chain and working collectively to prioritise and address these issues will be where the greatest successes and gains can be realised. It was also suggested that the current pan-industry body, Woodco, needs to be more active in bringing growers and processors together and facilitating stronger relationships and better dialogue between these two sectors. Closer affiliation with farm foresters and small forest owners was also highlighted.

It was clear from the interviews that there is generally a strong willingness across the industry to work together on key issues.

Summary of key points raised by industry segment

INDUSTRY SEGMENT	INDUSTRY LEADERSHIP AND REPRESENTATION	PROMOTION OF INDUSTRY TO GOVT AND PUBLIC	ASSOCIATION STRUCTURE	ALIGNMENT AND CROSS-INDUSTRY COORDINATION
Forest owners	●	●		●
Government	●	●	●	
Processors	●	●	●	●
Service providers	●	●	●	●

Key Findings – Industry representation

5. Collectively addressing common issues is critical to enhancing alignment of the industry across the value chain.
 6. The industry must have a strong single voice that is underpinned and supported by strong industry association structures.
 7. Industry associations need greater levels of resourcing to effectively and proactively represent their members across the range of issues that impact on their business environments, and to administer the range of programmes that their members require.
 8. The industry must raise the level of funding for industry-good activities and broaden its funding base. Seventy-five percent of those interviewed favoured an industry levy as the best mechanism to do this. Fifty percent favoured a compulsory levy, while twenty-five percent favoured a voluntary levy.
 9. The contribution of the forest industry to New Zealand must be strongly promoted to both the government and the public. Specific promotion of timber products is required to demonstrate the versatility of timber as a construction material.
 10. The New Zealand forest industry needs to reinforce its role as a world leader in sustainable forest management and to emphasise this as a point of difference.
 11. To attract top talent into the industry, the industry must work with training and education providers to promote itself as an attractive career option.
-



Government's role and relationship with the forest industry

Sixty-two percent of interviewees (29) regarded this theme as a high priority for the industry.

THEME	FOREST OWNERS	GOVT	INTEGRATED COMPANIES	PROCESSORS	SERVICE PROVIDERS	TOTALS
Government	5	2	2	9	11	29

FORESTRY AS A LAND USE

Many respondents commented that forestry is not treated equally with other types of land use with regard to the regulatory environment, and they would like to see a “level playing field” between land uses. They felt that forestry generally faces greater Resource Management Act (RMA) costs than other types of land use, such as agriculture, which arguably have a greater environmental impact. This “inbuilt subsidy” for competing land uses drives up land values and makes it harder for forestry to compete. *“The net effect is decreased forest area and poorer environmental outcomes”*, as one said.

They acknowledged that the government clearly has a key role in dealing with this problem, but the industry has to convince the government that forestry needs this level playing field. The long-term goal for the government should be to ensure that all land uses are treated equally. A national environmental standard for forestry was suggested as an important tool to assist the regulatory authorities in achieving this outcome.

An alternative view of this “level playing field” issue, is summed up by the following quote – *“If government wants forests for improving environmental outcomes, incentives should be provided”*.

REGULATORY REQUIREMENTS

Most respondents noted the necessity to streamline regulatory requirements for forestry and wood processing facilities – *“there needs to be consistency and simplification”*, said one. Examples cited included the RMA, fumigation at ports, and location and development of processing plants. A common view was that the RMA drives up costs while slowing down development. The following quotes are a selection of respondents' views on this issue:

- *“New Zealand is a small country and can't afford to operate its resource planning in this cumbersome manner. More central government control and less local government involvement would help.”*
- *“Excessive compliance costs and regional variation in resource consents adds excessive costs and uncertainty for business.”*
- *“Some legislation results in major impacts on the sector and sometimes these impacts are not realised at the time (or until it is too late to do anything about it).”*

Several suggestions were made to achieve greater streamlining of regulatory requirements. The work towards developing a National Environmental Standard for forestry was cited as a good example of industry pushing for streamlining. To reduce the current uncertainty over timeframes for obtaining resource consents, there should be a definite and finite period for the consenting process. It was also suggested that the impacts of key resource and environmental legislation on the forestry sector (and economic growth in general) should be examined by an industry body.

THE BUSINESS ENVIRONMENT

Respondents generally agreed that the government has a key role in providing an optimal business environment for the industry to operate within – government and the industry also need to understand the impacts of government policies on the industry’s operating environment. Concerns included the impact of government policies on New Zealand’s international competitiveness with respect to the exchange rate; electricity pricing and volatility; the impact of the Emissions Trading Scheme on export-exposed manufacturers; and labour laws. Government support in the area of reducing trade tariffs and barriers in overseas markets was also seen as important. Some respondents expressed frustration with government regulation, which is perceived as adding costs, creating delays, and taking time away from productive activities. As one said, *“Government needs to reduce regulation and create a productive environment.”*

INDUSTRY ENGAGEMENT WITH GOVERNMENT

Most saw the need for an effective relationship and constructive engagement with government – the industry has a role to promote the forestry sector and inform government of the importance of the industry (and its potential). Almost all respondents spoke of the need for industry to work with the government more closely and noted that other sectors seem to do this more effectively than the forest industry. Some also noted that forestry should get more value from the Ministry of Agriculture and Forestry (MAF) than at present, *“as agriculture does”*.

Many respondents said that political awareness of the forest industry is lacking – politicians generally don’t have a clear understanding of the industry, and there is not enough connection with it. It was generally felt that government ministers, departments and agencies need to be more engaged by the industry through Woodco – *“Government needs to take a more holistic view of the whole primary sector and make sure that forestry gets its fair share”*, as one put it. The industry needs to communicate to government with a consistent story, which implies a common view on strategic issues. Many respondents commented that a “hands-off” approach is not appropriate in the forest industry and that the government needs to better understand the value which the industry can provide to New Zealand.

Suggestions made to address this issue included:

- *“A holistic view of forestry is needed.....A politically agreed and understood national forest policy would help; one that concentrates on recognising the multiple benefits that forests provide to the New Zealand economy and environment.”*
- *“Get the agencies around the table – MED (at strategic level), NZTE, MAF (at the industry end).....Industry needs to take responsibility for changing minds in Wellington.”*
- *“Convince overseas-based forestry investors/owners about the importance of a long-term strategy for the New Zealand industry. Have senior government ministers visit the most senior people in the parent companies/funds that are presently in New Zealand.”*

One of the barriers to more effective engagement with government is the commonly-held view that the forestry sector is disaggregated and, therefore, cannot speak with one voice, some respondents pointed out.

ALIGNMENT OF GOVERNMENT SUPPORT

Many respondents noted that there needs to be better alignment and coordination of government support to meet the industry's needs. In their view, the government needs to promote and recognise the industry as a significant contributor to the economy and, therefore, support it more effectively. Through improved alignment of government policies with the industry's needs, an environment that is more attractive to investment in the industry – particularly in processing and manufacturing – should result.

Many also commented that government support should be aligned along the supply chain, according to industry needs – for example, R&D funds to Scion applied according to industry needs; vocational training for the industry; updating key standards; and support for off-shore market initiatives based on opportunities where New Zealand can be internationally competitive.

Some specific suggestions included:

- *“Government agencies need better processes and more understanding and engagement to better support industry in market development work done by [industry] groups... Officials need to understand that most companies in the timber industry are SMEs and find it hard to support activities in the international market place – so working as part of groups should be encouraged.”*
- *“There needs to be more connection with NZTE to support overseas market development.”*
- *“The government needs to partner with industry and address issues in a coordinated way. One example is the need for a national standard on wood processing which has clear performance measures for any new wood processing plants with respect to air emissions, noise, treatment of wastewater, etc..... If a development meets these standards, it should not have to go through the uncertain, costly and time consuming RMA processes.”*

INDUSTRY SIGNALLING AND COMMITMENT TO ACTION

Most respondents from the “government” segment of this survey noted that the government is willing and able to support the forest industry in many areas, but requires a much clearer direction and commitment from industry in order to do this effectively. A perceived barrier to greater support is the dispersed and disaggregated nature of the current forest industry. This makes it challenging for government to engage with industry. The following quote perhaps sums up the view of many in the government sector:

- *“The government can and will support industry in many areas, but needs industry to provide clear signals and commitment and take a long-term view.... and not jump from one issue to another.”*

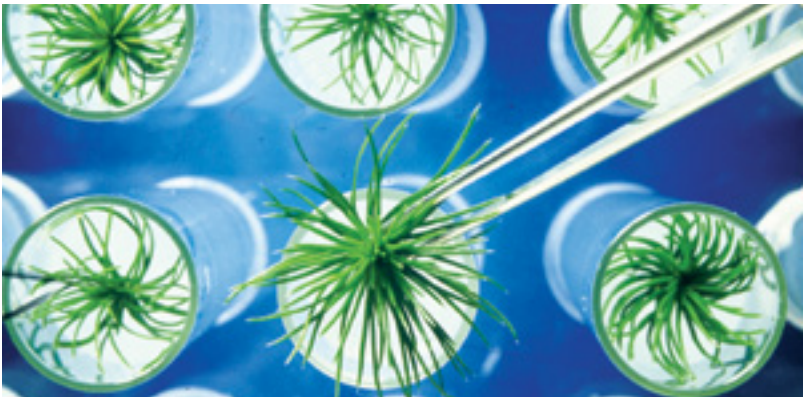
There is clear consensus that government should be a strategic partner with the industry, with the goal of increasing the economic growth of the sector. But for New Zealand to win against the rest of the world, where other governments often do provide direct support, more targeted government intervention is seen as necessary.

Summary of key points raised by industry segment

INDUSTRY SEGMENT	LEVEL PLAYING FIELD FOR FORESTRY	GOVERNMENT RELATIONSHIP	REGULATORY ENVIRONMENT	GOVT POLICIES ALIGNED WITH INDUSTRY NEEDS
Forest owners	●	●		
Processors		●	●	●
Service providers	●	●	●	●

Key Findings – Government’s role and relationship with the forest industry

- 12. The forest industry needs to have a more effective relationship with government to increase its influence and operate at a more strategic level and find workable solutions to issues.
- 13. For the government to support the forest industry, it must see a clear and strategic direction on how industry plans to develop and position itself.
- 14. Many industry participants think that forestry is not treated equitably in the regulatory environment, particularly with respect to land use.
- 15. Government activities across its agencies that impact on the forest industry need to be better coordinated and aligned.
- 16. The government has a key role to provide an optimal business environment for the industry to operate within (for example, by maintaining an internationally competitive regulatory environment).



Research and development

Sixty-eight percent of interviewees (32) regarded this theme as a high priority for the industry.

THEME	FOREST OWNERS	GOVT	INTEGRATED COMPANIES	PROCESSORS	SERVICE PROVIDERS	TOTALS
Research and Development	7	5	3	7	10	32

ALIGNMENT BETWEEN INDUSTRY NEEDS AND RESEARCH PROVIDERS

Many respondents believed that there needs to be a much-improved alignment between industry needs and the research that is undertaken by the research providers. Such comments were largely directed at the CRIs, particularly Scion, as many mentioned that the research consortia (FFR, SWI, RPBC and STIC) are commissioning and managing research that is well-connected to industry needs. Others suggested the need for a strong partnership between industry and government, based around a comprehensive R&D strategy for the whole industry.

Respondents representing wood processors were particularly concerned that processing-focused research was very poorly connected to actual industry needs and opportunities. While recognising that the processing sector has a greater diversity of needs (because of the different processes and products involved) than the growing sector has, many felt that current processing research at Scion is of little relevance to the industry. Solid wood processors were particularly concerned about the apparent loss of solid wood research capability at Scion. On a more positive note, one respondent noted that “...the wood processing sector needs a catalyst to work together in a similar way to FFR (for forest growing).”

An agreed industry-wide research and innovation strategy is seen as essential, and it must be shaped around the industry’s ability to pick up and use the research. Research has to be brought closer to market needs and the current industry’s capabilities. Many respondents commented on the opportunity to build on the successful research consortia model and to create a positive research environment with strong industry connections. This should achieve the necessary alignment of the R&D investment portfolio to meet today’s needs, they felt, while building a research foundation for the future industry.

Many respondents commented on a need for realignment of funding to create more balance between applied and “blue skies” research, and between research and science, on the one hand, and technology development and implementation on the other. The processing sector respondents, in particular, expressed concern that too much of Scion’s processing research is in the “blue skies” space, much of which is not a priority for industry. Another issue raised was the importance of technology transfer, which was often overlooked under past criteria for government funding of research (where the preference was for funding research further from market, in the “Horizon 3 space”). Some respondents commented on a perceived imbalance between forest growing research and wood processing research, with respect to the relative contributions that each sector makes to the economy.

Most respondents noted that the industry needs to form a clear and coherent view of its R&D

priorities.⁷ This view implies a more collective approach, with increased industry participation and funding. As one said, *“Industry needs a vision for what it wants to achieve with R&D – this vision needs to be sold to the industry to get buy-in and broad support.”*

INDUSTRY FUNDING OF R&D IS INADEQUATE

Almost all respondents, across all industry segments, noted that industry funding for R&D is inadequate – and that industry needs to significantly lift its R&D spend in New Zealand or risk losing government funding. There is clear agreement that current levels of industry funding for R&D are inadequate – even accounting for proprietary research done by individual companies. Here are some of the typical views expressed:

- *“Industry needs to match government funding, with an R&D programme which meets industry needs and government’s strategic expectations.”*
- *“Industry spends about \$4 million on R&D undertaken by New Zealand public research organisations compared to about \$50 million from government. This is far too low for a \$4 billion export industry.”*
- *“Industry is facing a ‘crunch point’ in R&D investment.”*

While the connection between increased investment in R&D and improved industry outcomes is well understood, there is a significant funding gap – especially with respect to the wood processing sector, where arguably the needs are greatest. Several respondents argued for an industry levy to close this funding gap, at least for industry-good research. A levy on either export or all log sales was a common suggestion.

RESEARCH MUST ADDRESS NEEDS ACROSS THE WHOLE VALUE CHAIN

Another common theme was the need for R&D to better address priorities across the whole value chain. As one respondent said, *“Look at the whole value chain, starting with tree genetics and providing wood that processors want and, hence, products which customers want.”*

While some respondents focused on the need to maximise the value of the forests through improved genetics and forest management, others noted the many opportunities at the processing and market end of the value chain. They recognised that to get any new R&D funding from the government it will be necessary to clearly show the economic benefit – the dairy industry is seen to be doing this very effectively. The Ministry of Science and Innovation (MSI) needs to know there is a pathway to market before funding new innovation programmes. Some respondents commented on the need for a deeper level of economic analysis, so that industry could drive the research and meet this MSI expectation.

The following quote is perhaps a useful way to conclude this section:

- *“Forestry in New Zealand has a significant amount of (land) area to mature. This is going to increase production and export volumes. There is a raft of research and innovation to be done to maximise the future value from the resource. There’s important work to be done on engineering radiata..... We need to compete with Scandinavian, Canadian and Russian wood. We also need to make greater productivity and yield improvements.”*

⁷ A Statement of Research Needs has been developed by the Woodco RS&T Advisory group, with two documents *Forestry – Science and Innovation Plan* prepared by the FOA and *Wood Processing and Manufacturing Science and Innovation Plan* prepared by the WPA and PMA associations.

Case study 2: Future Forests Research Limited

Reconnecting science and industry

Future Forests Research – FFR – is a partnership between the forest industry and Scion. FFR manages forest-growing research to deliver economic, social and environmental benefits to the industry and to New Zealand. It does this by attracting research funding, planning and contracting research and transferring the research to its members.

The establishment of FFR was preceded by an industry review of forest-growing research needs and structures in 2006/07. At the time, research relating to the sector was handled by five forest-growing research cooperatives that had been established in the late 1980s and 1990s. Over the years, they had become small, fragmented and had dwindling industry support, particularly at senior levels. The aim of the consultation that was a key part of the review was to reconnect research and industry, to better manage research and to develop a new business model that met industry's expectations and provided a degree of funding stability for Scion.

The review coincided with a major bid for government funding for forest-growing research. The expected formation of a new entity to manage the research was undoubtedly a key factor in the government subsequently agreeing to an increase in public funding for forest research. The review took around 15 months.

The consultation process that was fundamental to the review is a good example of industry collaboration. It also demonstrates the time and process required to build consensus and support across the industry to set up collaborative structures

that will endure.

The outcome of the review was the formation of FFR to take over the work of the five cooperatives and to begin a new collaborative harvesting research programme. FFR manages research under four research themes:

- › radiata pine management;
- › diversified species;
- › environmental and social research; and
- › harvesting and logistics.

FFR's establishment was essential to improve research and innovation cohesion across the forest-growing segment of the industry. Engagement between the industry and science providers at the technical and strategic levels has significantly improved, and industry support for forest growing research has grown as a result. Greater collaboration along the value chain is starting to occur as projects of mutual interest are being identified by the different research consortia. There has been an increased focus on the delivery of research that is of value to the sector while, at the same time, the balance of near-term and longer term research has been maintained.

The key challenges are to ensure that research outcomes are effectively transferred and utilised by the sector and that the benefits of the research can be clearly demonstrated to industry and government investors, now and into the future. This will result in ongoing support of innovation in the forest-growing segment of the industry and better cohesion in research across the whole value chain.

www.ffr.co.nz

Case study 3: Solid Wood Innovation

R&D targeted to needs of shareholders

Solid Wood Innovation – SWI – started business in May 2009. It operates as a research consortium, with shareholder levies matched by government funding through the Ministry of Science and Innovation.

SWI builds upon the initial research and success of Wood Quality Initiative (WQI), a consortium set up in 2003. WQI was the first of its kind in New Zealand, focusing on radiata wood quality R&D in New Zealand and Australia (through the FWPA). WQI invested around \$12 million (NZD) in research over the six years of its existence and was considered a success by its investors and stakeholders. Once the company had achieved much of what it set out to do, stakeholders supported a substantial shift in focus for the company and, with the introduction of new shareholders from the wood processing sector, SWI was formed.

The focus of SWI is to create value for its shareholders in the area of solid wood

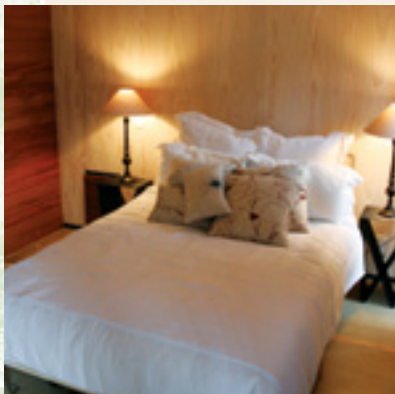
processing. The value proposition for shareholders lies in three areas:

- increased manufacture of appearance-related wood products, targeted at export markets;
- more efficient manufacturing through yield optimisation systems; and
- greater energy efficiency and reduced water usage in wood drying.

All R&D undertaken by SWI is targeted at the needs of its shareholders, is directed and reviewed closely by the industry, and consequently has high relevance, ownership and levels of uptake.

SWI has made significant progress in areas such as stem and log segregation for optimising product yields, lumber segregation based upon in-service warp, intra-ring checking, resin understanding and resin control, and energy savings in kiln drying.

www.wqi.co.nz



Case study 4: Pulp and Paper Research Organisation

Lessons in sustaining a successful multi-company research consortium

The Pulp and Paper Research Organisation of New Zealand – PAPRO – was created in the mid-1980s as an industry-government research partnership and operated as a multi-company consortium until the late 1990s. It arose from the pulp and paper industry and allied suppliers joining with the New Zealand Forest Service through its Forest Research Institute to create a research capability focused on local technical and commercial problems and opportunities. Funding was 50:50, and research activities were governed by a board and guided by a research advisory committee.

Over time, PAPRO grew substantially in size, mainly through increased government funding, to a staff of 50. Its annual budget grew from \$4 million to \$7 million. The industry was involved at all levels of PAPRO operations and had a strong sense of ownership, taking pride in the technical solutions and scientific knowledge generated by the PAPRO team. It also invested in the development of the \$6 million fibre processing pilot plant that was at the heart of the PAPRO mechanical pulping capability. Much of the leading-edge research conducted at PAPRO became embedded in the operations and

products of New Zealand pulp and paper mills, adding substantial value and improved profitability.

By 1998, many changes were occurring within government science funding, the strategic direction of The Forest Research Institute, and ownership of the New Zealand industry. Over a 12-month period, the government pulled away from supporting process-oriented research (about 50 percent of PAPRO's programme) and the new overseas owners of New Zealand's pulp and paper industry were less inclined to support a collectively funded research consortium. In 1999, PAPRO ceased operation as a jointly funded entity and became a collection of four pulp and paper projects within the newly branded Forest Research (now Scion).

It is clear that PAPRO was a very successful multi-company research consortium for about 15 years. However, its eventual dissolution provides a salient reminder that such collectives will only hold together in the long run, when all participants, including government, continue to share a common view of the consortium's purpose and, hence, the research needs and priorities.

Summary of key points raised by industry segment				
INDUSTRY SEGMENT	R&D ALIGNMENT WITH INDUSTRY NEEDS	INADEQUATE INDUSTRY FUNDING OF R&D	LACK OF FOCUS ON PROCESSING SEGMENT	COLLABORATIVE CONSORTIUM MODELS
Forest owners	●	●		
Government	●	●		
Processors	●		●	
Service providers	●	●		●

Key Findings – Research and Development

- 17. Closer alignment between industry needs and the research carried out in publicly-owned research institutions is required. There is closer alignment in forest-growing research, than there is to research undertaken on wood processing and wood products.
- 18. Industry funding of research undertaken by publicly-owned research institutions is inadequate.
- 19. Future research strategies should address priorities across the whole value chain, whilst maintaining a balance between applied and “blue skies” research.

Market factors

Sixty-six percent of interviewees (31) regarded this theme as a high priority for industry.

THEME	FOREST OWNERS	GOVT	INTEGRATED COMPANIES	PROCESSORS	SERVICE PROVIDERS	TOTALS
Market factors	9	1	1	9	11	31

Respondents generally felt that the industry’s collective and in-depth knowledge of key markets needs to be significantly enhanced, with many commenting that the industry has a poor understanding of these markets. This also applies to identifying emerging and future markets, and consumer needs and trends – the industry needs to deliver products with the attributes and credentials that consumers want.

While individual businesses have a responsibility to understand their consumers and markets, respondents felt that raising levels of understanding of consumer and market trends provided an opportunity for collective action – which would then contribute towards individual business-level market development strategies. Many commented particularly on the need to focus on the markets in China and India.

Respondents also called for major effort to be put into generic promotion in key markets of the attributes and use of radiata pine, to create positive perceptions of the timber. They saw this as a priority for the industry, given the poor image of radiata in many key markets, which keeps it from moving into higher-value applications and products. This is seen as another key area for collective action, based on a sound strategy and underpinned by thorough market

research and analysis. Suggestions ranged from more generic promotional campaigns around the properties, benefits and uses of New Zealand pine and products (with extension of the NZ Wood programme internationally suggested as an option), through to development of a quality brand with associated standards which producers and suppliers would need to meet in order to use the brand. The quality brand would need to incorporate environmental, social and cultural sustainability criteria – as mentioned earlier, New Zealand has the opportunity to be a world leader in sustainable plantation forest products. Many respondents felt that market development and branding need to be long-term initiatives, with commitment from all key players in the industry. The success achieved by Canada in key markets such as China and Korea was often cited as examples of what can be achieved through a more coordinated approach to market development.

A number of specific market opportunities were identified. Collective effort to achieve inclusion or acceptance of New Zealand radiata pine as a structural product in construction codes, regulations and standards was often mentioned. Target countries initially should be Australia⁸, China and India. The industry should also focus on raising the value of radiata pine in these key markets and lifting some of the product out of the commodity space.

Two specific barriers to achieving greater penetration of New Zealand forest products into key markets were identified – lack of trust within the industry and the impact of agents and traders. Some commented that the lack of trust in the marketplace has resulted from undercutting behaviour in key overseas markets – apart from damage to businesses and relationships, the higher-level concern was the damage that this has done to the reputation and image of New Zealand radiata pine in these markets. Overcoming this lack of trust will be difficult, respondents said, but it has to occur if any collective and strategic marketing and promotion efforts are to be successful. The impact of log and lumber traders' behaviour was often cited as causing serious loss of value to the industry. These comments particularly referred to the large number of new entrants into the trading market – in some instances, they were said to have little experience or knowledge of the industry and to be focused on quick profits without emphasis on long-term business relationships. This behaviour undermines existing relationships across the supply chain and causes both disruption and loss of value. This is a key area that requires further debate and analysis. The following quote sums up the comments of many – *“Is the New Zealand industry competing too strongly to the detriment of all players?”*

⁸ New Zealand timber used to have broad access to the structural framing market in Australia, but lost it through Australian building code regulation changes related to timber strength and stiffness.



Some commented that greater profitability and returns are possible if both growers and processors have greater control across the supply chain (through to the distribution/retail end) and a stronger connection with customers. Businesses that have been successful in overseas markets have often had either ownership or a degree of control over distribution channels in these markets. This could be an opportunity for collective action to achieve scale and critical mass in key markets.

In summary, most respondents felt that there are significant opportunities for collective action in marketing New Zealand forest products, to lift profitability and provide market growth opportunities that will deliver benefits to the whole industry. This needs to be led at the pan-industry level (perhaps through Woodco).

Summary of key points raised by industry segment

INDUSTRY SEGMENT	NZ/RADIATA BRAND DEVELOPMENT	MARKET UNDERSTANDING AND DEVELOPMENT	TRADER BEHAVIOUR AND LACK OF TRUST	COLLABORATION IN GENERIC MARKETING
Forest owners	●	●	●	●
Processors	●	●	●	
Service providers		●		●

Key Findings – Market factors

20. The industry has major opportunities, through collective action, to provide market growth opportunities that will deliver benefits to the whole industry.
21. The industry's collective understanding of international markets, including identifying emerging markets and consumer trends, needs significant improvement.
22. Options for sustained generic promotion of radiata pine in targeted international markets have to be investigated. Suggested options range from generic promotional campaigns through to the development of a quality brand with associated standards.
23. New Zealand has lost significant market share in Australia, particularly in the structural lumber market following changes to the Australian building code. This is an opportunity for collective action.
24. Industry behaviour inside markets, particularly export markets, has eroded trust between participants and lost value to the New Zealand industry overall.
25. Greater returns and profitability are possible with more control across the supply chain (through to the distribution/retail end) and a closer connection with customers.
26. Options to develop a recognised international brand and supporting quality standards for radiata pine have to be explored.
27. There is strong support for an ongoing programme of domestic promotion of wood in New Zealand, with very strong endorsement of the NZ Wood programme.

Wood processing

Forty-six percent of interviewees (21) regarded this theme as a high priority for the industry.

THEME	FOREST OWNERS	GOVT	INTEGRATED COMPANIES	PROCESSORS	SERVICE PROVIDERS	TOTALS
Wood processing	3	2	1	9	6	21

While most of the comments here refer to the solid wood processing (and manufacturing) sector, many of the issues are similar for the pulp and paper and panels (residue-utilising) sectors.

RAISING PRODUCTIVITY IN WOOD PROCESSING

Better returns are required from wood processing, in order to sustain and grow the sector and process more of the increasing harvest, respondents said. Achieving this will be no simple matter, since it will require both innovative solutions and increased levels of capital investment. A common message from all respondents who commented on this theme was the need to raise productivity in wood processing in order to attract new investment.

Respondents noted that while there are some good stories in the solid wood processing sector, the export-focused sawmills are currently under extreme financial pressure because of high log prices and tough competition for sawn timber in the key Asian markets.

As one respondent put it, *“Industry needs to do some hard-edged economic analysis of wood processing and value-adding in New Zealand.”* Many processors noted that processing opportunities do exist but they must be carefully targeted. The future product mix will depend on finding processing solutions (both existing and new products) that will work in the New Zealand context. The large processors do have growth potential, but need to develop off-shore markets, increase plant scale, or develop new products and technologies to get the necessary returns on capital.

FIBRE SUPPLY SECURITY AND INVESTMENT IN PROCESSING

Fibre supply was regarded as critical to obtaining greater investment in wood processing. Certainty around pricing and long-term log supply was seen as fundamental to this outcome. The following quotes are typical of the comments made by many:

- *“Availability of fibre is a barrier to achieving world-scale processing capacity.”*
- *“...there needs to be an improved certainty of log supply to processors.”*
- *“...[there’s a] need to secure the fibre resource for long-term and significant investment in processing.”*
- *“Long-term log supply security, price and quality are absolutely central to wood processors and future investment in processing.”*
- *“[It’s] difficult for processors to get long-term supply contracts, which impacts on the ability to get investment into processing.”*

INTERNATIONAL COMPETITIVENESS AND PLANT SCALE

The processing industry has to be internationally competitive, and one way to achieve this, respondents said, is to have world-scale processing facilities. Challenges to achieving world-scale in New Zealand include the small domestic market, the high cost of capital, wood availability and security of supply, exchange rate fluctuations, and exposure to export price cycle volatility. In summary, respondents felt there are many obstacles to achieving greater scale in processing.

Nevertheless, they recognised that new investment in larger-scale processing plants will be required if greater domestic processing is to be achieved. Whether such investment is in existing process technologies, such as solid wood, panels, pulp and paper, or in new technologies such as bio-energy, bio-fuels, or wood-derived chemicals, the need for scale to be internationally competitive will be the same.

COMMON INTERESTS BETWEEN GROWERS AND PROCESSES IN NEW ZEALAND

Greater alignment of interests between growers and processors is needed to facilitate an improved level of understanding of each other. Many respondents commented on the importance to forest owners of a profitable and internationally competitive domestic processing industry. *“There needs to be a broader understanding of the interdependency between growers and processors over the long term”*, as one said.

Many commented that the wood processing sector will need to raise its profile and how it is perceived by both the government and the public, and it must promote the common interests between processors and growers. Forest growers will also need to make some form of commitment to domestic processing. To support greater investment in wood processing, forest owners have to take a more strategic view of log supply to all their customer groups.

Summary of key points raised by industry segment

INDUSTRY SEGMENT	WOOD SUPPLY AVAILABILITY FOR PROCESSORS	NEED FOR INVESTMENT IN PROCESSING	COMPETITIVENESS AND SCALE OF PROCESSING	GROWER- PROCESSOR RELATIONSHIPS
Forest owners	●	●	●	
Processors	●	●	●	●
Service providers	●	●	●	●

Key Findings – Wood processing

28. Productivity in wood processing must be raised in order to attract new investment.
29. Lack of scale and current levels of productivity are significant barriers to investment in the wood processing industry.
30. An economic analysis of wood processing and value-adding in New Zealand needs to be undertaken, along with a realistic look at what forms of new processing and expansion of existing plants would feasibly work.
31. Long-term log supply security, price, and quality are central to wood processors and future investment in processing.
32. Greater alignment of interests between processors and growers is required to raise the level of mutual understanding across the value chain.

Productivity and investment

Thirty-eight percent of interviewees (18) regarded this theme as a high priority for the industry. This relatively low percentage somewhat understates the fact that almost all interviewees talked about productivity and investment, but many did not rank it as a “high priority” stand-alone theme when compared with some of the other themes covered.

THEME	FOREST OWNERS	GOVT	INTEGRATED COMPANIES	PROCESSORS	SERVICE PROVIDERS	TOTALS
Productivity and investment	7	2	3	1	5	18

A common view was that the industry as a whole has to increase its profitability – profitability being the key factor in determining the industry’s ability to grow and to undertake collective industry-good activities. Profitable businesses and a profitable New Zealand forest industry will by default attract investment. They suggested a range of factors to maintain and enhance profitability.

An over-riding theme of comments was that a whole-of-value chain approach is required to identify the key opportunities that will increase efficiencies and raise both productivity and profitability. It was suggested that there are significant losses in value occurring across the supply chain because of inefficient cost structures, regulatory constraints and other barriers. Ultimately, all businesses in the forest industry need to be low-cost competitors to maintain a presence in the global marketplace. Effective relationships between core players are required to achieve this.

Barriers to new and additional investment included high land prices, RMA compliance issues and a lack of equal consideration for forestry against other land uses for forest growing investment; and RMA compliance and lack of international competitiveness for wood processing investment. Government has a key role to play through creating an optimal business environment for the forest industry, including infrastructure planning and development and the regulatory environment. Government also has a key role to play in reducing barriers to international trade issues, such as the reduction of tariffs and other trade barriers.

A significant barrier identified, particularly with regards to wood processing investment and competitiveness, was the lack of scale in New Zealand. The industry will have to find a way to be efficient and globally competitive at a scale that is possible in New Zealand, given constraints such as the high cost of capital and the small domestic market, respondents said. Significant levels of capital investment are required just to maintain the current capacity in wood processing for the future, without considering expansion.

Clear areas for collective action across the industry included lobbying government, and initiatives to lower trade barriers, reduce the loss of value across the supply chain and promote the industry as an attractive investment option. Specific examples included coordination between small forest owners to lift their profitability and supply chain efficiencies, and consensus between forest growers and processors to reach common views on the terms and conditions of trade that will provide both parties with the confidence to invest.

Despite these challenges, many respondents commented that the New Zealand forest industry does have comparative advantages internationally. They include the favourable environment for growing quality softwood timber and the fact that New Zealand is ranked highly as an attractive investment environment. This is due to factors such as low levels of corruption (ours being one of the least corrupt governments in the world), the ease of doing business, sound government processes and an independent judiciary, robust land tenure, and sound environmental credentials. The forest industry does, however, need to capitalise to a greater degree on these advantages.

There were insufficient interviewees that ranked this highly enough to warrant further analysis by industry segment.

Key Findings – Productivity and investment

- 33. The industry as a whole has to increase its profitability to be able to grow in the future.
- 34. Improvements in productivity are needed and can be achieved by improving supply chain efficiencies and addressing inefficient cost structures, regulatory constraints and other barriers.
- 35. None of the report recommendations or strategy directions will succeed unless there is clear evidence of improved industry profitability that is sustainable.

Infrastructure

Thirteen percent of interviewees (6) regarded this theme as a high priority for the industry.

THEME	FOREST OWNERS	GOVT	INTEGRATED COMPANIES	PROCESSORS	SERVICE PROVIDERS	TOTALS
Infrastructure	2	–	–	2	2	6

PORT INFRASTRUCTURE AND OCEAN FREIGHT

The main issue raised was port infrastructure – port scale and the ability to cope with increased wood volumes; port productivity; and port charges. Many believed that productivity gains can be made at the ports by some focused and collective action.

Many noted that current shipping and rail infrastructure is inadequate and there are too many ports and parties involved, all with their own game plan to maximise their returns and market share. There is uncertainty around the future of shipping from New Zealand, with some shipping lines talking about a shuttle service from Australia. Therefore New Zealand perhaps needs a larger hub port, to see off the risk of Australian ports taking the lead as Australasian hubs. The common view was that the forest industry needs to work with government and the infrastructure providers.

Most who commented on infrastructure recognised that the forest industry needs to co-operate more on freight. Collective action should work in selected areas – for example, log marshalling, to coordinate from forest to truck to port; and the need to fumigate and the market risks of losing the ability to fumigate.

Other issues and opportunities noted were:

- Trucks must wait at ports to unload because of log measurement for determining JAS volumes. The industry should collaborate to make this process more efficient.
- Port storage and infrastructure for log handling is seen as a problem, particularly in view of the expected future increase in log volumes. This creates supply chain inefficiencies.
- There is a perceived lack of investment in port infrastructure by the port companies.

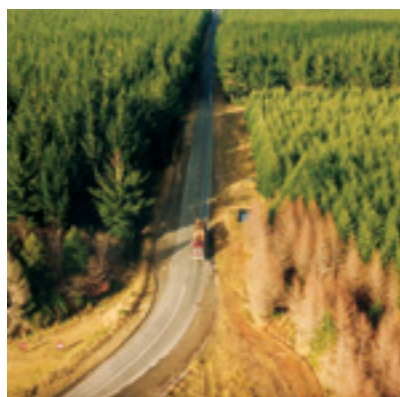
ELECTRICITY AND TRANSPORT (ROAD AND RAIL)

Large wood processors regard the current electricity supply and infrastructure to be poor. As one said, *“The structure of the (electricity) industry is disjointed (a mix of SOEs and government) and therefore struggles to meet the needs of industry.”*

The New Zealand harvest will increase significantly in coming years, and we could see a doubling of export log volumes. Therefore the pressure on port and rail will be significant. Clearly, rail is very important to the forest industry, although some respondents felt that rail is not regarded as a priority by government. *“We need a government-led transport strategy – ports, rail and roads need to be considered as integral parts of the supply chain – and not just as a final destination for wood and wood products, as is currently the case,”* commented one.

Key Findings – Infrastructure

36. Continued improvement in infrastructure is required to enhance international competitiveness.
 37. Supply chain productivity and improving efficiency and reducing costs at New Zealand’s ports are the key areas where improvements are needed.
 38. New Zealand’s vulnerability to adverse changes to ocean freight costs and the availability of ships is a major concern.
 39. The operation of electricity markets and rail are other areas where improvements are needed.
-



Other topics

Interviewees also raised a number of other topics and issues that did not clearly fit under the main themes. These other topics that ranked as a high priority by interviewees were:

- A national forest policy to provide the framework that defines the role of forests in New Zealand is required, and it should be linked to an industry strategy. Without a forest policy framework (owned by both government and industry) it will be difficult to develop a meaningful and sustainable sector policy. This policy should represent the view of New Zealanders on the role of forests in this country and should transcend party politics and provide a long-term, stable environment for forestry to operate within. Ministers and government officials see forestry as another primary industry, such as dairy, meat or kiwifruit, which is privately owned and operated, and therefore consider that government should stand back and try to minimise its involvement. But this may not be appropriate for forestry, and an agreed forest policy is one way to get the government to commit to our industry.
- Opportunities for the industry are emerging from increased Māori ownership of forests. Māori land ownership and participation in the industry is generally regarded as potentially bringing more stability and a longer-term perspective to forest ownership. In general, iwi will not sell the land and have large-scale ownership of central North Island forests. There are also areas of Māori land that are well suited to commercial plantation forestry, such as marginal land on the East Coast, Northland and other parts of New Zealand, and farm land being converted to forest in the Lake Taupo Catchment and the Rotorua Lakes districts.
- By embracing the full range of social, cultural and environmental values, the industry has the opportunity to become global leaders in sustainable forest management. There is a real opportunity to engage with Māori to promote plantation forests as a success story in sustainable management and self-determination. “New Zealand Inc” needs to adopt an effective global strategy to promote the positives demonstrated by our plantation forests. The industry must become an active global player in the promotion of sustainable management. If we do not act we will allow the negative voices to continue to undermine the integrity and credibility of plantation forests and its products.
- There are opportunities for the industry in afforestation of marginal land (joint government and industry initiatives). There are large areas of marginal land that should be in forest. There are also significant opportunities for trees on farms. Related to this is the need for a wider portfolio of species. For example, support is needed for the dry land eucalypt programme. There is a lack of understanding about forests by agricultural consultants and agriculture service industries, such that these opportunities are being missed. Our institutions also need to take a holistic view of sustainable land management.



- The industry needs to develop a position on genetic modification (GM) and promote it. Several respondents believed that GM of trees is a major opportunity for the industry, and this needs to be recognised. They argued that GM has the potential to lift tree productivity and yield and provide the industry with a major competitive advantage internationally.
- Robust analysis and industry debate (with government) around the feasibility of bio-energy and bio-products is required. There are unanswered questions on the economic viability of energy and bio-products from wood. There does not appear to be in-depth and robust economic analysis. Markets for low-grade wood are needed in some regions – like the East Coast, Marlborough, Northland and parts of the southern North Island. Increased demand for low-grade wood in regions like the central North Island will further exacerbate the shortages for existing residue manufacturers (especially the large pulp and paper mills). As well as economic analysis on the opportunities for energy and biomaterials, there needs to be serious industry debate on how best to utilise the low-grade wood. This debate should be lead by Woodco, with government involvement.
- There needs to be a paradigm shift on application of wood design solutions in buildings, rather than continuing with the historical approach. New Zealand radiata pine has been plagued by a range of problems in recent times, including wood preservation, which is one of radiata's advantages; the weather tightness problem and its effect on public perceptions of wood; regulations of timber stiffness, with a large amount of the wood resource not being able to meet the building code for framing timber; and certification of the building process, which has been driving up the costs of building in New Zealand.
- *“There are no silver bullets – the industry needs a whole series of incremental improvements”*. This quotation summarises the views of most respondents, who collectively commented on a wide range of areas where initiatives are needed to lift the industry's performance and prospects.

Key Findings – Other topics

40. **A national forest policy, developed in partnership between industry and government, is needed to provide the framework that defines the role of forests in New Zealand, and it should be linked to an industry strategy.**
 41. **The opportunities and changes arising from increased Māori forest land ownership and participation in the forest industry needs consideration, with real input from the Māori owners.**
 42. **By embracing the full range of social, cultural and environmental values, the industry has the opportunity to become a global leader in sustainable forest management.**
 43. **Afforestation of marginal land is an opportunity for the industry.**
 44. **There needs to be a paradigm shift on the application of wood design solutions in buildings.**
 45. **Robust analysis and industry debate around the potential and feasibility of bio-energy and bio-products in New Zealand is required.**
 46. **There are no silver bullets – the industry needs a whole series of incremental improvements.**
-

5. Full list of key findings

STRATEGY

1. There is strong support for a pan-industry strategy and a mandate for Woodco to develop one.
2. Development of an industry strategy has to be led by industry leaders and decision-makers to ensure genuine support and, most importantly, change.
3. The strategy must focus on the highest priority areas where collective action is supported across the whole industry, and where that action will improve international competitiveness and profitability of the industry.
4. External expertise in strategy development is essential for any strategy development process. Solid, in-depth economic analysis is also required to underpin strategy development, to ensure that the focus is on the areas that will result in the biggest gains for the industry.

INDUSTRY REPRESENTATION

5. Collectively addressing common issues is critical to enhancing alignment of the industry across the value chain.
6. The industry must have a strong single voice that is underpinned and supported by strong industry association structures.
7. Industry associations need greater levels of resourcing to effectively and proactively represent their members across the range of issues that impact on their business environments, and to administer the range of programmes that their members require.
8. The industry must raise the level of funding for industry-good activities and broaden its funding base. Seventy-five percent of those interviewed favoured an industry levy as the best mechanism to do this. Fifty percent favoured a compulsory levy, while twenty-five percent favoured a voluntary levy.
9. The contribution of the forest industry to New Zealand must be strongly promoted to both the government and the public. Specific promotion of timber products is required to demonstrate the versatility of timber as a construction material.
10. The New Zealand forest industry needs to reinforce its role as a world leader in sustainable forest management, and emphasise this as a point of difference.
11. To attract top talent into the industry, the industry must work with training and education providers to promote itself as an attractive career option.

GOVERNMENT'S ROLE AND RELATIONSHIP WITH THE FOREST INDUSTRY

12. The forest industry needs to have a more effective relationship with government to increase its influence and operate at a more strategic level and find workable solutions to issues.
13. For the government to support the forest industry, it must see a clear and strategic direction on how industry plans to develop and position itself.
14. Many industry participants think that forestry is not treated equitably in the regulatory environment, particularly with respect to land use.

15. Government activities across its agencies that impact on the forest industry need to be better coordinated and aligned.
16. The government has a key role to provide an optimal business environment for the industry to operate within (for example, by maintaining an internationally competitive regulatory environment).

RESEARCH AND DEVELOPMENT

17. Closer alignment between industry needs and the research carried out in publicly-owned research institutions is required. There is closer alignment in forest-growing research than there is in research undertaken on wood processing and wood products.
18. Industry funding of research undertaken by publicly-owned research institutions is inadequate.
19. Future research strategies should address priorities across the whole value chain, whilst maintaining a balance between applied and “blue skies” research.

MARKET FACTORS

20. The industry has major opportunities, through collective action, to provide market growth opportunities that will deliver benefits to the whole industry.
21. The industry’s collective understanding of international markets, including identifying emerging markets and consumer trends, needs significant improvement.
22. Options for sustained generic promotion of radiata pine in targeted international markets have to be investigated. Suggested options range from generic promotional campaigns through to the development of a quality brand with associated standards.
23. New Zealand has lost significant market share in Australia, particularly in the structural lumber market following changes to the Australian building code. This is an opportunity for collective action.
24. Industry behaviour inside markets, particularly export markets, has eroded trust between participants and lost value to the New Zealand industry overall.
25. Greater returns and profitability are possible with more control across the supply chain (through to the distribution/retail end) and a closer connection with customers.
26. Options to develop a recognised international brand and supporting quality standards for radiata pine have to be explored.
27. There is strong support for an ongoing programme of domestic promotion of wood in New Zealand, with very strong endorsement of the NZ Wood programme.

WOOD PROCESSING

28. Productivity in wood processing must be raised in order to attract new investment.
29. Lack of scale and current levels of productivity are significant barriers to investment in the wood processing industry.
30. An economic analysis of wood processing and value-adding in New Zealand needs to be undertaken, along with a realistic look at what forms of new processing and expansion of existing plants would feasibly work.

31. Long-term log supply security, price, and quality are central to wood processors and future investment in processing.
32. Greater alignment of interests between processors and growers is required to raise the level of mutual understanding across the value chain.

PRODUCTIVITY AND INVESTMENT

33. The industry as a whole has to increase its profitability to be able to grow in the future.
34. Improvements in productivity are needed and can be achieved by improving supply chain efficiencies and addressing inefficient cost structures, regulatory constraints and other barriers.
35. None of the report recommendations or strategy directions will succeed unless there is clear evidence of improved industry profitability that is sustainable.

INFRASTRUCTURE

36. Continued improvement in infrastructure is required to enhance international competitiveness.
37. Supply chain productivity and improving efficiency and reducing costs at New Zealand's ports are the key areas where improvements are needed.
38. New Zealand's vulnerability to adverse changes to ocean freight costs and the availability of ships is a major concern.
39. The operation of electricity markets and rail are other areas where improvements are needed.

OTHER

40. A national forest policy, developed in partnership between industry and government, is needed to provide the framework that defines the role of forests in New Zealand, and it should be linked to an industry strategy.
41. The opportunities and changes arising from increased Māori forest land ownership and participation in the forest industry needs consideration, with real input from the Māori owners.
42. By embracing the full range of social, cultural and environmental values, the industry has the opportunity to become a global leader in sustainable forest management.
43. Afforestation of marginal land is an opportunity for the industry.
44. There needs to be a paradigm shift on the application of wood design solutions in buildings.
45. Robust analysis and industry debate around the potential and feasibility of bio-energy and bio-products in New Zealand is required.
46. There are no silver bullets – the industry needs a whole series of incremental improvements.

Case study 5: Structural Timber Innovation Company

Giving timber the competitive edge in commercial and industrial buildings

The Structural Timber Innovation Company – STIC – is a research consortium that is developing and commercialising new technologies that will enable structural timber to compete more effectively in the building and construction market. Although timber has long been used as a material of choice in the residential markets in both Australia and New Zealand, it is not typically used in the non-residential industrial and commercial building sectors.

The company would like to see the construction of large numbers of innovative and sustainable commercial and industrial multi-storey and long-span timber buildings throughout Australia and New Zealand.

To this end, it's developing a portfolio of new pre-fabricated LVL (Laminated Veneer Lumber) and Glulam (Glue Laminated Timber) structural building systems that will enable multi-storey commercial and long-span industrial portal framed buildings to be easily designed and rapidly constructed using engineered timber products.

Commercialisation of these new technologies will enable timber to effectively compete with structural concrete and steel, the two present materials of choice in these market segments.

The company knows it's on the right track because of growing public demand for sustainable buildings, renewable materials and reduced CO₂ emissions; increasing desire on the part of building owners and developers for aesthetically appealing timber

buildings that are fit-for-purpose and have highly competitive constructability attributes; and the move towards carbon neutrality in the building industry and wider economy.

The techniques that STIC is developing and testing will provide building owners and developers with a new, highly competitive, state-of-the-art timber building option that meets the needs of open plan layout with minimal internal load-bearing walls, carbon neutrality and lower overall whole-of-life carbon footprint.

STIC is developing design guidelines, analysis packages, recommendations and supporting data sets that will provide architects, engineers, quantity surveyors, fabricators and constructors with the information they need to design and construct these next generation timber buildings with confidence and minimal inconvenience.

It's also developing and commercialising a number of timber building technologies aimed at meeting the needs of owners and developers of commercial and industrial buildings and the architects, engineers, quantity surveyors, engineered timber fabricators and constructors involved in the design, specification and construction of these buildings.

STIC has seven shareholders and two major financial stakeholders and is very much a trans-Tasman collective. Its total research budget for the current five-year programme is about \$10.4 million.

www.stic.co.nz

Appendix 1: Terms of reference

INTRODUCTION

The New Zealand forest industry, under the auspices of Woodco, is undertaking a strategic study to identify the key opportunities and challenges that require collective and concerted effort to drive the sector forward. The study will facilitate collective action to address these issues and maximise the future opportunities. The findings from this study may lead to the development of an industry strategy document which should include clearly-defined milestones and actions. However, the emphasis of this study is not on the final output(s), but rather the process of engagement across the industry and the shared learning, increased collaboration and consensus-building that it should facilitate. The findings will provide direction and priorities for strategic actions for both industry players and central government, to maximise and deliver on the industry's full potential.

In the context of this study, the term forest industry refers to the businesses and organisations that are essential links in the forestry value chain, i.e. from seedling through to end product (forest growers, processors, manufacturers and related service providers essential to these processes).

The primary end-users of this study will be the members of Woodco. The Ministry of Agriculture and Forestry (MAF), as the Government's principal advisor on forestry-related matters, will also have a strong interest in findings from this study to guide the direction of MAF's forestry policy work programmes to ensure alignment with the strategic needs of the forest industry.

VISION

The vision for this study is to improve collaboration across the industry that will lead to coordinated action and support for long-term sustainable growth.

This vision will be achieved by:

- facilitating collective action across the forest industry to maximise future opportunities;
- summarising the key opportunities and challenges requiring action to drive the sector forward;
- providing recommendations for implementation of key actions to realise the opportunities and address the challenges.

OBJECTIVES

The objectives are to engage with industry to identify opportunities to improve the growth and resilience of the New Zealand forest industry across the whole value chain, specifically by:

- identifying the key priorities and barriers to realising opportunities;
- gaining broad industry agreement on the highest priorities to be addressed collectively;
- identifying research and development investment priorities and targets for innovation;
- analysing mechanisms to improve the resilience of the NZ forest industry, particularly when market conditions deteriorate; and
- recommending approaches to take advantage of the identified opportunities.

SCOPE

The study will cover the whole value chain including customers, users and specifiers or their representatives.

The focus will be on the next 10 years (that is, to 2020), but taking into account a longer timeframe (20 to 30 years) that reflects the long-term nature of the industry and its resource.

The study will be staged and reported back to the Governance Group at each milestone.

The engagement process is as important as the results from the study, and this will be interactive with the industry

Key themes to be covered will include:

- opportunities and impediments for expanding markets;
- emerging markets and technologies (new products, technologies, markets, options for adding value);
- future research and innovation requirements;
- future skill needs (including leadership and business skills) and how to meet them;
- attracting and retaining labour and providing long-term career paths;
- opportunities and barriers to investment;
- improving productivity, profitability and competitiveness, including benchmarking;
- infrastructure needs;
- future forest needs; and
- current ownership structures – forests and processing.

GOVERNANCE AND MANAGEMENT

This study and the industry engagement process will be industry-led and owned.

GOVERNANCE GROUP

A Governance Group will guide the development of the study to ensure buy-in to both the process and its outcomes. This group will represent the major industry interests, and comprise the following members:

- Doug Ducker, Chairman Woodco;
- Peter Berg, President NZ Forest Owners Association;
- Rob Davies, President Wood Processors Association;
- Jacob Kajavala, President Forest Industry Contractors Association;
- John Lemm, President Pine Manufacturers Association;
- James Stevenson-Wallace, Ministry of Agriculture and Forestry.

The Governance Group's role is to:

- provide guidance and direction to the Project Team with regards to the objectives, scope and direction of the study;
- ensure satisfactory progress against milestones and deliverables as defined in the Project Plan;
- provide direction and support to the Project Team to communicate the study objectives, progress and findings to the industry;

- resolve any conflicts of interest that could arise during the course of the study; and
- develop and sponsor a proposal for the communication, adoption and implementation of the recommendations arising from the study.

The Governance Group will meet monthly or more frequently if required. Meetings may be held by teleconference if more convenient. The Project Team Leader will provide regular progress reports to the Governance Group.

PROJECT TEAM

The Project Team is responsible for planning, execution and delivery of the study. The team members and roles are:

- Dave Hilliard, Juken NZ – Project Team Leader, responsible for overall leadership and delivery of the project.
- Tom Clark, Carter Holt Harvey – industry secondee to Woodco.
- Paul Lane, Ministry of Agriculture and Forestry – MAF secondee to Woodco.

Stuart Anderson, Ministry of Agriculture and Forestry, will be the key contact coordinating MAF input into the study.

OPERATING PRINCIPLES

Administrative support will be provided as required by the various project team members' own organisations.

Costs: Project Team costs associated with travel, accommodation and other incidentals will be covered by Woodco for the industry members and by MAF for its members. Salary costs will be borne by each member's own organisation.

Where additional resources and support are required beyond what can reasonably be expected of existing organisational support, the payment of any costs to source this assistance will be discussed with and resolved by the Governance Group.

Dispute resolution: In the event of a dispute that cannot reasonably be resolved by the Project Team, the matter will be elevated to the Governance Group for resolution. The decision of the Governance Group in this regard will be final.

STUDY OUTPUTS AND DELIVERABLES

On completion of the study, a written report will be produced that summarises the objectives, scope, approach, methods and results (in the form of the key themes/issues/opportunities that emerge).

All key milestones and deliverables will be specified in a Project Plan, to be developed by the Project Team and approved by the Governance Group.

In conjunction with the Governance Group, a mechanism for further delivery of the results and feedback to the industry will be discussed and implemented if necessary (for example, workshops or seminars).

ENGAGEMENT PROCESS

The study will be carried out in three phases, with review of progress following each phase.

A Reference Group will be established to provide advice and input to the Project Team throughout the study to ensure that the goals and objectives of the study are met. The three phases of the project are:

Phase 1

- Analysis of earlier studies and previous conclusions;
- Design Survey;
- Pilot test with Reference Group;
- Governance Group sign off.

Phase 2

- Implement survey (including conducting interviews) – iterative process, with feedback to survey participants;
- Analysis and write up;
- Governance Group for review;
- Finalise report and recommendations.

Phase 3*

- Draft high level strategy proposals – including priorities and timeframe;
- Identify any specialist work to be undertaken to support implementation and/or strategy development;
- Convene focus group workshops;
- Present final results and conclusions to industry.

* This phase is beyond the current scope of the study, but is included to outline a process to progress the study recommendations, subject to decision by the Governance Group.

Appendix 2: Interview questionnaire

A. Start of interview

Ask the interviewee to describe:

- 1 Their business/organisation
- 2 Their role
- 3 The future opportunities they see for their business or organisation?
- 4 The future opportunities they see for the wider NZ forest industry?

B. What are the highest priority areas (themes) that should be addressed in a strategy?

State that one of the key purposes of today's interview is get your to help to identify the highest priority areas that a pan-industry strategy should focus on.

In your view what are the highest priority areas an industry strategy should focus on? Get the interviewee to focus on the big picture and just list the themes, not the detail.

Get the interviewee to focus on their highest priority themes. Don't try to cover all themes – only the ones that the interviewee believes are important.

Get the interviewee to provide their perspective on the main themes. The note taker records these themes and then the interviewer uses these themes as the basis for questioning.

Ask the following set of questions on each theme identified by the interviewee:

1. What is the issue/opportunity?
2. In your opinion what should the situation be?
3. What are the barriers to getting there? Why do you think they haven't already been addressed?
4. How should this be addressed and by whom? Is this an opportunity for collective action?
5. What is the priority of this issue (low, med, high)?

C. Commitment to strategy development and barriers

On a scale of 1 to 5 (1=little support to 5=completely supportive) do you believe a pan-industry strategy is needed? Why?

Why haven't previous industry studies and strategies been more widely adopted by the forest industry?

How should industry good activities be funded? Are you happy with the current voluntary mechanisms?

Do you have any suggestions about how a pan-industry strategy should be developed?

What is the role of Government with industry development?

D. Summarise and wrap-up – end the interview on a positive note

Recap the main points of the interview with the interviewee.

Thinking about the industry as a whole what industry good activities do you think are working well?

Appendix 3: Key themes from previous forest industry studies, strategies and reports

This appendix expands on the key themes identified across earlier forest industry studies, strategies and reports, as discussed in Section 2.

MARKET FACTORS AND THE AVAILABILITY OF SEA-FREIGHT SERVICES

One of the common threads running through the five reports was the need for a sustained marketing programme, to promote New Zealand grown timbers and their attributes for component and structural uses. The reports emphasise that it is not only a matter of building market recognition in new and emerging economies but continuing to develop existing markets, with the objective of identifying higher-value opportunities. This is critical in a period of increasing supply and volatile demand. The risk in this situation is that increasing supply will drive marketing and pricing (leading to a shorter-term focus in market development and pressure on pricing). Allied with marketing are market access and competitive sea-freight channels. Access to markets (particularly the value-added end of the supply chain) is impacted by tariff and non-tariff barriers. Volatility in freight rates and in the availability of charter vessels has also constrained access and market development, particularly for logs. The reports stress the need for progress on bringing down effective tariff rates and for industry initiatives to manage the risks around sea freight. The recommendations and findings on these issues are summarised in the following points:

- A coordinated approach to off-shore marketing could provide substantial benefits for the industry.
- Generic marketing could be an important tool for promoting the attributes of radiata pine to international audiences.
- There is an urgent need to develop new markets and product lines (for example, high-value products for affluent Middle Eastern and European consumers), given that New Zealand is exposed to a limited number of markets, and Australia has an expanding softwood plantation resource of its own.
- The consumption of forest products is projected to grow in the US, China and the Republic of Korea. The Chinese housing sector was seen as a major opportunity.
- An important part of market development involves the transfer of knowledge on the processing, drying, storage and use of radiata pine. Exporters must ensure importers understand the properties of this species and how it should be handled and stored.
- Progress is needed in tariff reduction and addressing international trade issues, including illegal logging.
- A significant risk is the availability, capacity and cost of shipping. The industry needs to find ways to manage this risk and to minimise sea costs – for example, by means of innovative arrangements for shipping consortiums, back-loading, and coordinating freight.

PRODUCTIVITY AND INVESTMENT

The 2001 *Forest Processing Investment Environment* report stressed that the forestry sector will only attract new and additional investment “if an adequate rate of return can be made at an acceptable degree of risk”. The sector is competing for a limited pool of capital, and its competitors are not only other forest growers around the Pacific, but other industries as diverse as pharmaceuticals and engineering. The 2009 *A Forestry Sector Study* reinforced this point. A profitable industry is needed to attract new investment and to ensure that there is re-investment in plant and equipment. In addition to the bottom-line return, investors consider the attractiveness of the business environment within a country for conducting business. This includes the level of difficulty in establishing new ventures, the skills base of the country, infrastructure availability and the strength of property rights legislation.

The key themes and recommendations on investment and productivity are summarised in the points below:

- The relative cost of conducting business in New Zealand can be reduced through improvements in transport infrastructure, enhancing energy security and investing in the skills and training of the workforce.
- At an external level, improving the access of forestry products to key markets (through bilateral and multilateral agreements) and aligning commercial legislation with that in major markets would improve the operating environment.
- The planning framework is perceived as an obstacle to wood processing investment, given the length of the RMA process, inconsistency between regions and uncertainty over the final outcome. The establishment of industrial zones, where consent conditions have been worked through, would be of assistance.
- Developments on “brown-field” sites (former industrial properties) or the acquisition of existing operations tend to have a superior risk-return profile than initiatives on “green-field” locations.
- Joint ventures are likely to be one of the preferred options for wood processing investment, as investors can leverage off existing supply and market relationships.
- Short-term market signals have had a surprisingly strong influence on long-term investment in forests and processing (for example, the relatively poor financial return since 2003/04 have constrained investment and the ability to improve productivity).
- Shortages of skilled labour have impacted on investment.
- The increasing diversification of forest ownership has weakened the relationship between growers and processors.

STRATEGIC DIRECTION AND THE NEED TO BE INTERNATIONALLY COMPETITIVE

Maintaining the international competitiveness of New Zealand’s timber industry was a central theme in the five reports. While the industry has the advantage of a large and growing softwood supply, New Zealand faces major challenges in profitably harvesting and adding value to this resource. New Zealand exporters are facing increasing competition from traditional and emerging Pacific Rim suppliers. While a number of these competitors have the advantage of lower wage economies, the principal threat is from higher rates of technology adoption and productivity gains. In assessing the New Zealand industry, the 2004 *Benchmarking the competitiveness of the New Zealand Wood Processing Industry* report concluded that urgent action is required if New Zealand is “to keep pace with its competitors in terms of value of exports, diversification of wood products, [and] diversification of markets.”

The reports made the following recommendations on this issue:

- The competitiveness of the industry can be progressively improved through higher labour productivity, the adoption of best practice technology, increasing the scale of production and improving log utilisation rates in processing plants.
- Improving the energy efficiency of processing plants has the potential to reduce unit production costs. With rising energy prices internationally, domestic processing may emerge as a more economic option.
- There are opportunities to reduce the transport costs in the carriage of logs and processed products (for example, by route maximisation and eliminating bottlenecks). In a similar vein, opportunities exist for reducing sea freight costs through industry collaboration.
- Options for coordinating the harvest from smaller growers will need to be explored to minimise collection costs from scattered individual blocks.
- A stronger strategic (or collaborative) approach is required within the industry, to drive infrastructure and production efficiencies.

The 1992 *New Zealand Forest Industries Strategy Study* emphasised the need for an industry strategy, and associated programme of action:

... the approach recommended is a strategic vision which constitutes 'flying in formation'. By definition, the wider the commitment to the strategic direction, the greater the payback. Obtaining such a commitment to a strategic vision and associated action plan for the New Zealand forest products industry should be the principal immediate goal of the industry.

The other reports point to areas where there are opportunities for industry cooperation to address barriers or capture opportunities. The 2001 *Forest Processing Investment Environment* report proposed the option “of an industry committee to analyse the entire forestry transport system (including shipping) to investigate means of improving efficiencies”, while the 2006 *New Zealand Position and Opportunities* report called for industry leadership to enhance labour productivity. More generally, the reports called for industry association structures that encourage growth; industry benchmarking; and regular strategy revision.

WOOD PROCESSING AND WOOD AVAILABILITY

The 2009 *A Forestry Sector Study* summarised the role of wood processing in New Zealand forestry:

“The solid wood processing industry is a key link in the wood processing value chain because it consumes about 48 percent of the current harvest; it also on-supplies a large quantity of residues for the production of other wood [and wood fibre] products. If transport costs remain high, wood processing is the logical way to intensify the value of product per unit of shipping.”

The competitiveness of the wood processing industry was assessed as part of the 2001 investment environment report and 2004 benchmarking report. The reports found that New Zealand’s competitiveness in wood processing was similar to that of Australia and Chile but lower than that of the US and Sweden. New Zealand’s general competitiveness was lower than that of the US and Australia but the processing industry scored favourably on resource availability, industry knowledge (training and R&D) and processing development (industry diversification and moves to modernise equipment). The two more recent studies found that the competitiveness of New Zealand’s wood processing industry

has been adversely affected by the higher exchange rate environment that has persisted since 2003/04 and the erosion in financial returns that accompanied this trend. Lower returns have limited the capacity of processors to re-invest in more modern technology.

The five reports identified opportunities for further wood processing and a number of challenges in attracting this investment:

- The projections for future harvest volumes show a strong upward trend, through into the 2020s.
- One of the challenges in expanding the processing industry will be to provide mills with certainty of wood supply, as the projected increase in volume will increasingly come from dispersed, smaller growers. The proportion of the plantation estate in the hands of smaller growers varies between wood supply regions.
- Benchmarking New Zealand processing facilities against high-class international mills (both solid and reconstituted wood facilities) could identify opportunities to stimulate improvements in practices.
- There is increasing demand for certified timber products in New Zealand's major markets. Expanding the proportion of the forest estate with certification (particularly smaller growers) would provide an incentive for processing investment.
- An increasing proportion of the harvest will be drawn from steeper terrain. The extraction costs from these areas tend to be higher, while productivity levels are lower. Work will be required to identify what opportunities exist for improving the productivity and competitiveness of steep terrain harvesting.
- The processing sector plays a pivotal role in the timber industry, but there are challenges in building sector cohesion to set priorities and develop off-shore markets in a coordinated manner.
- There will need to be a focus on skills and training to enable productivity gains and to attract sufficient workers for new processing facilities.
- The likelihood of further expansion in the pulp and paper sector is considered limited.

ENVIRONMENT AND ENERGY

A Forestry Sector Study provided an opportunity to look beyond the immediate business horizon to examine a number of the emerging issues and opportunities for the industry. Two of the emerging issues concerned environmental services and the opportunities for bio-energy production. These points are summarised below:

- Economic mechanisms are needed to recognise forestry's environmental services, such as erosion protection and water filtration. These mechanisms could provide forest owners with regular and/or alternative income streams. It is important to recognise when developing such mechanisms that those who pay for environmental services may expect to be involved in the management of the forests that are providing these services.
- Consumers are increasingly demanding sustainably-sourced products. This means increased attention will be placed on the environmental credentials of building products. The forestry sector is well placed to take advantage of this, with a substantial proportion of the New Zealand estate already certified. Certification has the potential to raise the profile of timber in existing market segments and to create new opportunities for timber in areas such as multi-storey residential buildings.

- The conversion of wood fibre into bioenergy and biofuels is emerging as a viable option for forest residues.

The majority of the reports highlighted that energy pricing and stability of supply will be critical factors in attracting future investment to timber processing in New Zealand.

With energy prices rising internationally, investors will be increasingly comparing pricing along their supply chains, to identify where processing should be concentrated.

Appendix 4: Executive summaries of previous studies

1. NEW ZEALAND FOREST INDUSTRIES STRATEGY STUDY: JANUARY 1992

The New Zealand Forest Industries Council (FIC) commissioned this study to “provide a basis for developing both the industry’s future direction and forestry’s contribution to New Zealand’s future economic growth.” The authors were Michael Edgar (then a general manager with Tasman Pulp and Paper Co Ltd, now Asia Pacific regional director of UBS Timber Investors); Dennis Lee (then a senior economist with the Ministry of Forestry, now Director and Senior Research Analyst, Craigs Investment Partners); and Paul Quinn (then Executive Director of FIC, now a National Party List Member).

It was published in January 1992 but written in 1991, a time when the New Zealand forest industry was coming to the end of an era that saw major changes in the sector owing largely to privatisation of the NZ Forest Service.

A summary of some main points from the study are presented below.

- Australia has its own expanding softwood plantation resource base.
- Outside Australasia, substantial market development time and cost will be involved as New Zealand’s radiata pine is not well known in many markets.
- New Zealand faces a challenge in the availability, frequency, and cost of shipping.
- The lack of concentration of plantations inhibits maximising new wood processing initiatives at an economically attractive international scale.
- This contributes to further developments in the pulp and paper sector nationally being severely limited.
- The need for an industry strategy and associated action programme is identified as an important issue.
- Mandatory single desk marketing is not recommended as appropriate or workable; rather, the approach recommended is a strategic vision which constitutes “flying in formation”.
- The sawmilling industry plays a pivotal role in the sector, but this is a challenging goal given the difficulties of sawmilling in terms of industrial structure, inter- and intra-competition, and the extent of the improvement needed in financial returns.
- New Zealand is of significance in Pacific Rim trade terms for softwood species.
- It is necessary for New Zealand to transfer its knowledge of processing radiata pine as part of the market development programme.
- New Zealand’s light-coloured MDF and innovative product developments have resulted in successful capture of a significant share of current regional trade flows. Japan and Taiwan will be the growth import opportunities.
- New Zealand’s growth in harvest volume is too widely dispersed regionally to permit construction of new mills.
- A more focused, professional, and effective marketing performance is needed.
- The (physical and legal) certainty of wood supply represents our principal international advantage.

- The “environmentally positive” aspect of the nation’s plantation forests is a debatable and emotive matter which carries high risks in terms of market promotion.
- A coordinated approach to off-shore markets offers substantial benefits to New Zealand’s industry.
- If investors were to proceed with investment in New Zealand it would most likely be in wood processing through joint ventures.
- New Zealand’s returns from greenfield sites are mediocre relative to other locations which offer predominantly brownfield opportunities or corporate acquisitions which have a risk/return profile far superior to greenfield investments.
- A ban or tax on log exports is not a policy alternative to “force” processing investment.
- Place emphasis on enhancing bilateral trade terms, including reductions in off-shore tariff rates for New Zealand goods.
- Investment by the government in new plantings laying a base for longer-term trade and investment expansion.
- The need for the government to maintain an effective Ministry of Forestry is critical.
- Some of the most important issues for the New Zealand forest industry to address include:
 - collectively agree upon and commit to a broad strategic direction in respect of future developments;
 - ensure the industry association structure is appropriate for implementation of the vision;
 - maintain action momentum through commitment, benchmarking, and regular strategy revision.

2. THE FOREST PROCESSING INVESTMENT ENVIRONMENT – OPPORTUNITIES IN WOOD PROCESSING: JUNE 2001

This report was commissioned by the Ministry of Agriculture and Forestry (MAF) and prepared by Chris Brown and German Ortiz for Forest Research. The brief for the report was *“To conduct a study investigating the effects of factors influencing domestic and foreign investment in New Zealand, and policy initiatives which may enhance investments in forest products processing.”*

A summary of some main points from the report are presented below.

- Few overseas companies have invested in wood processing without also investing in forest ownership.
- The greatest challenges are likely to be in developing markets for products made from unpruned logs.
- Significant investment is needed in mills producing engineered wood products, as well as in market development.
- Investment occurs if an adequate rate of return can be made at an acceptable degree of risk; the single largest perceived obstacle to wood processing investment is the RMA. Establishing ready-zoned industrial areas with consents already approved would help.
- Potential non-legislative constraints on investment include: transport and energy infrastructure; labour issues; market development and market access issues; and access to finance and certification.

- New Zealand's major competitive advantages are its wood processing expansion development, its industry knowledge development and investment attractiveness.
- At present, the costs of accessing wood are not a significant disincentive to investment, but the resource is too scattered to make large-scale mills economic, such as pulp mills.
- Resource quality may also be a significant constraint on investment.
- Market development and market access are constraints on wood processing investment and there is urgent need for rapid development of new markets.
- Freight costs comprise a significant component of wood processing with distance to export markets, and the availability of cost-effective shipping options being significant concerns. The costs of sea-freight could perhaps be minimised by exploring innovative arrangements, for example, through formalising new consortiums for shipping.
- We need to shift from production-based philosophies to market-led philosophies; and certification is a component in this.
- There is merit in providing information and assistance to Māori groups to raise awareness of potential opportunities in wood processing.
- Generic marketing retains an important role in ensuring that New Zealand radiata pine is positioned and marketed in a consistent manner.

3. BENCHMARKING THE COMPETITIVENESS OF THE NEW ZEALAND WOOD PROCESSING INDUSTRY: JUNE 2004

This relatively short report (around 30 pages) was commissioned by MAF to update the previous 2001 report discussed above. On reflection, possibly too little time had elapsed between the two reports for any significant changes to have occurred; perhaps a five-year gap would have been more realistic.

A summary of some main points from the study is presented below.

- The competitiveness of the New Zealand's wood processing industry did not change from its evaluation of 2001.
- New Zealand's competitive strengths are its processing development and industry knowledge, its general competitiveness level, and wood resources.
- Its weaknesses include: relatively low market development (sector and country); investment attractiveness; relatively high raw materials; and compliance costs.
- Industry has failed to keep pace with its competitors and has also suffered from relative poor returns on investment.

4. NEW ZEALAND FOREST INDUSTRY POSITION AND OPPORTUNITIES: MARCH 2006

During 2005 the Forest Industry Development Agenda (FIDA) Steering Group considered the need for a strategy to promote investment in wood processing. As part of this, the Group sought a comprehensive analysis of the New Zealand forestry sector's global position as a base from which to develop a strategy.

Scion (James Turner and Frances Maplesden) prepared this report and presented it to the Steering Group in March 2006. Subsequently the Steering Group decided not to proceed with developing an investment strategy.

A summary of some main points from the study are presented below.

- There is significant potential supply from existing forests and plantations in North America, Europe, South America, and Oceania, from fast-wood forestry in the tropics, from the use of non-virgin and other fibre sources, and from continued illegal logging.
- The greatest growth in global forest products demand will be for secondary processed products in developed countries and primary processed products in developing countries.
- The construction and home decoration sectors are an important influence on demand and the Chinese domestic housing sector represents a major opportunity, while consumption of forest products is forecast to grow in the US, China and South Korea.
- New Zealand growers face strong competition, particularly from the fast-wood forests.
- The cost competitiveness of New Zealand wood could potentially decline as a result of increased harvest and transportation costs, and ability to realise higher values from more profitable land uses.
- We will be competing (with other supply chains) in accessing emerging markets such as India and the Middle East, as well as in our existing markets.
- An additional challenge in the Australian market is its forecast expansion of domestic production.
- New Zealand's trading costs – tariff and non-tariff barriers – are being addressed to improve the competitiveness of exports, particularly processed products.
- There is poor port infrastructure in some regions and a current under-capacity of shipping.
- Cost competitiveness can be improved through improved productivity economies of scale, and reduced wood costs through improved conversions, but the industry is made up of a relatively large number of suppliers producing undifferentiated products.
- Enhancing productivity will involve industry leadership, training, capital investment, and government funding of research and training.

5. A FORESTRY SECTOR STUDY, APRIL 2009

This report was prepared primarily by MAF Policy staff working on domestic and international forest policy issues. This was the first in a series of sector studies that will be prepared by the Policy team at the MAF over coming years. The purpose of these studies is to assist MAF to better understand the issues that influence the contribution and performance of the primary sectors. Another intention is to foster debate on the issues. At a practical level, the findings can be used to shape the future work and resource priorities for MAF Policy.

A summary of some main points from the study are presented below.

- Many environmental services provided by forests are non-exclusive and communities are increasingly demanding environmental and economic services associated with trees and forests.
- But there is a lack of mechanisms that economically recognise forestry's environmental services and how those services support sustainable land management.

- Looking ahead, these mechanisms may provide regular and/or alternative income streams, but those who pay for environmental services may also expect to be involved in the management of the forests that provide the services.
- Climate change issues are starting to create market mechanisms.
- Tree planting will continue to be one of the best ways to use some of New Zealand's eroding pastoral hill country. Possible barriers to investment include:
 - a general lack of integration between farming and forestry, with the exception of farm-foresters;
 - the potential for poor returns that would discourage investors;
 - land-use controls in parts of many districts that require consents for tree planting;
 - difficulties with obtaining consents (under the RMA) for developing wood processing facilities;
 - issues and/or perceptions about the stability and cost of the electricity supply;
 - shortages of skilled labour;
 - poorly informed generic opposition to plantation forestry.
- People will demand sustainable products and look at the environmental credentials of building products, and there are greater opportunities for more use of wood in higher-intensity urban living and in multi-storey residential buildings.
- Higher energy costs may make wood-based products more cost competitive.
- Wood is a renewable resource and the NZ Wood programme tells this story to firmly secure wood's place in the national psyche.
- Plant-based biomaterials and bioenergy topics include:
 - converting wood fibre into energy and biofuels;
 - wood processing is able to reduce carbon footprint by using biomass to generate energy;
 - but forest residues could be further exploited.
- Efficient transport options:
 - logging truck increased weights and dimensions;
 - small-scale, high-tech sawmills close to the more scattered forest.
- While the Asia-Pacific region will remain our focus, high-value products may also enable affluent European markets to be accessed and the more affluent Middle Eastern countries provide opportunities for market diversification.
- Consumption of forest products is forecast to grow strongly in developing Asian countries.
- New Zealand is exposed through the currently limited number of export markets.
- Addressing international trade issues is a high priority.
- Reducing shipping costs could be as important as productivity gains, and sea freight costs may be reduced through innovative back-loading and coordinated freight.
- Exchange rate movement will continue to be strongly influenced by external factors.
- A substantial proportion of New Zealand's forest area is under the control of companies with overseas headquarters.

- The exporting sector must ensure that importers understand how to correctly store and use radiata pine.
- Harvesting has the potential to increase up to 50 percent more than the current annual harvest by 2020.
- Research and development will be critical to improving international competitiveness, and sustained investment and industry-wide collaboration in support of the 'innovation system' is needed.
- Small-scale forest owners:
 - the resource is often in quite small, remote blocks and widely spread;
 - small-scale growers also face difficulties in the costs of accessing recognised certification processes;
 - there is a weaker relationship between growers of the raw material and processors of that material.
- Wood supply to the processing industries:
 - new and existing wood processing ventures will increasingly require suitable log supply agreements to be negotiated with a much greater diversity of (often small-scale) forest owners;
 - average harvesting costs are likely to increase from steeper, more remote country;
 - the solid wood processing industry is a key link in the wood processing value chain.
- The Emissions Trading Scheme may shift investment from production forests to 'carbon forests'.
- The effects of climate change may have regional implications for species selection and forest management.