FOREST INVESTMENT & MARKET OUTLOOK 2014
NZ WOOD PROCESSING – CHALLENGES & OPPORTUNITIES
9-10 APRIL 2014
Auckland – NEW ZEALAND

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POYRY – GLOBAL INDUSTRY SPECIALIST CONSULTING FIRM

6500 experts, 50 offices, delivering Management Consulting and Engineering projects in 100 countries worth USD 900 million.

Source: Pöyry Management Consulting
WE WORK RIGHT ACROSS OUR INDUSTRY’S VALUE CHAIN

INDUSTRY’S STRATEGY DEVELOPMENT PARTNER

• 40 years of partnership, 1000s assignments

OPERATIONS EXCELLENCE IMPLEMENTER

• USD +500 million implemented cost savings

BANKS’ CREDIBLE FINANCING EVALUATOR

• +1000 investment due diligence cases

PE’s COMMERCIAL & TECHNICAL ADVISOR

• +50 deals globally
AGENDA

• Global trends
  • NZ market
  • NZ processing industry
  • Integration
GLOBAL SOFTWOOD SAWNWOOD DEMAND

Sawnwood demand in Oceania is low compared with the rest of the world.
GLOBAL MDF SUPPLY AND DEMAND

Asia is the largest producer and consumer of MDF

*Europe includes Turkey and Russia

Source: Pöyry Management Consulting
ASIA PACIFIC DEMAND TO 2020

Both an impediment and an opportunity for the New Zealand processing industry.

*Forecast is based on real GDP growth of 7.6%/a in China and an average of 4%/a for other APAC countries.

**Softwood only; roundwood equivalent
SHOULD PROCESSING BE ALIGNED WITH FIBRE AVAILABILITY?

New Zealand has surplus fibre – should the processing be here?

Panel market growth

Wood fibre availability - Tier 1

Wood fibre availability - Tier 2

Source: Pöyry Management Consulting
SOFTWOOD SAWNWOOD TRADE TO CHINA

Most countries focus on structural markets and only fall-down product is supplied to China while NZ faces limitations due to the limited and competitive Australasian structural market.

Proportion of a Countries Supply Volume Going to China

- Russia: 42%
- Canada: 3%
- Chile: 5%
- Sweden: 40%
- New Zealand: 9%
- United States: 3%
- Others: 5%

Source: World Trade Atlas (sufficient for comparison, not accurate for detailed financial analysis)
Although NZ’s sawlogs production cost is higher than competitors it is very low compared to the cost of imported logs to Chinese sawmills.

<table>
<thead>
<tr>
<th>Country/Region</th>
<th>Stumpage</th>
<th>Harvesting</th>
<th>Transport</th>
<th>Overhead</th>
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</thead>
<tbody>
<tr>
<td>China (imported NZ logs)</td>
<td></td>
<td></td>
<td></td>
<td>+123%</td>
</tr>
<tr>
<td>Germany, south, spruce</td>
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<tr>
<td>Austria, spruce</td>
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<tr>
<td>Finland pine</td>
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<tr>
<td>USA PNW D-fir</td>
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<tr>
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<tr>
<td>Sweden Pine</td>
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<tr>
<td>New Zealand, radiata pine</td>
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<tr>
<td>Canada, BC D-fir</td>
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<tr>
<td>Brazil, SYP</td>
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<tr>
<td>Russia FE, pine</td>
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<td>USA South, SYP</td>
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<td>Chile, radiata pine</td>
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Note: Data Q4 2013
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MAJOR MARKETS AND END-USES FOR NEW ZEALAND SOFTWOOD LOGS, 2013

Why can’t New Zealand become a major exporter of processed products?

End-Use Segmentation
- Sawnwood
- MDF/PB
- Plywood
- Pulp
- Other

Export Destinations
- China: 71%
- S. Korea
- Japan
- India
- Others

Source: MPI, WTA
SUPPLY AND DEMAND OF SOFTWOOD LOGS IN NEW ZEALAND

Domestic demand has been relatively constant and processors pay export parity prices, a bigger impediment to industry growth has been the lack of supply security.

Harvest Volume and Domestic Consumption of Softwood Logs in New Zealand 2000-2013 (million m³)

*Domestic Consumption = Harvest Volume + Imports – Exports

Source: Ministry of Primary Industries (MPI) New Zealand, World Trade Atlas (WTA)

Softwood Log Domestic and Export Prices (NZD/t nominal)

Source: Agrifax and Pöyry
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SCALE IN SAWMILLING IS NOT AN IMPEDIMENT TO GROWTH

Having sufficient scale for efficiency and the right operating model beyond structural are key for the industry to capitalise on China’s potential.

Share of the installed sawmilling capacity

<table>
<thead>
<tr>
<th>Country</th>
<th>&lt;50 50-99</th>
<th>100-199</th>
<th>200-299</th>
<th>300+</th>
<th>'000 m³/year</th>
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<tr>
<td>New Zealand</td>
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<tr>
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</tr>
</tbody>
</table>
FOR PANELS SCALE IS IMPORTANT!

The whole region lacks scale and integration with New Zealand left even further behind.

Source: Pöyry Management Consulting
COMPETITIVENESS OF THE NZ LUMBER INDUSTRY

By modifying the operating model New Zealand could become more competitive and generate higher margins.

Manufacturing and Delivery Costs compared to Delivered Prices to China Nanjing Port, Container [USD/m³]

Source: China Bulletin, MPI, Pöyry Analysis, Industry Sources
MDF PRODUCTION COST COMPARISON

A world-scale MDF facility would reposition New Zealand in the region.
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PLANTATION OWNERSHIP INTEGRATION

Apart from Oceania, ownership is vertically integrated.

**FOREST AREA**
(million ha)

**South America**
- Arauco (Chile): 0.73
- Fibria (Brazil): 0.54
- CMPC (Chile): 0.50
- PROFORCA (Venezuela): 0.43
- Suzano (Brazil): 0.35

**Africa**
- Mondi (South Africa): 0.35
- Sappi (South Africa): 0.31
- NCT (South Africa): 0.22
- Komatiland (South): 0.13
- MTO (South Africa): 0.07

**SE Asia**
- APP (Indonesia): 0.93
- Riau Andalan (Indonesia): 0.34
- APP (China): 0.30
- China Forest Holdings: 0.23
- TELPP (Indonesia): 0.19

**Oceania**
- Hancock (Australia): 0.40
- Forests NSW (Australia): 0.27
- Hancock (NZ): 0.24
- KT (Harvard, PSP, AIMCO & ANZFF): 0.21
- 0.20
More than 60% of wood based panel capacity globally
Europe and Latin America leaders
Oceania stranded assets requiring modernisation

Drivers
- Fixed costs reduction
- Efficiency

- More than 60% of wood based panel capacity globally
- Europe and Latin America leaders
- Oceania stranded assets requiring modernisation
BUSINESS INTEGRATION

Drivers
• Value chain power
• Growth
SITE INTEGRATION

Drivers

- Cost leadership

Integration

2 products +
+ impregnation +
Flooring + resin +
others

2 products +
or impregnation or
Flooring or resin or
others

1 product +
impregnation or
Flooring or others

Raw & Surf

Raw

Low

Old

Asset Quality

New

More than 10 years old
10 years old
5 years old

Chirk
Mielec
Szczecinek

Kastamonu
Sandebeck
Burgas
Sanem

Lampertswalde

Yegoryevsk
Burgos
Sebes

Brasov

Presov
Oxford US

Bjelovar
Danyang
Beijing

Mohacs
Zvolen

Novovolynsk

Smorgon

Veliko Tavorno
Szombathely

Drivers

29/04/14
FIBRE VALUE INTEGRATION

Drivers
- Renewable
- Sustainable
- Closed loop
- Free of chemicals
- Maximising synergies

R&D growing trees
Biotechnology/Cosmetics
Plantations

Wood Chips
Pulp & Paper
Logistics

Bioenergy
Rice
Rice Husk Waste

Wet Process Hardboard
Old machinery recycling
(Water used to irrigate plantations)
CLUSTERING AND NEW OPERATING MODELS

Full utilisation - infrastructure resource, energy and asset

- Land
  - Wind farms, energy crops, agricultural residues
- Organics
- Biomass
- Energy company
  - Recovered materials (i.e. wood, biomass)
  - Heat, power, biogas off-take
- Other substrates. Plastics, metals, glass, specialised paper/packaging recovery
- Value added Product (value from waste)

- Panel/Furniture Site
- Other manufacturing (e.g. composite wood, glass)

Site integration

Source: Pöyry Management Consulting
KEEPING AN OPEN MIND WILL BE KEY…..

Where to invest?, How big? What level of integration? How to secure fibre? What is the optimum supply chain to markets?

MDF Cost Competitiveness
(standard 18 mm board, as at Q4 2012)

Source: Pöyry Management Consulting
NZ WOOD PROCESSING INDUSTRY – WHERE FROM HERE?

CHALLENGES
- Lack of supply security
- Limitations to traditional structural lumber markets
- Lack of vertical integration
- Higher log costs than some of NZ’s competitors

POYRY VIEW
1. Scale is important for panel but is not the major driver of competitiveness in lumber production.
2. New operating model is required to capture the opportunity and improve competitiveness
3. The opportunity will not be based on a structural lumber operating model.
4. Move away from exporting our resources to others who add the value
5. Further work is required to identify the optimal new technical concepts for NZ

STRENGTHS
- Increasing fibre deficit in the Asia Pacific
- Softwood fibre availability
- Competitive, energy/labour/distribution costs to China
- Strong economy and foundation to build on
- Established industry players
The leading advisor to the world’s capital and resource intensive industries. Clients choose us for the sharpness of our insight, deep industry expertise and proven track record – because results count.

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