The Future for Forest Management in Australia

ForestTECH, Albury, November 2009

Nick Roberts, Forests NSW

Topics

- Turbulent Times
- Supply Demand
- Australia’s forestry costs and cost escalation
- Softwood forestry profitability
- Government support for the industry
- Opportunities
The Forest Industry has been going through turbulent times:
- Changes in ownership of significant assets
  - Softwood saw milling: exit of Weyerhaeuser and sale to CHH making them the largest softwood saw miller in Australia; Gunns purchase of Auspine; failure of Dale and Myers Summers Mill (now restarting) and Pinetec in Perth
  - Hardwood sawmilling: purchase of ITCs hardwood saw milling assets by Gunns making them the largest hardwood saw miller in Australia
  - MIS Forestry: failure of Timbercorp and Great Southern; purchase of 19% of FEA by Gunns; Senate Enquiry into MIS Industry; decline in MIS investment. Purchase of Timbercorp assets by GFP.
- The impact of the global financial crisis on operating profits and balance sheets
Turbulent Times?

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MIS Take

Source: AAG
Forestry has been going through turbulent times:

- Changes in ownership of significant assets
  - Softwood sawmilling – exit of Weyerhaeuser and sale to CHH making them the largest softwood sawmiller in Australia; Gunns purchase of Auspine; failure of Dale and Myers Summers Mill and Pinetec in Perth
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  - MIS Forestry – failure of Timbercorp and Great Southern; purchase of 19% of FEA by Gunns; Senate Enquiry into MIS Industry; decline in MIS investment. Purchase of Timbercorp assets by GFP.
  - MDF – Laminex closure of their Perth plant
- The impact of the global financial crisis on operating profits and balance sheets

Prospect for further change

- Privatisation of State Owned forestry plantations:
  - Queensland preparing for a sale
  - South Australia considering a sale
Possible Changes to Forest Ownership

Prospect for further change

- Privatisation of State Owned forestry plantations:
  - Queensland preparing for a sale
  - South Australia considering a sale
- Further consolidation of the MIS Industry
- Increasing impact of the TiMO’s on the forestry sector
- Further consolidation / sales of in the softwood saw milling sector
- Changes of ownership in the panels plants
- Improving economic conditions driving profitability and the ability to do deals
Conclusion - 1

- Consolidation will likely continue with larger more economic “corporate style” units prevailing
- The influence of the State on management of plantations will decline over time.
- Rising impact of the TIMO’s – lean management, a shorter term investment horizon, strong financial focus
- Greater utilisation of contractors
- Everyone will be looking for improved return on assets

Annual Saw Log Supply (000'S M3/ANN)

For the next 20 years softwood saw log availability is flat with hardwood making a contribution within 15 years. Does not include the impact of the recent fires.

Source: Bureau of Rural Sciences
Previous projections indicate the maximum shortfall of 2.0m m3 in March 2005, 2.5m m3 July 2008 and now 3.7m m3 in November 2009.

Data Source: ABS

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The “Good” and “Bad” news in the forecast

- The “good” news is that strong underlying demand should help maintain strong pricing in the saw mill sector and hopefully the forestry sector.
- The “bad” news is that as the deficit increases in size our market will become more attractive to offshore suppliers who will likely acquire infrastructure to service the market.
- Recent examples are Stora Enso (Sweden) and Arauco (Chile).
- Once established large importers will be difficult to displace and have the ability to be disruptive in market slow downs.
Underlying Demand for Housing

Housing deficiency is beginning to approximate one year's demand

<table>
<thead>
<tr>
<th>Underlying Demand ('000) 2009/10-2013/14 Annual Average</th>
<th>Dwelling Stock Deficiency As at June (Thousands)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2007</td>
</tr>
<tr>
<td>New South Wales</td>
<td>46.3</td>
</tr>
<tr>
<td>Victoria</td>
<td>43.1</td>
</tr>
<tr>
<td>Queensland</td>
<td>40.5</td>
</tr>
<tr>
<td>South Australia</td>
<td>11.0</td>
</tr>
<tr>
<td>Western Australia</td>
<td>21.0</td>
</tr>
<tr>
<td>Tasmania</td>
<td>2.4</td>
</tr>
<tr>
<td>Northern Territory</td>
<td>1.9</td>
</tr>
<tr>
<td>A.C.T.</td>
<td>2.6</td>
</tr>
<tr>
<td>Australia</td>
<td>168.9</td>
</tr>
</tbody>
</table>

f = forecast  
Source: BIS Shrapnel & ABS data

House Construction Forecast

The saw milling sector worked close to capacity in 2003/04

Source: BIS Shrapnel
Australia’s log supply to provide for structural lumber for housing needs is flat for the next 20 years
- Short term demand for housing is likely to outstrip Australia’s ability to supply domestic demand
- Commercial returns from saw mills and planted forests should increase
- Longer term population growth will fuel demand well in excess of Australia’s ability to supply
- Large committed importers will become a feature of the market
- The industry needs to plant more trees

Regional Forestry Costs – 2006/07 (A$’S)

<table>
<thead>
<tr>
<th></th>
<th>South Africa</th>
<th>Chile</th>
<th>Australia</th>
</tr>
</thead>
<tbody>
<tr>
<td>New Land</td>
<td>$850</td>
<td>$2,743</td>
<td>$4,750</td>
</tr>
<tr>
<td>Establishment</td>
<td>$590</td>
<td>$540</td>
<td>$1,781</td>
</tr>
<tr>
<td>Overheads</td>
<td>$160</td>
<td>$103</td>
<td>$181</td>
</tr>
<tr>
<td>Harvest</td>
<td>$10</td>
<td>$6</td>
<td>$12</td>
</tr>
<tr>
<td>Loading and Transport</td>
<td>$11</td>
<td>$11</td>
<td>$9</td>
</tr>
</tbody>
</table>

Australian Forestry costs are the highest within this set for comparison

Source: Forestry Economic services
Local Currency US$'s

Land cost have escalated rapidly in Australia and New Zealand

Source: Forestry Economic Services

Establishment Cost – Index

Australia’s establishment costs have escalated the most rapidly by comparison with international benchmarks

Source: Forestry Economic Services, Forests NSW
Australia’s harvesting costs have escalated the most rapidly by comparison with international benchmarks

Source: Forestry Economic Services, Forests NSW

Australia’s transport costs have escalated the most rapidly by comparison with international benchmarks

Source: Forestry Economic Services, Forests NSW
Australia’s sawlog prices have been relatively flat in local currency and similar in US$ by comparison with international benchmarks.

Source: Forestry Economic Services, Forests NSW

<table>
<thead>
<tr>
<th>More Recent Benchmarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Seedling Costs - A$/1000</td>
</tr>
<tr>
<td>Cuttings Cost</td>
</tr>
<tr>
<td>Ripping - A$/ha</td>
</tr>
<tr>
<td>Transport - A$/tonne km</td>
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<tr>
<td>Field labour cost - $/person/month</td>
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</tbody>
</table>

- Australian forest management costs remain high by international comparison
Conclusion - 3

- Australia’s costs are high by comparison with international benchmark countries which have large areas of plantations.

- Australia’s costs are escalating faster than in international benchmark countries - the standard CPI adjustment on contractor rates needs to be questioned and tempered by productivity improvements.

- Australia’s log prices have moved at similar rates to but are well below international benchmarks and are not moving as fast as its costs are escalating.

- Australian sawn timber prices are high by international benchmark.

- Australian forest managers need to become more commercial.

Model Assumptions

- Land values – $2,500 – $5,500 per ha
- Log prices – NSW averages
- Discount rate – 1-10%
- Overheads - $50-$150 per ha per annum
- Rotation length – 31 years
- Establishment and roading costs – NSW averages
- Pulp yield and price – NSW averages
- Volumes – current yields
Across a range of land costs NPV breakeven at 3.5-4.5% annual return

Across a range of overhead rates NPV breakeven also at 3.5-4.5% annual return
Conclusion - 4

- Land prices, cost structures and pricing do not allow for an attractive rate of return on a conventional softwood forestry investments

- Significant change is required to bring about an environment where investments in forestry are attractive, and

- In addition to change in costs and revenues its difficult to see this happening without some form of ongoing Government intervention (e.g. MIS)

- Australian forest managers need to become more commercial
MIS Current Status

- Timber Corp forest assets have been sold and Great Southern remains in Receivership and forest assets on the market
- Pool of MIS investors has contracted
- Remaining MIS Companies seem to be faring reasonably well and successful in raising new capital (Willmott Forests and FEA)
- Senate Enquiry into MIS is currently being held
- Treasury don’t like MIS, but…..
- Planting trees contributes to Australia meeting its Kyoto commitments

MIS Current Status cont.,

- The failures of Timber Corp and Great Southern are more about management than the schemes themselves, but..
- Improvements to the MIS schemes could be made by allowing companies as well as retail investors to participate
- There is international precedent for Governments to support growth in their plantation forest estate – Uruguay being a recent spectacular example
There are sound reasons for the Government to provide support to the sector to plant trees:
- Strategic raw material
- Carbon sequestration
- Vision 2020

There is logic for the Government to look at how it provides support to the industry
- Alterations to the MIS schemes
- Grants
- Other tax benefits

Opportunities - Biomass
Forest biomass is suitable for:
- Electricity generation
- Cogeneration
- Bio Char
- Pelletisation
- Bio diesel
- Ethanol

Technologies are developing and it's not clear which will prevail however Carbon Prices and Renewable Energy Certificates will increase and increase the value of the raw material.

Offers a significant impact on re-establishment costs turning a $400-450/ha cost into a revenue opportunity.

Delays to implementation of the scheme will prevent any early financial gains.

However there are a number of significant emitters who are looking to have trees as part of their carbon abatement strategies.

The long term commitment to holding carbon stocks will likely dissuade some investors...

But the scheme meets many of industries needs and will assist in getting trees in the ground.
Carbon Modeling Assumptions

- 9% discount rate on Carbon and Timber revenues where applicable
- 75% of the area is plantable
- Forests NSW carbon estimates
- 100 year timeframe
- 400-600mm Western slopes (Forbes, Dubbo, Parkes), 600-800mm Hunter Valley Tablelands/Slopes (Singleton, Yass, Wagga Wagga, Albury Bathurst, Inverell), 800-1,000mm Tablelands/Slopes (Tumut, Walcha Guyra), 1,000mm-1,200 North Coast (Gloucester, Urbenville, Kyogle), >1,200 North North Coast (Wauchope, Dorrigo, Lismore)

### Carbon Sequestration

<table>
<thead>
<tr>
<th>Rainfall (mm/year)</th>
<th>Indicative Land Value ($/plantable ha)</th>
<th>Indicative Carbon Yield (tCO2-e) 30 year period</th>
<th>Accepting the values for Land and Carbon Yield how much can you afford to spend on Forest Establishment and Management for 100 years ($/planted hectare)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>$\text{CO}_2$-e</td>
<td>$\text{CO}_2$-e</td>
</tr>
<tr>
<td>400-600</td>
<td>$2,000</td>
<td>232</td>
<td>$176$</td>
</tr>
<tr>
<td>600-800</td>
<td>$3,500</td>
<td>291</td>
<td>-$948$</td>
</tr>
<tr>
<td>800-1,000</td>
<td>$4,300</td>
<td>484</td>
<td>$556$</td>
</tr>
<tr>
<td>1,000-1,200</td>
<td>$5,000</td>
<td>540</td>
<td>$758$</td>
</tr>
<tr>
<td>&gt; 1,200</td>
<td>$8,000</td>
<td>620</td>
<td>-$1,382$</td>
</tr>
</tbody>
</table>

Production Carbon Forest

<table>
<thead>
<tr>
<th>Rainfall (mm/year)</th>
<th>Indicative Land Value ($/plantable ha)</th>
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Conclusion - 6

- Biomass and carbon have the potential to have an impact on the area of forest planted, but..
- At the low carbon prices anticipated at the start of the scheme its unlikely to tip the economics in favour of plantations
- At current saw log values non productive forests can compete with productive forests across a range of sites

Impact of Technology

- Given Australia’s cost position one way of improving the economics of the business is the appropriate use of technology, but …. 
- Our competitors also have access to this technology and are developing it fast through innovative contracting arrangements
- GPS, LIDAR and other remote sensing technologies often improve reporting or data capture accuracy but need to be subject to cost benefit analysis or will just add to overheads
- Example tracking a D8 bull dozer ripping prior re-establishment. Angle of the ripping tyne at 600mm triggers the GPS recorder
Benefits:
- 100% sample obviating the need for standard quality control
- Safety benefits
- Approx 1 person year cost saving at $75,000 for approx $10,000 initial outlay

Impact of Technology

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Overall Conclusion

- It's difficult to make money out of forestry
- Fundamental change in the way we do business and ongoing Government support is required to keep the estate expanding
- Changes in ownership will change management philosophy
- Technology can and should have a big impact on reducing costs / increasing value
- There will be opportunities resulting from the CPRS and the expanded MRET but these will take some time to realise
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