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TRENDS IN INTERNATIONAL FOREST MANAGEMENT

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Forest management can be thought of as the business of growing trees. Traditionally, forest management has involved the within forest disciplines of establishing, maintaining, and protecting a tree crop. The technical issues include matching tree species to sites; managing seedling production and establishment; applying tree improvement and genetic enhancement programmes; evolving and implementing spacing and silvicultural regimes; and protecting the tree crop and land from disturbances such as fire, animals, weeds, and regulatory authorities.

Forest management is also an investment activity. To be sustainable it must return an economic value to the investor. The economic return is derived from a complex mix of costs, revenues, quality issues, and time inputs. These factors are largely determined by influences outside the forest gate, and result from international trends in politics and economic events that shape the global business environment.

There are many international trends that will increasingly impact forest management in Australia. The significant trends are those that will impact the economic returns from forestry. Included amongst these are:

Consolidation	The trend to larger global players through equity acquisition and strategic alliances;
Securitisation	The trend to financial separation of the forest resource from the processing industry;
Privatisation	The trend for State ownership of resources to be sold to private sector interests;
Certification	The trend to external auditing of environmental compliance;
Climate change	The trend for trees to be perceived as a partial solution to global warming issues; and
Process mechanisation	The trend to improved process controls facilitating fibre reconstitution into new consumer products.

CONSOLIDATION

Consolidation is the horizontal integration of forest industry businesses either through equity acquisition or strategic alliances.

The forest industry is very capital intensive. Pulp and paper plants have long been recognised as a serious investment activity. Transaction evidence of forest value, based on net present value rather than historical cost, has reinforced the reality that plantation resource investments also involve large and sustained capital expenditure. So both the raw material and processing ends of the forest business contribute to this industry being amongst the most, if not the most, capital intensive of businesses. Despite the capital intensity of forest industry businesses, and the tendency to produce commodity rather than differentiated products, there has been minimal consolidation of the industry until quite recently. This contrasts with other industries that are also capital intensive and offer commodity products, such as airlines and motor vehicles; where consolidation has reduced the number of global players.

The forest industry is now set for rapid consolidation. The trend is driven by globalisation in fibre and product markets and the capital intensity of the industry. It is also supported by several decades of generally volatile earnings, and overall poor return on investment for shareholders. The UPM-Kymmene (Finland) and APRIL (Indonesia) alliance on fine papers; and International Paper's (USA) recent acquisition of Union Camp (USA), along with earlier equity control of Carter Holt Harvey (New Zealand, Australia, and Chile); are indicative of the accelerating international trend towards consolidation.

Consolidation will offer the opportunity to lower cost levels, subject of course to good management of the alliance, merger, or takeover. Cost reductions will be possible through spreading of fixed overheads; sharing of technology and knowledge such as in product research and environmental compliance; and most importantly, through the ability to portfolio manage the multiple production facilities operated by the consolidated entity. Each plant can then focus on producing a single product, or limited range of products, at lowest possible cost. An enhanced logistics function will oversee delivery of component raw materials to owned plants for further value processing, and distribution to end use customers.

There are also implications for forest industry providers, such as research centers, consultants, equipment suppliers, and educational establishments. A global consolidated entity will have access to providers in many regions across the world, and will be able to competently evaluate their quality/cost service levels. The consolidated entity can internationally select the preferred provider, and then internally distribute their services throughout the wider organization. Providers who plan to service only a national or local regional market, risk losing market share to those who position their business for the changed global situation. Research providers will also need to consider the role of national cooperatives in their marketing. Knowledge acquired anywhere in the world can be applied internally and directly by the consolidated entity, without the local research

provider even being aware of the transfer. The ability to withhold confidential technology from local competitors will give added incentive to consolidated corporates to source internationally rather then locally.

Consolidation within the forest industry will accelerate over the next few years. Just as with airline alliances, expect to see major regional players link up with companies in other regions, to create true global players with resource supply and process facilities across all regions, and an international market presence. The groups could well include an American, a Scandinavian and/or European group, a north Asian processing company, and an Asian and/or southern hemisphere resource rich company. Once the consolidation phase has run its course, the forest industry may well see perhaps only 8 or 10 or 12 remaining global mega players that dominate the industry.

SECURITISATION

Securitisation refers to the financial separation of the forest resource from the processing industries. Fibre security is maintained through long term contract arrangements for supply, generally with buy back options if the financial partner chooses to exit. The separation of the trees from the processor emerged during the 1960's as a poison pill takeover defense. During the 1990's it has allowed processors who were dependent on long term State forest supply contracts to acquire the supplying resource assets when privatised by the government. For private sector integrated companies, securitisation allows positioning of the forest balance sheet asset (high value, but sometimes modest returns against present net worth value) separate from the processing assets (modest value, with higher required return on investment). For highly leveraged companies there is the opportunity to raise cash and reduce debt through securitisation of forest assets on their balance sheet.

In the simplest construct, securitisation requires an industry partner and a financial partner. The industry partner releases cash by securitising their forest asset, and can utilise this cash for further capital investment in processing, debt reduction, or rarely capital return to shareholders. It also allows the processor to pay for their raw material as used rather than capitilised in the balance sheet. A financial partner is attracted to forest securitisation to gain a spread risk through holding differing profile assets (stocks, fixed yield, property, etc); the historical evidence of stable and superior returns from forestry investments; and the ability to match longer term liabilities to the revenue flows from tree crops. In particular, pension funds have been attracted to forest securitisation as tree rotations of 20 to 30 years match the actuarial liability.

United States based pension funds have been the most active in investing in forest plantations. Groups such as Hancock Timber Resources Group, UBS-Brinson Resource Investments, Global Timber Fund, Prudential, and GMO have been active within the United States and internationally, particularly in the southern hemisphere temperate pine belt. Non US based funds also exist, such as FIM and Evergreen. Many more are emerging, including some that will be Australian based.

The alignment of interest with the financial sector has brought substantial benefits to the forest sector. Forest managers are now more sensitised to financial stewardship as well as the technical aspects of forest management. In many cases the financial partner is involved in the decisions affecting the forest, even to attending operational planning meetings. The reporting requirements of the financial sector have lifted the frequency and rigour of forest valuation reporting, and extended the requirement to predict change as well as report on current value. The political mandate of forestry has also been enhanced by the involvement of investment and pension funds in the forest industry. Even though the investment is indirect, a wide group of middle and upper income electors are now sensitised to forestry issues and their economic impacts.

The forest industry is now through the pioneer period for forest securitisation. As the methodologies are evolved and proven, and confidence grows, there will be many more players and transactions. But there will also be some emerging tensions. Securitisation is a transaction between willing partners, each with its own objectives, agreeing to share an economic value. Inevitably the sharing is contestable, and when and if either party feels aggrieved over the sharing allocation then disputes will arise.

PRIVATISATION

Privatisation is the transfer of management, and sometimes the ownership, of government owned forests to the private sector. There are many models for privatisation; depending on the legislative, political, economic, social, and cultural factors applying at the time in the governmental jurisdiction. The international trend to forest privatisation is linked to, and partially dependent on, both consolidation, as it identifies some of the buyers; and to securatisation, which facilitates the funding.

Historically it has been common for forests to be publicly owned. In more recent times the public ownership model has been underpinned by management for delivery of multiple outputs. Apart from timber, mechanisms to charge for other forest values such as water, recreation, and biodiversity have been poorly developed; else considered as free goods to all citizens. Government log pricing policies are often politically designed to facilitate regional development, or foster import substitution, or create rural employment and infrastructure; rather than maximise the stumpage revenue. Until recently it has also been difficult and expensive to arrange insurance for forests, particularly for catastrophic fire loss. Public ownership models of forests has therefore been reinforced by the unfortunate perception that forests are both high risk and financially low yielding assets.

A number of countries have now proven that a privatised model for forest ownership is workable and commercially sustainable. In the southern hemisphere temperate plantation economies, Chile lead the way with full privatisation in the 1970's. New Zealand largely completed privatisation of its government owned plantation forests during the 1990's; and the Australian State of Victoria did likewise in 1998. South Africa has issued an Information Memorandum to privatise its extensive plantation resources. Other countries

and States are also undertaking the necessary preparations leading to successful privatisation offerings of their resources. The common driver for State divestment of forest plantations is the recognition that governments need not assume the market or biological or financial risks of forest ownership. Once the private sector is assured it will not end up competing in the market with a government competitor who may discount log stumpage prices to achieve non commercial political objectives, then the private sector has shown a willingness to invest in both resources and processing. The length of democratic electoral cycles means that during the rotation of only one tree crop there could be as many as 10 changes of government, and hence forest industry policy. The private sector would rather not compete with such high uncertainty. Governments will often justify forest asset sales by the public debt reduction that is possible from the proceeds, but it is the twin benefits of commercial investment behaviour and industry efficiency that are the prime gains from privatisation.

The effect of privatisation is that all risk is assumed by shareholders. Investment and marketing decisions are taken commercially, rather than been driven by political, developmental, or social values. If these latter values are important, they can be achieved through transparent distribution mechanisms that compensate the owner for any costs involved. Under the privatised model, forest products markets operate more efficiently, and stumpage will reflect the true economic value of logs in their derived utilisation. If the true stumpage level is sufficiently high so as to attract new private capital, then the consequences of privatisation are increased levels of plantation establishment and further investment in processing facilities. Both Chile and New Zealand are proven examples of reinvigorated private sector investment in the forest industry following privatisation.

As each example of successful forest industry privatisation is evaluated, there will be a continuing trend to more governments exiting direct ownership in the industry. It is an important international forest management trend, as it increases the efficiency of the global industry by directly connecting investment reward with investment risk. However, the window of privatisation opportunity will inevitably close as the consolidation trend is completed. Firstly, the number of potential international forest asset purchasers, and their need, will decrease with consolidation. Secondly, there will be declining returns from public sector forest assets as they compete internationally with the small number of commercially powerful consolidated majors. As the financial attractiveness of the public assets deteriorate there will be less revenue derived from privatisation, and hence less government drive to exit the forest industry.

CERTIFICATION

Certification is the term covering the rapidly expanding international issues of sustainable forest management, or SFM; and “chain of custody” concepts for the marketing of forest products that meet SFM defined criteria. SFM was initially driven by the global environmental movement deeply concerned with widespread deforestation, particularly of tropical old growth forests. To politically reinforce the message and build wide popular

support, sustainability has been widely defined to include not only maintenance of the existing quantum of forest cover; but also retention of biodiversity, both flora and fauna; protection of indigenous people's rights; and preservation of cultural mores and social systems as perceived to be found in the undisturbed forest. Thus forest certification was the means to provide the political leverage to achieve environmental objectives.

Further commercial reinforcement has been provided by linking forest certification concepts to sustainable processing and distribution of forest products to end use customers. A number of wholesalers, and some retailers, in developed economies have surmised that there could be a possible market differentiation if wood and paper products could be certified to have originated from a sustainably managed resource, and that subsequent processing and distribution met environmental and social certified standards. The basis of the chain of custody concept is that knowledgeable consumers are prepared to pay a price premium for the satisfaction of knowing that their purchase came from a sustainably managed forest resource, and that subsequent processing and control of the product did not harm the environment or the human factors involved in bringing that product to the market. While there is some survey and anecdotal evidence in some markets that consumers are prepared to pay a premium for certified products, behaviour at the point of sale would suggest chain of custody certification is not yet delivering guaranteed price premiums.

The forest industry has been generally slow in responding to the international trends in forest certification. Initially, forest interests assumed the issue was purely a resource calculation to show non declining yields. The wider agendas of the protagonists are now recognised, and belatedly the forest industry is now constructively promoting its interests through the certification debate. The International Forest Industry Roundtable is a collective of sixteen countries who have economically important forest industry sectors including fibre supply and processing. The Roundtable largely represents private sector forest industry interests including plantation and managed natural forest systems across both the northern and southern hemispheres. Annual meetings are held to explore common positions and share experiences in working with national governments and the global environmental movement. The consensus is towards an international forest certification system that is based on mutual recognition of nationally appropriate standards that are subject to third party audit, developed with and by the forest industry in consultation with key stakeholders. Stakeholders will include customers; as well as interests as diverse as local communities, environmental groups, indigenous populations, trade unions, and government agencies. The forest industry in each country must work with and through its national government, as forest certification has become an intergovernmental issue relating to the trade and environmental conditions governing market access for forest products. Unfortunately, though international forest conventions can have huge political appeal, they can also contain substantial cost competitiveness penalties for the local industry. To avoid the disadvantages of an externally imposed international forest certification system the forest industry in each country must advise and instruct its government on the commercial implications. Through working together the forest industry internationally can then benefit from influencing the trends in forest certification.

CLIMATE CHANGE

The fifth international trend in forest management is particularly significant as it is driven from wholly outside the global forest industry. The issues of global warming, green house gas emissions, and climate change were highlighted at the Framework Convention on Climate Change conference held in Rio de Janeiro in 1992. Following further international meetings specifically debating climate change issues, the global response was formalised by way of the Kyoto Protocol in 1997. The developed nations at Kyoto agreed to green house gas emissions in the period 2008 to 2012 being referenced to their 1990 benchmark emission levels. If the Kyoto Protocol is implemented as intended it will have hugely significant implications for the forest industry.

The forest industry must proceed on the assumption that green house gas emission constraints will progressively apply to all economic activity. Kyoto was a meeting of 174 countries to reach agreement on complex issues amongst economically competing countries. Despite the lack of procedures for governing such an agreement a positive commitment was made, though the initial burden will fall on the Annex One (developed) countries. Each country must ratify the agreement, but it is not yet clear that sufficient countries to turn the Kyoto Protocol into a legally binding agreement will do so. In particular, United States ratification is dependent on developing countries also meaningfully sharing the economic burden of reducing green house gases; and of clearing bipartisan political maneuvering in the lead up to the next Presidential election. Implicitly, also, the global economy must remain in growth for Kyoto intentions to prevail. Any slide into world recession will negatively influence governmental commitment to the Protocol. Despite these uncertainties over implementation, the forest industry must plan for the introduction of a carbon emissions trading mechanism to evolve in the next few years.

Again, the forest industry has been late in responding to carbon emission trading issues. The debate over intentions and definitions has been lead by politicians, beauracrats, economists, utility companies and environmentalists. The forest industry must get involved, as there are many definition issues that will impact on the industry. The distinction between afforestation, reforestation, and deforestation has assumed great importance. Issues of tree crop eligibility are critical, including arguments on incremental activity and intention. The point at which carbon credits and debits are posted is fundamental to the forest industry. Clear differences emerge if the point is planting of the tree crop versus severance from the stump at harvest versus emission during processing and/or decay. Achieving recognition of the environmental benefit of carbon stored long term in forest products, and the tradeability of such carbon in harvested wood products through any emissions trading system, are clearly further issues of interest to the forest industry. In an industry that is globalising as rapidly as the forest industry there is also an issue of propriety ownership of the carbon credit. If owned by the private sector corporate entity, can it be transferred between countries for maximum financial benefit? If so, how does the transfer impact the national commitment to the Kyoto Protocol. Through being

integrally involved in the debate the forest industry can hope to positively influence the outcomes. Abdication is not an option. The International Forest Industry Roundtable is the forum for inter country coordination, and is actively working on climate change issues, but greater industry support is always needed.

Even if scientifically based definitions are adopted, and the incremental establishment of plantation tree crops is accepted as a transferable carbon credit, there will arise many distortions to the forest industry as we know it today. Tree crops will be established at lowest overall aggregate cost including land, planting, and maintenance. Their location may have little relevance to the geography of industrial processing options or end use markets. There will be a tendency to high volume growth of fibre with lesser emphasis on quality for end use or silvicultural manipulation. Ultimately this could lead to a global oversupply of low quality fibre with the consequent price and hence market implications.

The most important forest management trend resulting from climate change for the existing forest industry is the introduction of new players with carbon credit objectives rather than a forest industry focus. Financially powerful corporates who establish large volumes of fibre to trade them for carbon credits will not be following the current forest industry time frames or market strategies. The current players in the traditional forest industry have yet to coherently understand the impact of carbon credit forestry on their industry.

PROCESS MECHANISATION

Foresters have traditionally grown trees for an intended end use. Despite the generally long periods of time necessary to reach harvest maturity; species selection and silvicultural manipulation through spacing, pruning, and thinning techniques are applied to prepare the fibre for a market use several (or many) decades into the future. Whether it was 16th Century royal foresters growing oak keels for battleships, or their late 20th Century counterparts pruning Radiata Pine for clearwood, there is an assumption that market needs must be met by biology. However, through process mechanisation technologies there are now alternatives open to the forest industry. Process mechanisation lowers the risks of having to ascertain market needs many years before harvest.

The availability of new technologies is accelerating. Their development is interrelated, as advances in one technology allow progress in another. Technologies that are already adapted into the forest industry include process controls through computerised management of the operations; multi tasked machine tools that allow many processing functions at one work station; development of adhesives and additives that can enhance traditional wood properties; and use of composites that combine wood fibre with plastics, metals, or other fibres to produce new materials.

The effect of process technology will be to neutralise the traditional stumpage premiums paid for preferred species, for quality logs, and for large dimension pieces. It will reinforce the international trend set by climate change to growing large volumes of lower quality

fibre. Primarily, process mechanisation will dramatically alter the sawmilling industry. Little has changed in the process for producing squared lumber in 150 years. A quality log of relatively large circular dimension, and therefore generally high cost log, is broken down by metal saws to produce 50 to 65% of squared saleable product, and the rest is converted to waste or low value wood chips. Process mechanisation allows greater use of slicing technologies that will utilise a lower quality, and hence value, log; with over 90% recovery of the fibre. The secondary impacts will be on the pulp and paper industry that relies on sawmill residues for raw material; and on the reconstituted wood panel sector.

Importantly, process technology will change the international competitivness of forest industry countries. The traditional concept of cost competitiveness is largely based on the biological ability of a country to efficiently grow quality logs in their forest. Information Technology solutions are at a common international price; as the cost of computers and programming differ little around the world. Similarly, the capital cost of machine tools for processing, whether they be to produce doorskins from an automated line or a 10 metre wide paper machine, have similar world wide pricing. International competitiveness factors will therefore become less dependent on forest resource criteria, and much more dependent on processing competitiveness.

CONCLUSION

The above six international trends in forest management all signal continuing quantum changes to the forest industry. Whilst separate analysis is useful to highlight the trends in each, they are all focused and integrated by the accelerating increase in international trade of forest products. As Australian plantation resources mature to allow greater access to the global forest products market, the influence of these forest management trends will increasingly and uncompromisingly shape Australia’s forest and forest industry business environment into the next millennium.