

Investing in a Sustainable Australian Forest Sector

2012 Australian Forest Industry Development Conference

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Remarks by David Brand, Managing Director, New Forests, to the Australian Forest Industry Development Conference, October 30, 2012.

Thank you to the organizers for the opportunity to speak to you today. I was asked to talk about investing in a sustainable forestry sector, and I suppose that the topic is timely and important because we have a forestry sector that is struggling and not making a lot of money right now. We are going through a restructuring of the MIS sector, the recent receivership of Gunns, a continuing withdrawal of governments from forestry, and very tough market conditions all at once. Things are fairly fluid, and I hope today to give some thoughts on where the forestry sector is heading and what forces are driving these changes as we move to a new era of greater institutional ownership.

Before I start, I will just say a bit about New Forests. The company is Sydney, Australia based and was founded in 2005. We have grown steadily over the seven years and have approximately \$1.25 billion in assets under management, including about 375,000 hectares of land and forestry estate in Australia, also a dedicated investment fund for Asia run out of Singapore, and an environmental markets business in the USA out of San Francisco.

I thought that I would tackle the question of how sustainable our plantation forestry sector is from an investment and economic perspective today, and to do this by trying to answer some basic questions. Before that, however, I wanted to just set the context of my remarks with a few statistics.

Context

Australia has 2 million hectares of productive timber plantations out of about 100 million hectares worldwide (areas with productivity >10 cubic metres per hectare per year, mean annual increment).

Australia produces about 25 million cubic metres of industrial roundwood versus 1.7 billion cubic metres per annum worldwide. That's about 1.5% of world timber production.

Australia is an attractive country for investment and has a lower cost of capital (or discount rate) applied to its forestry sector than anywhere other than the USA and possibly Canada. Currently about \$3.4 billion of institutional capital has been invested in timber plantations, or about 5.5% of the total \$60 billion of institutional capital invested into forestry worldwide. Total value of the sector, once fully rationalized is likely to be about \$6.5 to 7.0 billion out of a global investible universe of timber plantations estimated at about \$150 billion.

Note that all the processing facilities in Australia could probably be bought for \$500 million or less today, so the plantation forests of Australia are the critical asset and are very difficult to replicate if we lose them. This

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is very different from the way it used to be, for example in Canada, where the forest was largely assigned as licences to serve as collateral for the capital investment in the sawmills and pulpmills.

With the recent demise of Gunns and the announced sale of the Forestry SA plantations in the Green Triangle, the transition of the forestry sector to institutional ownership is past a tipping point. It seems worthwhile, therefore, to look at a few big questions hanging over our plantation sector.

Should Australia have a forestry sector?

The first question is whether there are good reasons for Australia to continue to grow our own timber. From a purely economic rationalist perspective you would say no, that timber is widely traded and readily available, and so if you aren't competitive, just use your land for something else that is more competitive and buy your timber on the international market.

The problem with forestry, however, is that it isn't like wheat, sheep meat, or beef. You can't shift land in and out of forestry from year to year in response to market conditions and volatility. If you cut down a timber plantation and turn the land back to grazing, it takes 10-30 years to bring another crop onto the market.

Forests need to be built into diversified, normal age class structures where growth and harvest can equilibrate. You can't have infrastructure, mills, and service sector companies coming and going from year to year—there is a need for stability. You also have a highly qualified workforce, most of who pursue their career in forestry and provide the central base of our competitiveness.

It is beneficial to have domestic timber for supply chain purposes. The goal in Australia is for timber retailers, house construction firms, and other major timber users to have minimum inventory and for the lumber sales and distribution function to operate 'just in time'. One distributor told me recently that his base service contract is that if the client asks for lumber by 2:30 pm on any day, he or she gets his or her delivery the next day. This can only be done with domestic timber, not with wood from Northern Europe that takes three months to travel here by boat. Because of this, the imported wood often ends up in warehouses or is sold into a traded or reduced price market. That is why the imported timber is 'hot' or unreliable, because it is fundamentally speculative.

From the perspective of domestic timber markets, the lack of a domestic source of supply would mean that timber prices will be far more volatile because of the volatility of shipping cost, currencies, and external competing demand factors. While there may be times like now that European timber is competitive, there will equally be times when it is expensive.

So in summary, it is not possible to turn a forestry sector 'on and off'. If Australia needs a forestry sector to support its domestic needs, it must have a continuous forestry sector, even if it is more competitive in some market conditions (e.g. low AUD, high international timber price) and less competitive in others (e.g. high AUD, depressed international timber prices).

This is a kind of greater good or market failure problem. Someone who owns a pine plantation and cuts it down for timber and then is offered a price for the land higher than the net present value of retaining the land in forestry and growing another tree crop at a point of time, would normally sell the land and be seen to act rationally. This reality is a significant problem for Australia, and frankly, New Zealand as well.

The challenge for us in the business of growing trees is to be as competitive as possible, and that means a continuous focus on increasing timber plantation productivity through genetics, silviculture and protection; strengthening the relationship between the forest, the mills and the customers; seeking innovations around

new markets like energy, hardwood veneer, CLT and carbon or biodiversity markets; and ensuring we have a well-trained, motivated and skilled workforce.

So, I think it is clear that there is substantial benefit to retaining a domestic forestry sector, but now let's turn to what that sector should look like.

Softwood vs. Hardwood

I always look at the forestry sector as serving three broad market segments—the biomass or pulp market, which is based on the cellulosic fibre or chemical characteristics of wood; the construction market, which is largely based on the engineering properties of wood and driven by the housing cycle; and the renovations and furniture market based upon the grain, colour, durability, and overall appearance of timber.

The biomass-based market includes both softwood and hardwood woodchip. I usually think about softwood pulp as being for newspapers, paper bags, and cardboard, and hardwood pulp being for printing and writing paper, photocopy paper, and packaging. Biomass markets, however, also increasingly include energy products, including direct combustion of wood, biochar or torrefied pellets, and liquid fuels; and platform chemicals or biomaterials like rayon, bioplastics, and potentially new materials such as cellulose nanocrystals that are stronger than carbon fibres or Kevlar.

The construction timber market is the central market for softwood timber as lumber or panels. There have been efforts to displace timber with steel frame construction or plastic formwork, but so far wood has held its own as a low embodied energy building material. The recent emergence of game changers like Cross Laminated Timber construction with half the weight of traditional multi-story construction is a good example of how timber can hold and even expand its market share.

The renovations and furniture market tends to be dominated by hardwoods. I always felt that the natural timbers and stone were a key part of culture. If you go into the Rocks and see a bar with sandstone and blackbutt flooring you know you are in Australia. You go to Canada and see granite from the Rocky Mountains and western red cedar shakes, and you go to Sweden and see the red paned timber barns and birch window frames. We have been losing this in Australia, but if we can successfully develop a domestic industry around blue gum, nitens, and even spotted gum plantations we may retain this valuable market segment and not give in to imported rubberwood flooring and Vietnamese teak furniture.

From an investment perspective, these market segments are somewhat uncorrelated and respond to different factors in the economy. The pulp, paper, and biomass market is very technology driven, as we saw the rise of the internet drive personal printers, but then equally the rise of the tablet start to erode newsprint and printer paper. The issues around climate change, fossil fuels, and sustainable consumption will drive the rise of demand for bio-energy and biomaterials into the future.

Housing and home renovations have short to medium-term linkages to the economic cycle, but also to demographics (younger societies have more household formation, while aging societies are renovating homes), urbanization, and the rise of the Asian middle class and disposable income.

By having both a softwood and a hardwood estate, Australia has great opportunities for industry development. Especially now, with the woodchip market in a transition and significant decreases in export woodchip prices, we should be looking at whether we can diversify especially the hardwood market, establish new processing options domestically and divert some of this resource to emerging opportunities in energy and biomaterials.

What is the Future of the Plantation Forestry Estate?

The Australian hardwood plantation estate is at a bit of a crossroads.

When the government endorsed the 2020 vision of trebling the area of forestry plantations in the mid-1990s, I don't think that they expected it to be all focused on short rotation plantations for woodchip export. The reality of the MIS, however, was that they wanted a short harvest cycle, and the woodchip market was best suited to their business model.

The commercial framework was not suitable to developing a sustainable forestry sector. The companies sold the projects as a product, taking payment for the plantation establishment, rental, and management costs all up front. They then used dividend profit margins of up to 40% out of the business, paid 10% commission to the financial planners, and used 80-90% leverage to buy the land. Too much money was raised in the peak of 2006 and 2007, and the firms were forced to pay excessive prices for land and to move out of the core forestry regions.

Hindsight is 20:20, but as we all now know the industry has collapsed and is being restructured into institutional ownership. The question is what the institutional investors will do with it.

We bought the Great Southern land bank, and the MIS projects continue to operate on the land. However, with Elders seeking to exit from forestry and Gunns now in Administration and Receivership, it is likely we will need to try to acquire these trees in the coming months. We recognize that the export market for woodchip is going to be volatile, difficult, and highly correlated with the exchange rate. It is very different to the softwood plantations where you have Australian dollar assets selling logs in Australian dollars to mills who sell their lumber in Australian dollars. From the perspective of our clients these are very different investment risk characteristics.

Our view is that the hardwood plantation estate needs some consolidation. The challenge is to identify what should be maintained in forestry and what should be returned to agriculture. If we just think of this problem as determining the economic margin for woodchip supply, very little of the blue gum is suitable for a second rotation at the current exchange rates. Maybe even none.

We supported the forestry carbon rules for the Carbon Farming Initiative being the same as the proposal under the Carbon Pollution Reduction Scheme, which would have allowed us to create a large carbon pool and integrate a large proportion of the blue gum into the carbon market, supporting a larger area of plantation retention into the second and succeeding rotations. The carbon market, at least during the fixed price period, would even give an Australian dollar price signal. As we transitioned to a traded market we would have a 100 million tonne buffer stock to reduce carbon price volatility. That didn't happen, and from what I can tell, almost all the hardwood plantations are excluded, so the only way to try to retain more of the plantation base is to try to develop new markets or other ways to increase the value of the timber. I also think that these policy settings may be changed in future, so it may be a matter of waiting for the rules to change.

Maintaining timber plantations as a competitive land use is a challenging economic issue. In the USA much of the timberland is on land that doesn't have any other commercial use, and so the value of forests is the discounted cash flow of future timber revenues. The valuation construct in Australia is completely different. You have two assets: land and trees. All of our timber plantations are on land that has other uses—primarily grazing and cropping. Therefore we value our plantations based on the combined value of the underlying land and the value of the tree crop—with the tree crop charged a rental cost for the use of the land. Our experience to date suggests that even if you charge the tree crop only a 5% rental rate on the land, the tree crop return is below 8%, which means you would be better off to harvest the trees and sell the land back to agriculture.

This is actually why the Government softwood privatizations are likely to be sustainable—they have sold the land use as embedded in the value of the plantations, and this is actually more like the US timberland model, where the only asset is the timber plantation.

When the blue gum woodchip was trading at \$207.40 I would estimate that about half the hardwood plantation base could hit an 8% hurdle. Today, with the Japanese price at about \$170, and the Chinese price between \$140 and \$150, I doubt any of it makes an 8% hurdle, even with the lower cost of coppicing the second rotation. The status quo doesn't appear to be the answer.

I suppose there are three questions you have to ask yourself:

1. Should the hurdle rate or return expectation for investment in Australian forestry plantations be lower to encourage more investment?
2. Should we just hope (or pray) that the blue gum woodchip market price will recover?
3. Can we develop other markets that will generate sufficient return to support retaining the hardwood plantations?

I will try to answer these in order. First, on the hurdle rate, I don't think it will be lowered. The way timberland returns are priced is basically to start with the international risk free rate, such as US 10-year treasuries, which is arguably zero in today's market, then add a US forestry risk premium, which currently sits at about 5.5% real discount rate (e.g. not including inflation). If we move outside the US, to Australia, there is no incremental sovereign risk, but we have to add currency risk of say, 100 basis points, and another 100 basis points for lower market liquidity and a less robust industry (the US South has myriad timber processing facilities and myriad forest owners, making a very robust market). So we often think that Australian softwood should have a discount rate of about 7.5% real applied to its valuation, and that won't change significantly unless the US forestry premium declines.

Hardwood plantation returns are more volatile, and therefore institutional investors would apply another 100 to 200 basis points onto the expected returns to take on that added risk, and that drives you up to about 9% real expected returns from the blue gum. I am not talking about distressed assets, but well presented assets being exchanged between equally motivated buyers and sellers. I don't think that there is an argument to reduce the discount rate for hardwood plantations in Australia, unless we can establish domestic markets or long term export contracts for the wood.

The other option would be to tap into domestic investors who don't have currency risk and could therefore apply about 100 basis points lower hurdle rate. We might think that with \$1.5 trillion in superannuation funds in Australia, the forestry sector would be flooded with money from domestic investors seeking Australian dollar denominated timberland. The problem is that the majority of timberland investors are seeking liability matching. So, for example a defined benefit pension plan (one committed to pay a certain proportion of your salary to you once you retire) can forecast its liability and select assets, including illiquid assets like forestry, to match them. In Australia, the super funds are mostly based on defined contributions, e.g. our 9% salary deductions, and the clients can shift from fund to fund at their choice. This means that Australian superannuation funds need greater liquidity and don't do the same degree of liability matching. That would make timberland less interesting or useful. It is worth noting that the Future Fund, who do have liability matching obligations, have been timberland investors and are reported to have participated in the Forestry SA sale.

Despite being an Australia-based manager, we mainly have offshore clients who are defined benefit pension plans or insurance companies. Australia is attractive to non-US investors because they have the same currency risk factors to consider as US investors in Australia, as opposed to US timberland where the European investor takes currency risk that is not a factor to US domestic investors.

The second question I posed is whether we should believe that the woodchip price will recover and therefore we should make the leap of faith and continue to grow the second rotation of blue gum. Unfortunately the role of forestry in institutional portfolios is not as a speculative commodity play, but as a 'real asset' with low volatility and positive correlation with inflation. While there is an acceptance that timber plantation managers can reduce total return volatility by deferring harvest in periods of low prices and increasing harvests in periods of higher prices, that requires a view that markets are cyclical. The hardwood woodchip market at present is going through a restructuring away from a Japanese dominated industry with stable pricing and relatively long-term contracts, to a spot market with more international competing supply and more reliance on Chinese demand.

We invest in Asia as well as Australia, and if you go to Vietnam, there are now about 2 million hectares of eucalyptus and acacia plantation, much of it on smallholder land, being cut on a rotation of five to six years. The operating costs are low, there are dozens of woodchip mills, and the wood is sold across to China with one day's barging. I was up in Cambodia in August, and they just had their first woodchip export from Eucalyptus and Acacia plantations that were established over the past decade. So, while we all expect Chinese demand to continue rising, we may also see continuing competitive pressure from lower cost producers closer to market. Even if the Australian blue gum is better quality, it still needs to operate off a benchmark which will likely be set by Vietnam, not Australia.

The Australian dollar will probably decline in the future, although we don't know when, and that will be the most important factor in being able to compete in the Asian woodchip market. But as we stand today, if we are cutting a mature blue gum plantation and getting \$10 or \$15 per green tonne stumpage, you don't have an economically viable business.

Our third question is whether we can develop alternative markets or a domestic pulpmill that might justify maintaining a hardwood estate in Australia. Domestic markets like energy, CLT, veneers, and plywood would create lower return requirements (e.g. reduce discount rates) and would reduce the currency exposure and volatility of export markets. The problem to date has been that energy markets pay even less than woodchip export markets and are primarily seeking to use low cost waste streams. There has been some work lately indicating that biomass energy systems based on torrefied pellets can be quite valuable in systems with good renewable energy pricing and may even be able to compete with woodchips on a residual stumpage basis. We have had a lot of companies come to see us to discuss a range of technologies around liquid fuels, biochar, and wood pellets. However, to date none have gotten beyond the pilot project state, so it is still speculative as to whether one or more of these will reach a scale and pricing model that will support plantations.

Domestic processing of hardwood, either via a pulpmill like the Gunns proposal or a satellite veneer facility like the Te Ann facility or some other development, is also worth considering. I recently read the RISI review of the Chinese pulp and paper sector. China has some real problems in developing a world leading pulp and paper industry. The first is that it has to import woodchip, which is a more expensive and volatile business model than Brazil. The second is that China has a rising demand for energy and doesn't want to develop more high energy industry like pulpmills. So the conclusion by RISI is that China may well seek to a) gain control of its woodchip supply and/or b) offshore the pulping capacity close to the fibre. This would suggest that China may seek to acquire both woodchip plantations and pulping capacity in Australia and in other markets. As I understand it that was the deal that Gunns was trying to strike at the end, before they ran out of time, and may well be a deal that could still progress.

The other approach would be to try to develop domestic hardwood lumber or veneer capacity. We sent about 35 containers of blue gum to China last year, and while it wasn't the best quality for veneer, the Chinese said that they would happily take it. We have also had some discussions with Indonesian firms we are working with in Asia, and they are also interested to explore satellite veneer mills in Australia to replace

timber from their logged out domestic forests. It would be interesting to see if there would be a way to establish hardwood processing alongside some of our softwood mills or put some hardwood processing in some of the areas further from Ports like Wattle Range in South Australia or the areas midway between Albany and Bunbury in WA. It may be that there is some collective industry development work needed here, where the plantations growers can encourage processing by offering long term resource security.

So I don't have a positive or clear answer on any of these three questions. We have looked at the Great Southern estate and basically broken it into three baskets—areas which are not viable for forestry going forward, areas where we feel there is economic justification to coppice the second rotation, and areas where the jury is still out and which will be considered as they reach harvest age. At present the Great Southern estate is about one-third in each basket.

Conclusions

So where does this leave us? I will close with a few general conclusions.

1. The softwood plantation estate is likely to be reasonably stable going forward. It is mostly on Government-owned land, where the cost of land is not a factor and the lease terms require forestry to be retained. This is the most analogous pool of assets to US timberland. There is still room for improvement, the need to focus on further productivity gains, and probably to shed some areas of marginal productivity to upgrade the overall estate. But the million or so hectares of pine plantation should be able to provide the bulk of our softwood timber over time.
2. The hardwood estate will contract down to between 300,000 and 600,000 hectares in size. The final size, scale, and geographic extent will be a function of how successfully we can pursue domestic bio-energy or processing industry development. Only a domestic hardwood industry will reduce volatility and risk, reduce return expectations, and create a stabilization of the hardwood plantation base.
3. Under no circumstances should we allow the MIS sector to re-inflate. This causes distortion in land markets, forestry economics, and misallocation of capital. Now that the sector is largely in institutional ownership, this should be the end game.
4. I doubt that there will be any significant new plantation development, especially without a reasonable carbon price. That means that incremental domestic timber supply has to come from productivity gains, rather than an increase in the area of the timber plantation estate.
5. Governments might be tempted to intervene by subsidizing plantation development, but my worry is that whatever the intervention is, it will be unsustainable and distort the economics of the sector, and potentially be counterproductive in the long term. It is better for governments to focus on supporting research, productivity enhancement, and reducing impediments to investment like stamp duty on forestry transactions.
6. Finally I will re-iterate that we have a small forestry sector by international comparison, but if it is focused on the fundamentals of productivity, capital efficiency, and a core purpose of meeting domestic demands it should be sustainable and able to support new industries and market opportunities. And it will provide a continuing benefit to Australia.

Thank you.