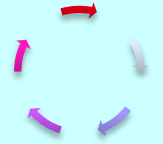


FORESTWOOD Conference

Museum of New Zealand Te Papa Tongarewa, Wellington, NZ

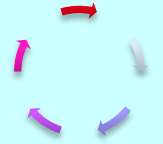
October 12th 2010

The Business



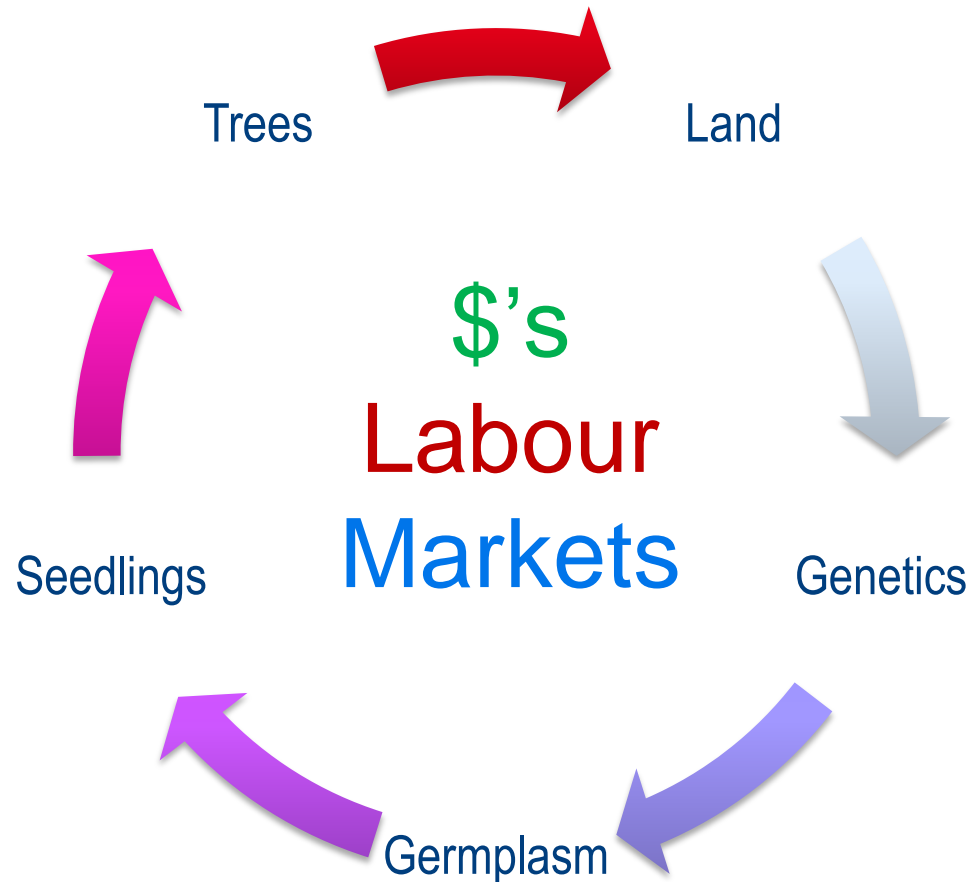
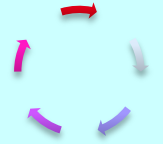
- A public trading enterprise within the NSW Department of Industry and Investment
- Manages native forest and plantations for timber production as well as offering services to private forest owners in harvest planning, plantation establishment and management.
- Provides a range of non-timber commercial services - carbon emissions trading, combating dry land salinity, land and mining site repair, renewable forest based energy products, recreation and biodiversity.
- The estate comprises:
 - 231,000 hectares of softwood plantations
 - 54,000 hectares of hardwood plantations
 - 2.45 M hectares of native forest with only 1.25M ha available for timber production of which only 1-2% is harvested a year

The Business cont.,

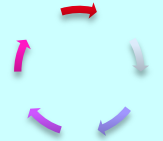


- Workforce of 850 employees with over 80 per cent located in rural NSW.
- 7,000 people directly employed and 15,000 indirectly employed as a result of activities associated with Forests NSW.
- Forests NSW main products are:
 - Hardwood: 730,000 cubic metres pa sawlogs
543,000 tonnes pa pulpwood
 - Softwood: 2,080,000 cubic metres pa sawlogs
983,000 tonnes pa pulpwood.
- Forests NSW's customers comprise a range of sawmills from state of the art - Hyne at Tumbarumba, Visy at Tumut and Norske Skog at Albury through very small family owned hardwood saw mills on the N Coast, in the Riverina and Central West

Industry Interconnectedness

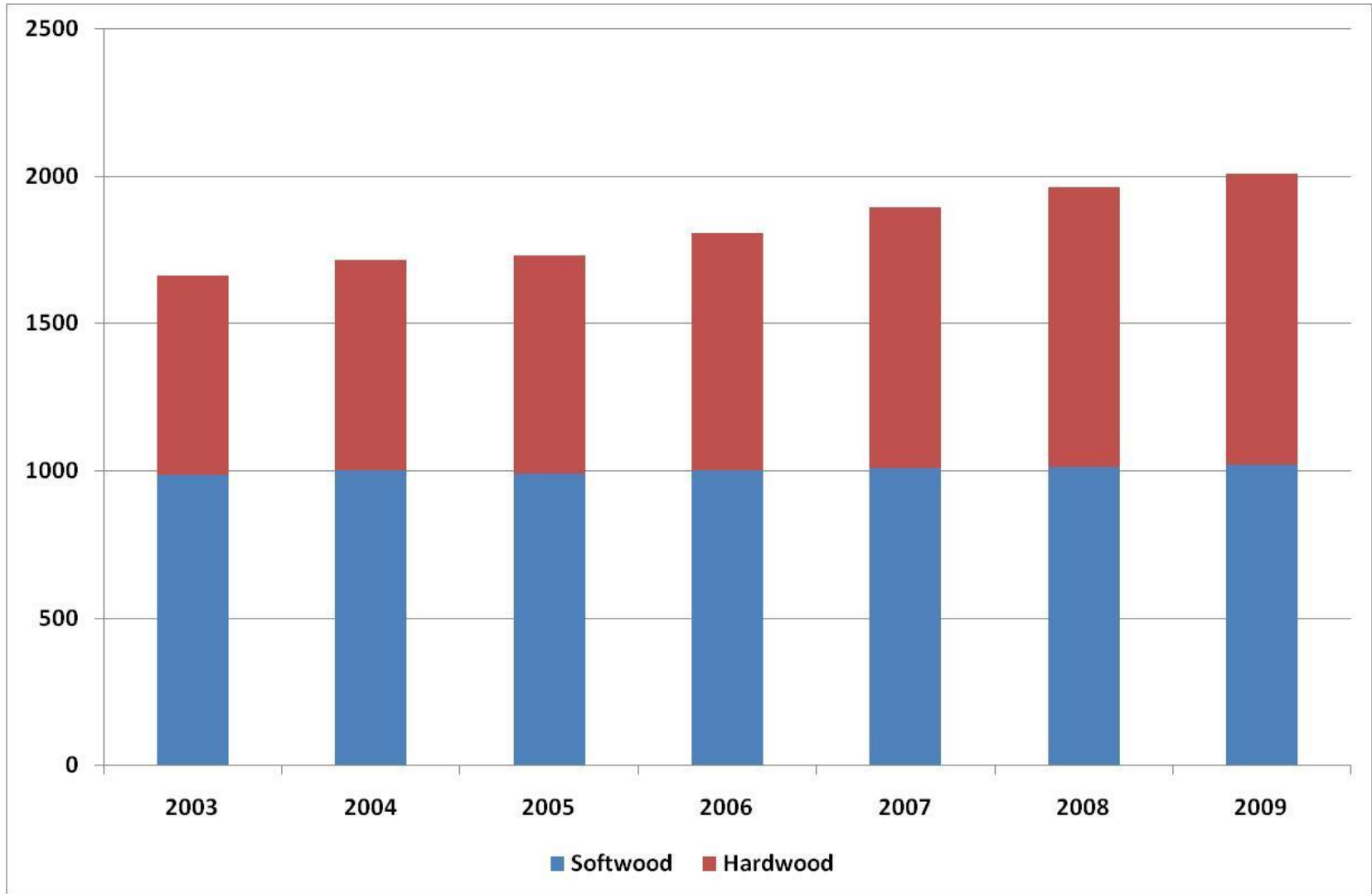
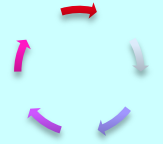


Investment \$'s

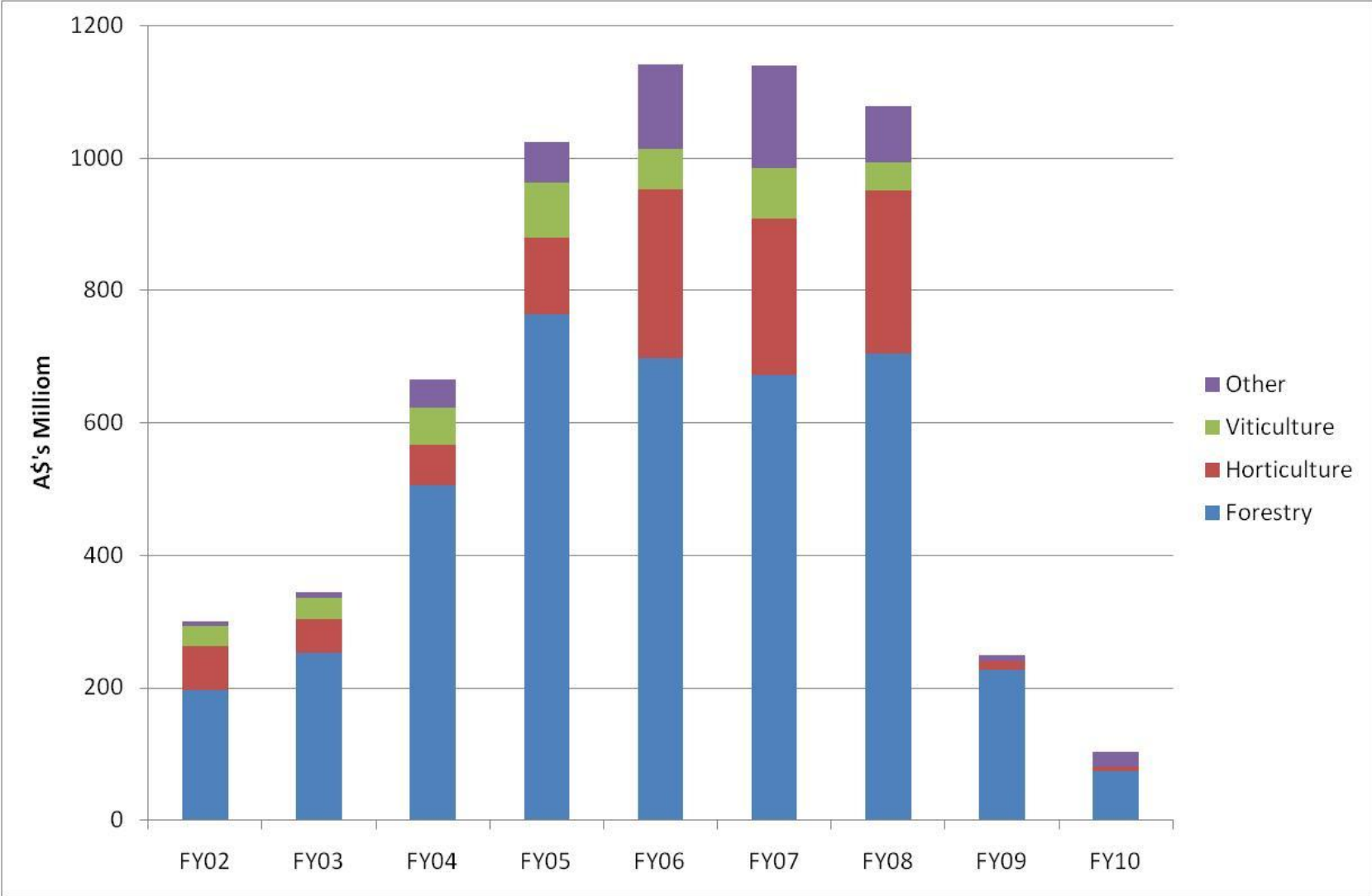
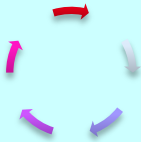


- For mature plantations there appears to be an ongoing active market driven by the TIMO's. The recent competition for the Queensland assets bears this point out
- For new plantations the MIS sector has had a huge impact on the industry in recent years, but investments have been heavily skewed into pulpwood plantations, and..
- Recent company failures have left current and future investors disillusioned and a big gap in the market

Plantation Establishment (000's ha)

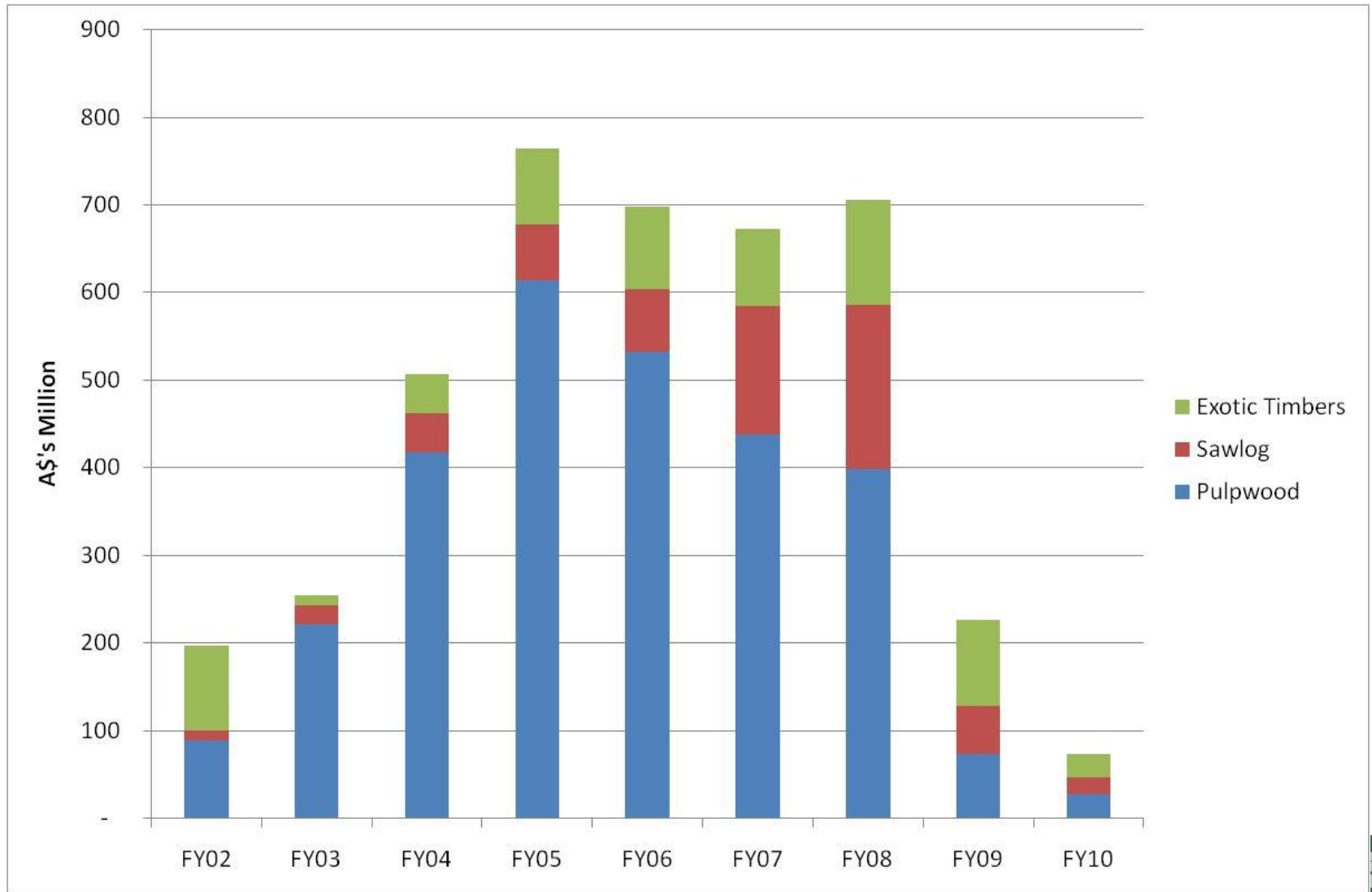
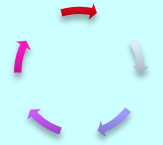


Total MIS Investments



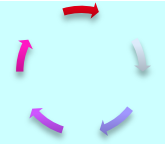
Source: Australian Agribusiness Group

Forestry MIS Investments

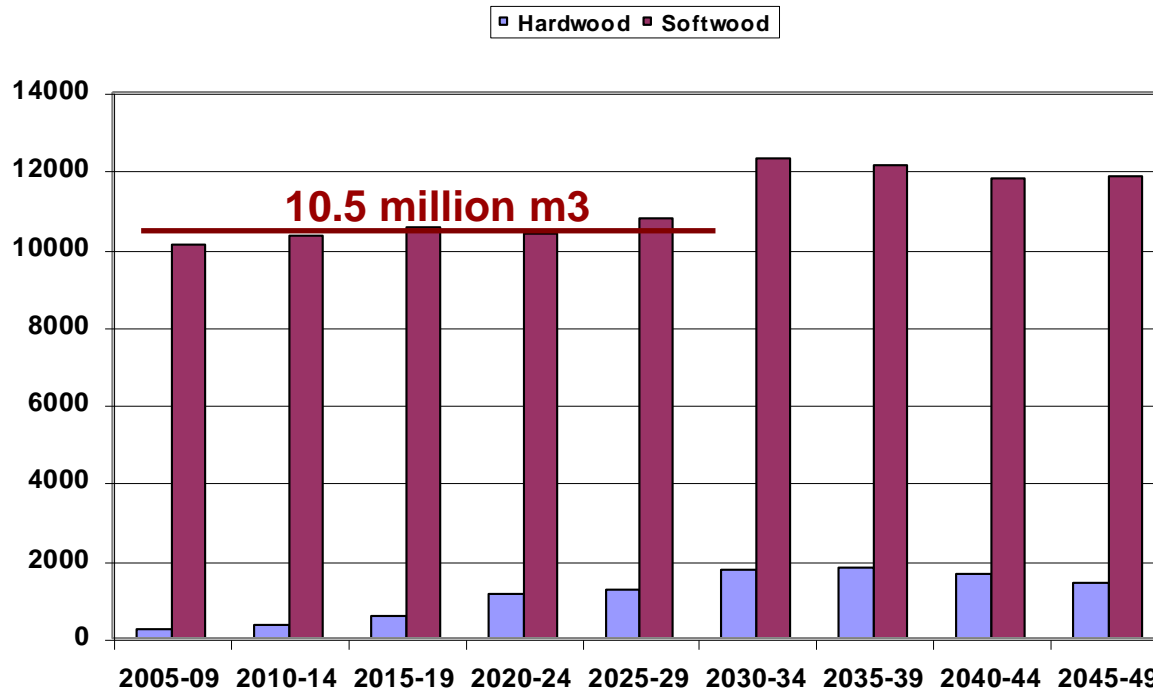


Source: Australian Agribusiness Group

The market case for new plantations

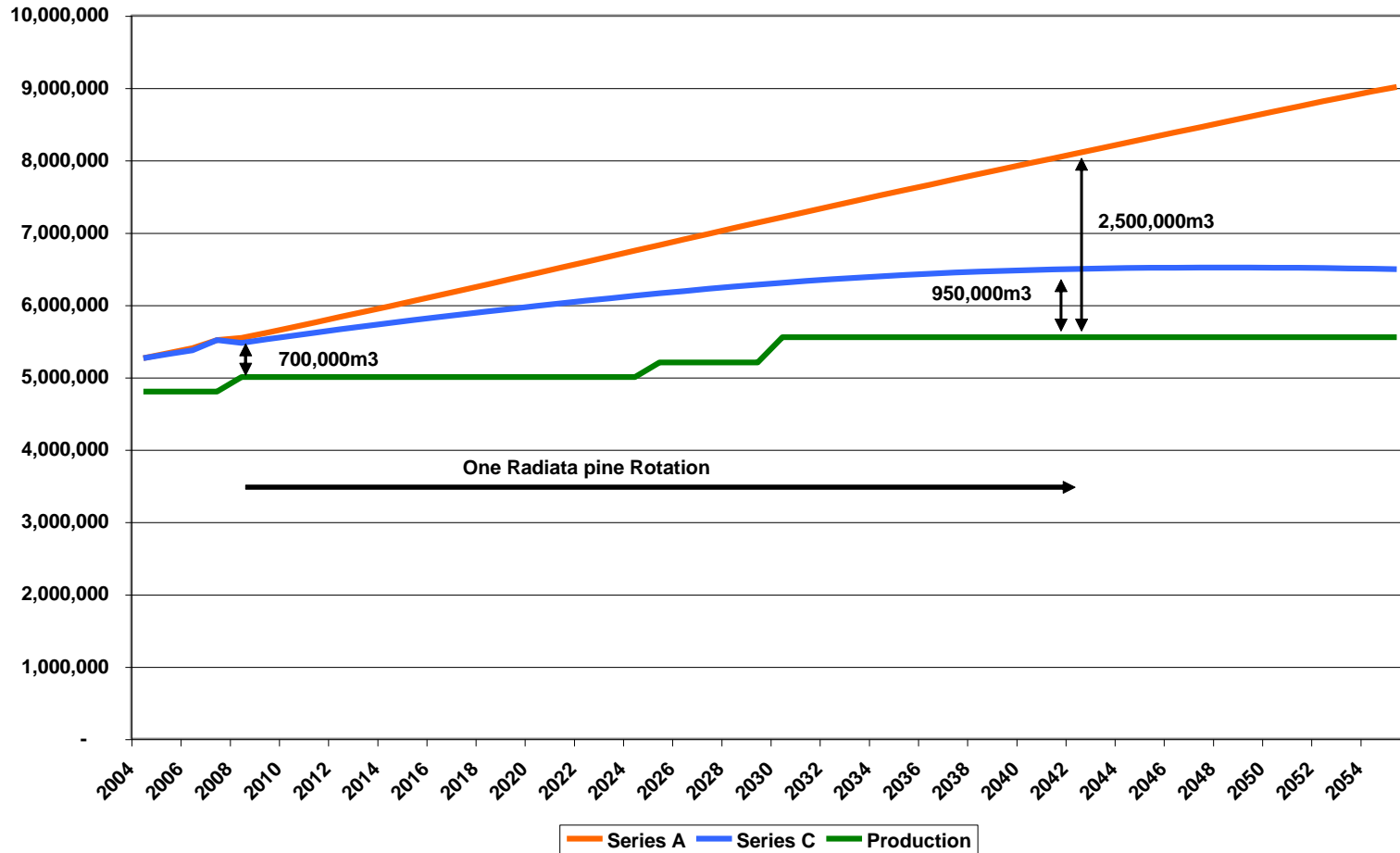
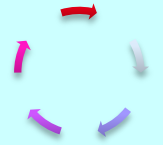


Annual Saw Log Supply (000's m3/ann)

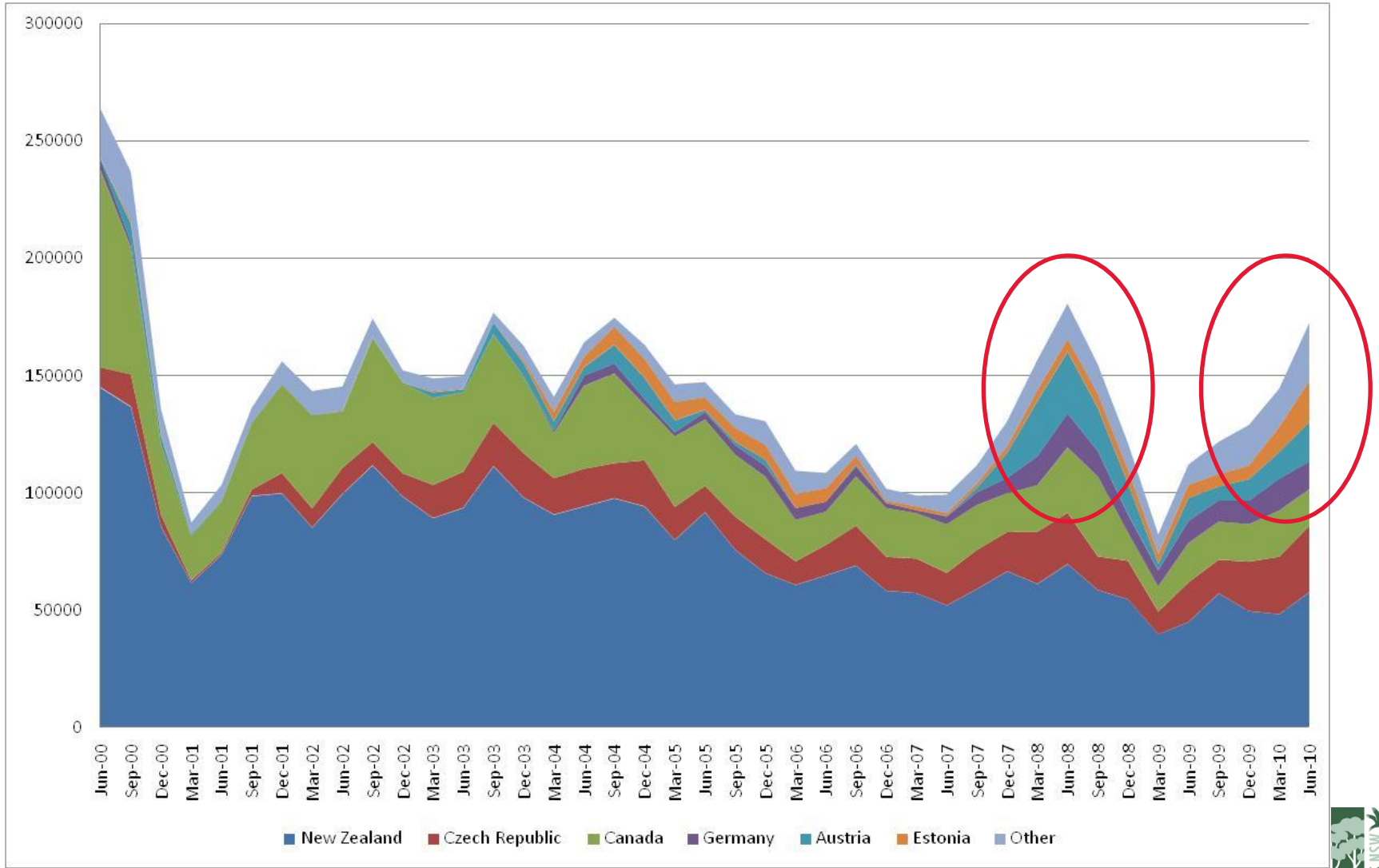
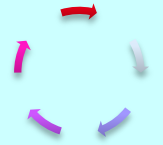


- For the next 20 years softwood saw log availability is flat with hardwood making a contribution within 15 years

Projected Australian Timber Demand (m³)

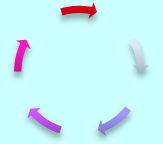


Softwood Imports to Australia



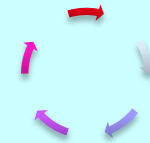
Data Source: ABS

Sources of future funding



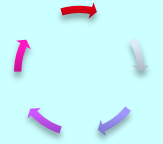
- The recent demise of a number of high profile MIS companies had more to do with the GFC and debt levels than the MIS model itself
- However without significant backing MIS companies are unlikely to make an impact in the foreseeable future
- The case for government involvement is still valid given the long investment horizons for saw log regimes and international precedent
- Personal view that direct investment by way of grant funding could be a more effective way of increasing the size of the estate

Possible Grant Investment Structure



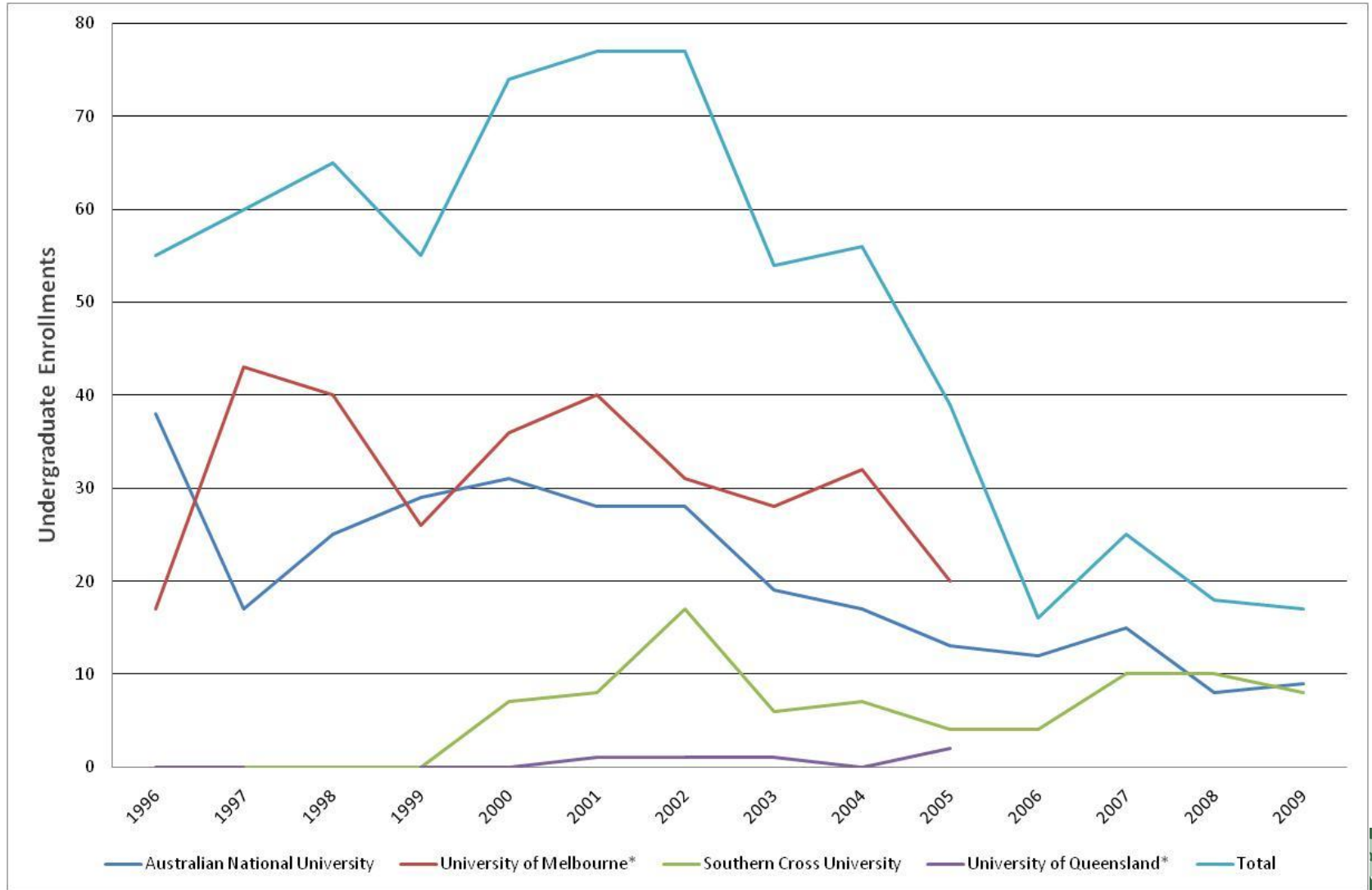
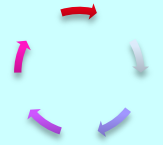
- Forest expansion is funded by way of a direct grant to bona fide forestry companies through an application process
- Grants would be payable against land purchase and conversion to forestry but only up to a certain value say \$4-5,000 a hectare
- In exchange for the grant the government takes ownership of the carbon in the plantation
- The grant would only be allowed in areas designated as Forest Products Centers for Investment.
- Grants would be capped for a year and within a region to ensure there were limitations on perverse outcomes
- If MIS peaked at \$700M then the tax not paid was equivalent to \$350M. At this rate a grant of \$5,000 a ha would be sufficient to plant 70,000 ha a year

Labour and skills



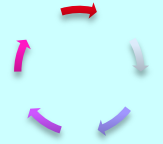
- The mining boom continues to have an impact on employment, skills and rates of pay. Current unemployment rate is 5.2%
- Mining salaries in major companies are averaging A\$120,000 per annum and skilled machine operators earn above average
- Despite favorable contracts the contracting market is relatively thin although the Tasmanian situation is having an impact
- The decline in forestry under graduate numbers continues and the forestry schools are struggling to survive

Forestry School Enrollments



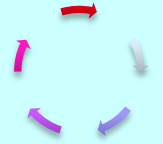
Source: Myoora Investment Pty Ltd

Possible Solutions



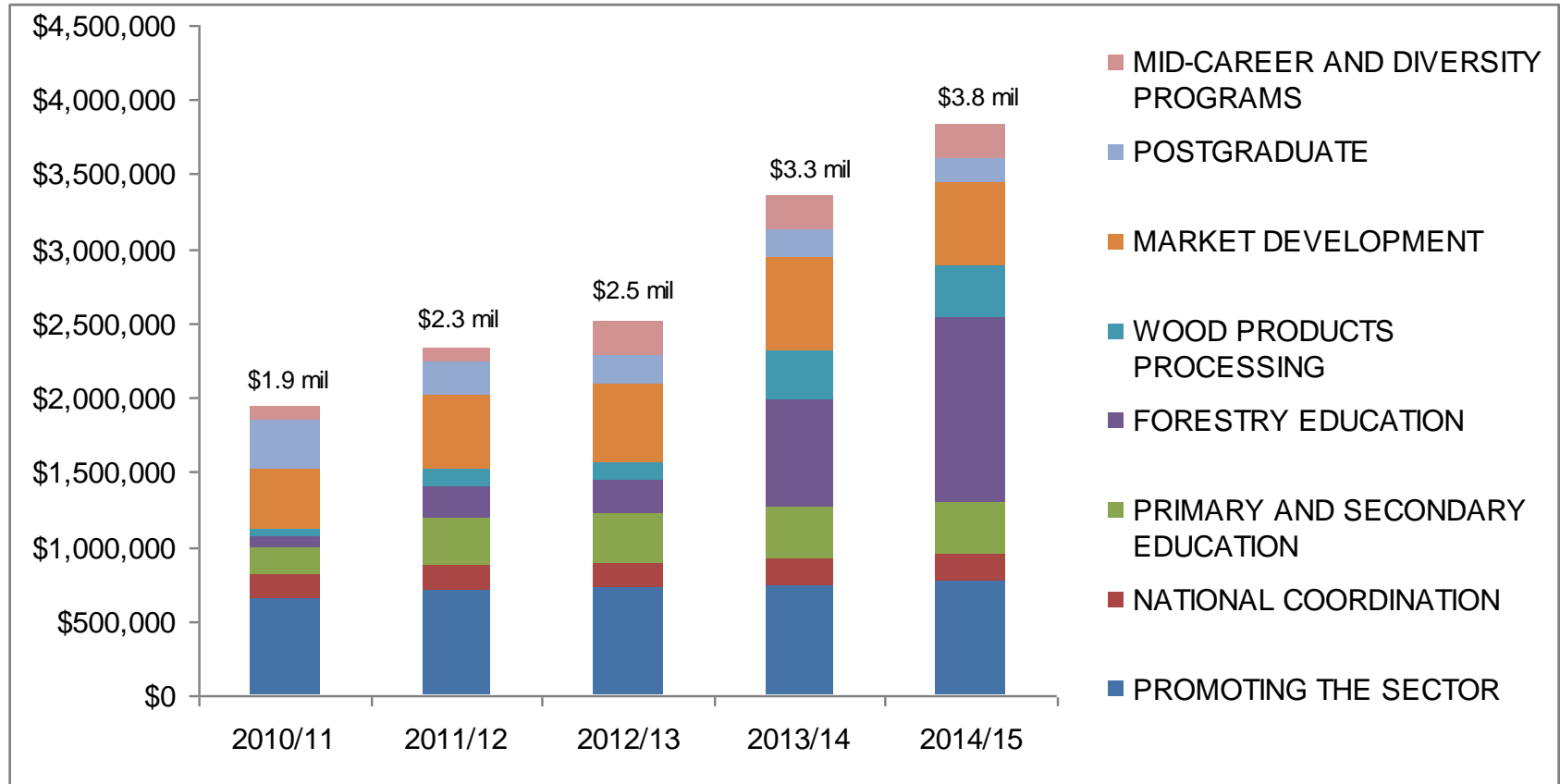
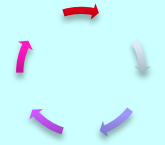
- Universities are moving to general undergraduate degrees and more specialised post graduate degrees
- The Forestry Schools are heading in this direction by jointly offering a 2 year Masters Degree with a number of benefits:
 - Student generally deliberately select the course
 - Many students are older age students who are highly motivated
 - Allows multiple entry points – degree qualified non foresters, VET trained forestry employees with the desire to learn, Foresters looking to improve their knowledge and skills
- Another solution would be to offer a Forestry Specialisation as part of an Agriculture Degree or continue to employ non forestry graduates

Possible Solutions cont.,



- In addition it has been recognised that issues and activities around industry education have not been as well co-ordinated in Australia as they could have been
- ForestWorks does an admirable job at the VET level but industry engagement even at that level and higher has been fragmented
- FWPA has been investing approximately \$800,000 in educational activities but without a strategic framework
- A review has been undertaken and the Board of FWPA has approved a strategic plan for activities around co-ordination and promotion of forest and wood products careers and education

FWPA Investment Plan

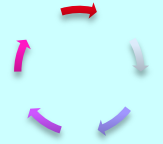


	2010/11	2011/12	2012/13	2013/14	2014/15
New activities	\$1,136,000	\$1,539,760	\$1,805,953	\$2,560,131	\$3,136,935
Existing activities	\$809,000	\$799,250	\$703,928	\$789,045	\$704,617
GRAND TOTAL	\$1,945,000	\$2,339,010	\$2,509,880	\$3,349,177	\$3,841,552

Source: FWPA

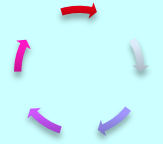


Key Priorities 2010/11



- A tactical campaign to encourage existing Uni students to consider forestry as a career via summer work
- Development of a dedicated industry careers website (www.growingcareers.com.au)
- Promotional program to raise awareness of the careers website
- Redevelopment of the market development programs aimed at education resources for training architects and engineers.
- Young architects sustainable design competition.
- Indigenous forestry scholarship
- Women in forestry network

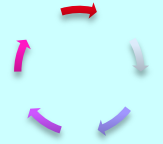
Cost to grow free



Target Stocking 1000SPH		
	Best	Worst
Seed purchase	\$ 900.00	\$ 900.00
Stratify, containers and Sow	\$ 1,380.00	\$ 1,350.00
Seeds per kg	26,000	22,000
Viability	90%	80%
Germinant \$'s each	\$ 0.10	\$ 0.13
Tend and Overhead	\$ 1,625.00	\$ 1,740.00
Accepts rate	95%	85%
Overheads	\$ 0.14	\$ 0.16
Seedlings ex nursery	\$ 0.32	\$ 0.43
Delivery / 1000	\$ 10.00	\$ 10.00
Land preparation and planting	\$ 1,130.00	\$ 1,820.00
Survival	95%	70%
Blanking	\$ -	\$ 250.00
Supervision and Overheads	\$ 114.00	\$ 183.00
Cost to grow free	\$ 1.65	\$ 3.84

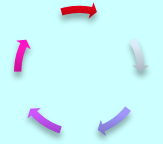
Final crop discounted revenue at 9% provides a value of \$7.40 per tree

Genetics



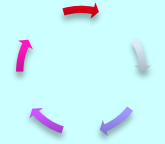
- Forests NSW is the largest single shareholder in the RPBC and our improved seed is all sourced from New Zealand at some phytosanitary risk
- Forests NSW has a number of genetic gains trials which indicate NZ gains are not being replicated in NSW conditions
- STBA provides similar services to forestry companies in Australia with a particular focus on breeding tools
- RPBC's focus is on providing genetically improved germplasm
- Market signals are for logs capable of meeting Australia's MGP10 timber specification
- Given the ongoing trans Tasman ownership of forestry assets it seems there is opportunity to for the two tree improvement organisations to work closely together

Germplasm and Deployment



- Forests NSW has had a number of problems in this area:
 - Our Blowering Nursery at Tumut is a great site with good water supply but it is not very “cold”
 - Logistics are problematic given long haul distances – Tumut to Bathurst 330Km
 - Survival rates have been very low during the drought
 - Intensive land prep has been use to try and improve survival at very high cost
 - Genetically improved seed is in short supply and expensive and labour rates work against cuttings

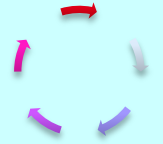
Germplasm and Deployment



- While genetics are important as sites become more challenging deployment becomes equally if not more important
- Ex nursery seedling costs, lower land prep costs and survivability have driven our investment into a large scale container nursery with a number of benefits

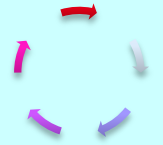
	A \$ each	Survivability
Container cuttings	\$0.40	Good
Bare root cuttings	\$0.35	Variable
Container seedlings	\$0.30	Good
Bare root seedlings	\$0.20	Variable

Nursery

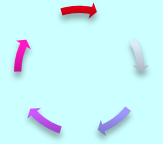


- Stage 1 of the nursery involved pad consolidation, construction of posts, rails and trays, watering and nutrient systems, Williames automatic seeding line and shed. Total cost of \$1.4M for a capacity of 4.0M container seedlings
- The nursery can also grow at least 8M bare root seedlings and cuttings
- Container capacity is just being increased by a further 5.0M per annum at an additional cost of \$1.5M including office accommodation.
- Direct watering of containers is also allowing water savings of +/- 200ML per year

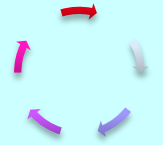
Blowering Nursery Stage 1



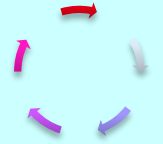
Willames Automated Seedling Line



Blowering Nursery Stage 2

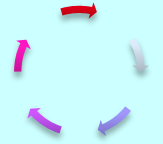


Land Preparation Benefits



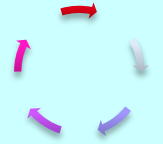
- High risks associated with fire and seedling failure have led to a very conservative approach to land preparation involving:
 - Windrow, stack and burn
 - Ripping to 600mm
 - Blanket weed control
- Moving to containers and a close look at profitability has forced fundamental review of this prescription to site specific treatments within blocks.
- Windrowing is only occurring on sites with heavy slash - strong pulpwood markets are assisting

Land Preparation Benefits cont.,

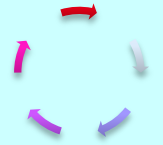


- This years target is to reduce burning by 50%
- Site compaction is being assessed prior to ripping with “double dig” used on suitable sites
- Hyco’s are shipped to colder holding pads to assist in hardening
- Planting is being done direct from the Hyco’s to reduce planting shock
- Cost reductions of 20% and survival improvements of 10% have been achieved to date

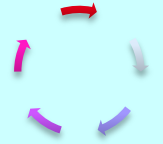
Bathurst Holding Pad



Planting from the Hyco's



Conclusion



- Expansion of Forestry in Australia faces challenges given the collapse of the MIS Industry and high cost of land but...
- There are potential solutions at no higher cost to the government than MIS
- The numbers of Forestry Students continues to decline and future employees will likely come from non traditional fields
- Low profitability and a drier climate are forcing new approaches to establishment practices