

The Green Triangle Forestry Training Task Force welcomes the opportunity to respond to the Forest Industry Advisory Council's Strategic Directions Issues Paper 'Meeting Future Market Demand' (Issues Paper). The GT Training Task Force represents the full spectrum of the Forest Industry and is comprised of senior managers from the Hardwood Plantations, Softwood plantations, Sawmills, Training Organisations, Harvesting and Haulage Contractors, Log Exports and Woodchip Exports. The Group has been actively seeking funding assistance since January 2014.

## Questions for consideration

### Vision and objectives

1. What should the vision be for the forest products sector in the coming decades?

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Provide response here

To make wood the premier choice of raw material for consumers.

2. What specific objectives should underpin this vision?

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Provide response here

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### Issue 1: Market trends and pressures

3. What forest products does Australia have a local and/or international competitive advantage in producing?

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Provide response here

It is generally accepted that Australia enjoys some of the lowest harvesting and haulage rates in the world, with world class technology and efficiency.

4. What is the potential demand for forest products in the coming decades?

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Provide response here

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5. How can Australia best position itself for this demand, both nationally and internationally?

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Provide response here

Maintain or increase the current area of the plantation estate.

6. What are the other drivers or disruptions that will potentially affect supply and/or demand?

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Provide response here

Lack of skilled operators in the harvesting and haulage sector and foreign exchange

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### Issue 2: Emerging uses and markets

7. Which emerging forest products have the greatest potential for Australia?

**Submission in response to *Meeting future market demand: Australia's forest products and forest industry — a strategic directions issues paper***

The South Australian Government’s VTT Study ‘*Future options for the cellulosic fibre value chain in the Green Triangle, South Australia: strategic technology roadmaps, business cases and policy recommendations*’ (available at [http://www.dmitre.sa.gov.au/page/view\\_by\\_id/319](http://www.dmitre.sa.gov.au/page/view_by_id/319) ) advised these emerging technological opportunities and emerging uses in the Green Triangle (Table 1). Given the long history of plantation development in South Australia, an opportunity also exists to provide expertise, skills and services in the forest and wood products sector to support international development.

Table 1 – Summary of Technological Opportunities in the Cellulosic Fibre Value Chain. Source: VTT, 2014.

<b>Opportunities</b>	<b>Examples</b>
<b>Sawmill space</b>	<i>Softwood timber and process improvements</i>
	<i>X-ray and 3-D scanning technologies</i>
	<i>New planning systems for sawmills</i>
	<i>Information systems for sawmills</i>
	<i>CNC-based tools</i>
	<i>Robotics</i>
	<i>Engineered wood products</i>
	<i>Wood-plastic composites</i>
<b>Biomaterials</b>	<i>Nanocomposites</i>
	<i>Biomass-based precursors</i>
	<i>Biopolymers</i>
	<i>Nanofibres</i>
	<i>Converting technologies</i>
<b>Biofuels</b>	<i>Packaging, building and vehicles/appliances</i>
	<i>Bioethanol etc.</i>
<b>Biochemicals</b>	<i>New chemicals from wood</i>
	<i>Platform chemicals</i>
<b>Construction industry</b>	<i>Engineered wood products</i>
	<i>Construction materials</i>
	<i>Wood plastic composites</i>
<b>Textiles</b>	<i>New textile fibres</i>
	<i>Mixed textiles, e.g. with rayon</i>

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8. What are some of the barriers to the development and/or uptake of these emerging forest products in Australia?

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Provide response here

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Apart from the obvious issues of Policy, Australian Standards, R&D and Capital Investment, a major barrier is the ability of the Harvesting and Haulage Sector, already severely stretched, to deliver any additional wood from the forest to a processing facility.

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9. What opportunities exist to better utilise wood resources?

The VTT study 'Future options for the cellulosic fibre value chain in the Green Triangle, South Australia: strategic technology roadmaps, business cases and policy recommendations' highlighted options that have merit:

1. X-ray scanning. Expenditure of A\$ 2-4 million has the potential to increase yield volume by 5%, equivalent to an extra annual sales revenue of A\$ 70 million for large sawmills.
2. Cross-laminated timber (CLT). A plant with a capacity of 60,000 m<sup>3</sup> per annum would cost approximately A\$ 40 million and have a payback period of 3-5 years. This would reduce the export of chips/logs of low value, help create regional employment and also provide construction materials to increase urbanisation.
3. Glued-laminated timber (Gluelam). A typical plant with a capacity of 40,000 m<sup>3</sup> per annum would cost approximately A\$ 20-30 million and have a payback period of 3-5 years. This would also reduce export of chips/logs of low value and put the Green Triangle on the map as an eco-friendly construction material manufacturing site.
4. Biocomposites, in particular wood plastic composites (WPC). Biocomposites may contain up to 80% of wood and could also utilise some of the lower quality uncommitted waste biomass. The WPC biocomposite industry and markets are expected to grow significantly in the next 5 years. The Green Triangle region currently does not have a polymeric resin supplier, but could be the manufacturing site of WPC pellets for further processing at existing or new biocomposite sites and increase ties to composite users such as the car industry.
5. Energy biorefinery - bio-oil by fast pyrolysis. This technology is readily available and cost competitive and an investment of A\$ 50-60 million plant would make bio-oil production by fast pyrolysis a serious option. Such pyrolysis plants could be realised in Green Triangle in the next 3-5 years, supplying energy first to the sawmill boilers and kilns and later to external customers. Significant parts of the unused forest residues available in Green Triangle would be converted to a more usable energy form with profitable outcome for the region.
6. Bio-char by torrefaction. The energy sector and mining and metal industry in South Australia uses millions of tonnes thermal coal annually and they could use co-fire biocoal in their power plants. Available biomass in Green Triangle for torrefaction includes excess pulpwood, forest biomass and chips produced at sawmills, and the production of bio-char could be considered. Torrefied biomass and bio-char would have a significant market for soil enrichment.

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### Issue 3: Forest resources

10. What is required to ensure the plantation estate is able to meet future demand for forest products?

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Provide response here

Continue to encourage innovation and development of skilled labour in the Harvesting and Haulage sector remembering that these operations account for approximately 73% of the cost per hectare of producing plantation grown wood.

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Continued investment in genetic improvement and silvicultural techniques.

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11. What is required to ensure the native forest estate is able to meet future demand for forest products?

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Provide response here

Educate the public as to how professionally managed harvesting of native forest resource is not only sustainable, but beneficial to that resource

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12. What opportunities are there to increase wood supply from farm forestry, private native forestry and Indigenous owned and managed lands?

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Provide response here

Addressing public perception of sustainably managed forest resources will have a “flow on “effect to these areas.

Revisit tax incentives for investment.

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#### **Issue 4: Innovation, research and development**

13. What are the future research and development needs for Australia’s forest products sector, and which of these needs are specific to strengths and opportunities in the Australian context?

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Incentives for investment in R&D

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14. What are the current inhibitors to private sector investment in research, development and extension and what role, if any, does the Australian Government potentially have in addressing these?

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The conflict of short term investment versus long term gains.

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15. How can the framework for coordinating Australian forestry research and development be strengthened?

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Development of a forest research hub

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#### **Issue 5: Consumer and community engagement**

16. How can domestic and international consumers be better engaged on the environmental, economic and social credentials of Australian forest products?

Educating the community on the positive contribution to the social, environmental and financial benefit forestry affords

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Promotion of the Region and the Industry requires substantial effort, particularly when comparing the acceptance of mining with the stigma that is attached to cutting down trees

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17. How important are consumer awareness programs to the future prosperity of the sector?

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VITAL because we have seen the impact of “counter forestry” propaganda

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18. Can forest certification be better leveraged to achieve stronger demand and better prices for Australian forest products and, if so, how?

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Forest certification is a ticket to do business. Most if not all large scale plantations are certified to the FSC and or AFS. We are already the beneficiaries of the benefits certification delivers.

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### **Issue 6: Strengthened regional approaches**

19. How could forestry hubs better utilise resources and promote greater efficiencies and innovation?

Regional Development Australia Limestone Coast Roadmap 2013 – 2016 – included:

- Increasing advanced manufacturing particularly in the forest and forest products industry
  - Developing industry clusters to maximise economic development within the region
  - Increasing research and development relevant to the regions industries
  - Providing support for small business development and sustainability.
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20. What have been the barriers to the establishment and efficient operation of forestry hubs to date, and what might be the role of the Australian Government in addressing these?

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Provide response here

Lack of promotion of the Industry

TIMO's generally are less likely to facilitate the introduction of a forestry hub. We see this as a role of Government in leading the way.

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21. If additional forestry hubs are to be established, where would they best be located?

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Central to large scale plantation estate e.g. Mount Gambier

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### **Issue 7: Infrastructure**

22. What infrastructure will be required to respond to future demand for Australian forest products?

‘Green Triangle Region Freight Action Plan’,

Infrastructure investment needed to address emerging capacity constraints for transport

Opening up the road access network by addressing the issues has the potential to allow more agricultural produce to be moved more safely and with less road wear and at a lower cost to the operator and other businesses. A good example of this is the potential for high productivity vehicles to be permitted across State Borders, facilitating increased payloads from 12% to 25% while maintaining current axle loadings.

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Increased investment in road infrastructure.

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23. What can be done to ensure better recognition and understanding of the sector’s infrastructure needs?

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Provide response here

Again promotion of the industry plus Green Triangle Region Freight Action Plan’ and regional logging planning

Industry has invested heavily in generating the wood flows map for the purpose of showing future volumes on major and minor roads over time. This has been conveyed to local government and the relevant road authorities. This work needs to attract Government funds.

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### Issue 8: Industry skills and training

24. What are the skills and training needs of the sector over the coming decades, and where are the current gaps?

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We have recently conducted a survey of Harvest and Haulage contractors in the Region that revealed a shortage of skilled operators required to meet Industry demands by the end of 2016. This revealed the following requirements. Contractors have already invested over\$60 million in new plant to meet the increased demand, in the last 12 months

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MC Drivers	142
HC Drivers	30
Harvester	52
Skidder	11
Forwarder	31
F/Buncher	7
Excavator	23
Chipper	7
Mechanic	15
Maintenance	3
Auto Electrician	1
Administration	7
Manager	2
Supervisor	3

**Total jobs 334**

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25. Are Vocational Education and Training and university training providers well-positioned to meet the future skills and training needs of the sector?

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Only one RTO in SA has Cert III in Harvesting and Haulage on its scope – will not cope with projected demand

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Industry has developed LITA as a training hub over the last 40 years and is the RTO for this training accreditation with candidates developed through “train the trainer”

“Hands on” trainer comes from H&H contractors

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26. What improvements are required at an enterprise level to support the recruitment, development and retention of the sector’s current and future workforce?

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Provide response here

Current harvesting and haulage contractor force does not have the financial resources to train new operators particularly given the high capital cost of machinery (\$400k - \$2.1M) per machine and opportunity cost of utilisation. Industry is seeking funding to facilitate this process.

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