The Blueprint for the Future South Australian Forest and Wood Products Industry (2014–2040) is the result of extensive consultation with stakeholders in industry, government and the community. The South Australian Forest Industry Advisory Board appreciates the significant participation and contribution that has been made to the development of this Blueprint.

With Australia’s longest history of plantation forestry development, South Australia’s Forest and Wood Products Industry has many strengths including maximising its natural attributes and fostering an innovative ‘can do’ attitude.

There is significant scope to further increase the regional contribution of the industry by further investing in major value-adding activities such as sawn timber, engineered wood products and pulp and paper manufacture. Markets are emerging such as carbon trading and biomass.

This Blueprint provides direction for activities to achieve significant economic, social and environmental outcomes. The implementation of the Blueprint will be supported by continuing to engage with a wide range of stakeholders from industry, government and the community.

The participation and contributions of industry stakeholders are vital for the implementation of the Blueprint. Only with support from industry, government and the community can the appropriate actions be developed that will make a difference and ensure a long term viable and prosperous Forest and Wood Products Industry.

Trevor Smith
Chair
South Australian Forest Industry Advisory Board
# CONTENTS

Preface ................................................................. i  
Foreword ............................................................. ii  
South Australian Forest Industry Advisory Board ....... 2  
Vision for the Industry ......................................... 2  
Strategic Targets .................................................. 2  
Executive Summary of Opportunities ................. 3  
Realising the Opportunities ............................... 4  
  Theme 1  Collaborative Innovation and Research  
  Theme 2  Competitive Advantage  
  Theme 3  People  
  Theme 4  Sustainability  
  Theme 5  Marketing and Promotion of Industry Values  
  Theme 6  Trade  
Background to the Blueprint .............................. 7  
Background to the Forest and Wood Products Industry . 9  
Industry Prospects ............................................... 14  
Realising the Opportunities: Trends and Drivers .... 16  
Appendix 1: South Australian Forest Industry Advisory Board –  
  Membership  
  Board Terms of Reference .............................. 18  
Appendix 2: Further Opportunities ....................... 20  
Appendix 3: SA Cellulose Fibre Value Chain Study – Summary and Recommendations .... 24  
Appendix 4: SA Forest Industry Strategy Vision 2050 – Summary and Recommendations .... 29  
Glossary ............................................................. 30  
Abbreviations ...................................................... 31  
References .......................................................... 32  
What Happens Next? ............................................. 33
The South Australian Forest Industry Advisory Board (the Board) was established by the Minister for Forests in early 2013 to provide advice and recommendations about the future strategic needs of the Forest and Wood Products Industry to the State Government.


The current Board members have been appointed based on their skill-sets rather than representation from industry groups or associations. Membership is outlined in Appendix 1. This has been a particular focus to ensure that the Board has a broad range of skills to maximise the scope of its work set out within the Terms of Reference.

The Board’s Terms of Reference can also be found in Appendix 1.

The Minister for Forests requested that the Board consult with stakeholders and prepare a Blueprint document and an Industry Policy Statement. In developing these documents, the Board developed the following vision for the industry and three specific targets.

**VISION FOR THE INDUSTRY**

**AN INNOVATIVE, INTERNATIONALLY COMPETITIVE PLANTATION AND WOOD PRODUCTS INDUSTRY THAT CONTRIBUTES SIGNIFICANTLY TO ECONOMIC GROWTH, SOCIAL WELLBEING AND ENVIRONMENTAL SUSTAINABILITY**

**STRATEGIC TARGETS**

- Increase the economic value of the forest and wood products industry
- Strengthen the industry’s contribution to the community
- Enhance the industry’s contribution to multiple environmental benefits
EXECUTIVE SUMMARY
OF OPPORTUNITIES

In this time of change and many challenges for the industry, the Board has consulted industry and interested stakeholders to provide advice and recommendations about the future strategic needs of the Forests and Wood Products Industry to the South Australian Government.

This has culminated in this Blueprint which identifies emerging opportunities to improve the sustainable economic development of the industry. The coverage is state-wide and findings from many relevant initiatives were taken into account. The ultimate aim is to have a more vibrant, innovative, competitive and low-carbon manufacturing industry. Six themes, and actions to realise the emerging opportunities, were identified. They are:

THEME 1 – COLLABORATIVE INNOVATION AND RESEARCH
- Consider recommendations from the South Australian Cellulose Fibre Value Chain Study on research, innovation and collaboration
- Facilitate feasibility studies and concept developments and seek to commercialise initial work
- Use collaborative investment in research and development to engage stakeholders along the research-to-practice cycle

THEME 2 – COMPETITIVE ADVANTAGE
- Endorse a state forest industry policy statement
- Create an enabling business, regional and planning environment that optimises the plantation estate and local processing
- Facilitate an industry cluster to foster collaboration between businesses across the value chain and more broadly
- Attract investment to drive modernisation, higher value-adding, innovation and renewable energy
- Increase the productivity and availability of both hardwood and softwood

THEME 3 – PEOPLE
- Facilitate a skills and training approach that leads to higher productivity, efficiency and innovation
- Engage with building professionals to further develop their understanding of the benefits of wood

THEME 4 – SUSTAINABILITY
- Identify and implement international best practice for sustainability and certification in all operations
- Increase economic development by further integrating forests with tourism, recreation etc.
- Encourage public–private collaboration and effective regional coverage on fire safety

THEME 5 – MARKETING AND PROMOTION OF INDUSTRY VALUES
- Establish a unified voice for industry
- Actively engage with the community on the benefits and opportunities of a sustainable industry

THEME 6 – TRADE
- Encourage higher valued and processed exports

The next steps will be to continue liaison for implementation of the Blueprint and to pursue a whole-of-government approach to optimise the potential for satisfactory outcomes.
REALISING THE OPPORTUNITIES

Six themes, along with actions to realise the emerging opportunities and potential ‘champions’ or ‘leaders’ to progress them, were identified to advance the industry.

They were determined by examining the current situation, and advice provided by industry, stakeholders and participants in consultation sessions in Mount Gambier, Adelaide, Canberra, Melbourne and Sydney. Also considered were industry trends and drivers, and previous work by the South East Forest Industry Roundtable, South Australian Forest Industry Development Board and South Australian Cellulose Fibre Value Chain Study.

The most critical actions for realising opportunities are listed under the themes here. Further actions are listed in Appendix 2.

THEME 1 – COLLABORATIVE INNOVATION AND RESEARCH

There is a need to capitalise on South Australia’s research and technology capacity and, through collaboration, leverage research efforts nationally and internationally to access innovations and further industry’s progress and improve competitiveness. This approach has brought success in local research and other global industries that innovate through collaborative research.

These actions should be complemented by relevant communication, adoption and transition to innovative outcomes.

<table>
<thead>
<tr>
<th>TOPIC</th>
<th>REALISING THE OPPORTUNITIES FOR COLLABORATIVE INNOVATION AND RESEARCH</th>
<th>RESPONSIBILITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>VTT recommendations</td>
<td>Consider recommendations from the South Australian Cellulose Fibre Value Chain Study on research, innovation and collaboration; partner industry to prioritise and implement (see Appendix 3)</td>
<td>Industry and SA Government</td>
</tr>
<tr>
<td>Feasibility studies</td>
<td>Facilitate feasibility studies and concept developments; seek to commercialise initial work to industry investors</td>
<td>Industry and SA Government</td>
</tr>
<tr>
<td>Collaboration through value chain</td>
<td>Use collaborative investment in research and development to engage forestry, timber, building and trade stakeholders along the research-to-practice cycle</td>
<td>Industry stakeholders</td>
</tr>
</tbody>
</table>

THEME 2 – COMPETITIVE ADVANTAGE

South Australia’s climate, terrain and natural resources, and long history of plantation development give the industry a competitive advantage in growing, processing and trading high yielding, quality plantations. It shares the Green Triangle Region with Victoria. The region is considered to be one of Australia’s most productive plantation and wood processing regions with access to the deep water port of Portland. Nonetheless, an appropriately focused operating environment is needed to enable industry to modernise and collaborate to seize emerging opportunities, address common issues and sustain innovation.

<table>
<thead>
<tr>
<th>TOPIC</th>
<th>REALISING THE OPPORTUNITIES FOR COMPETITIVE ADVANTAGE</th>
<th>RESPONSIBILITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Policy statement</td>
<td>Endorse a state forest industry policy statement</td>
<td>SA Government</td>
</tr>
<tr>
<td>Regulatory environment</td>
<td>Create an enabling business, regional and planning environment that optimises the current plantation estate, and its processing, by: • treating the industry consistently with other industries in the region, especially for water resource management • examining unnecessary, uncompetitive and regulatory burdens and costs on the industry • ensuring efficient transport systems between industry nodes</td>
<td>SA and all Governments</td>
</tr>
<tr>
<td>Industry cluster</td>
<td>Government and industry, in partnership, facilitate an industry cluster to foster collaboration between businesses across the value chain to: • improve competitiveness across the state, and the Green Triangle • provide feedback along the value chain • reduce capital and stock holdings by shared use of facilities</td>
<td>Industry and SA Government</td>
</tr>
<tr>
<td>Investment attraction</td>
<td>Attract investment to drive industry modernisation, higher value-adding manufacturing, innovation and alternative renewable energy, such as biofuels</td>
<td>Industry and SA Government</td>
</tr>
<tr>
<td>Resource</td>
<td>Increase the productivity and availability of both hardwood and softwood</td>
<td>Industry</td>
</tr>
</tbody>
</table>
THEME 3 – PEOPLE

Competitive productivity requires appropriate workforce flexibility and management skills. In this high technology industry, employees need high skill and education levels, which would be best supported by high quality local training.

<table>
<thead>
<tr>
<th>TOPIC</th>
<th>REALISING THE OPPORTUNITIES FOR PEOPLE</th>
<th>RESPONSIBILITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Innovation focused training</td>
<td>Facilitate a skills and training approach that leads to higher productivity, efficiency and innovation with:</td>
<td>Industry</td>
</tr>
<tr>
<td></td>
<td>• integrated educational and training models through nationally recognised skillsets, qualifications and industry training packages</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• best practice case studies to build capacities in technical, design, production and leadership innovation</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• skills to address labour and business knowledge shortages</td>
<td></td>
</tr>
<tr>
<td>Engaging building professionals</td>
<td>Engage with architects, engineers, building contractors and quantity surveyors to further develop their understanding of the benefits of wood, its best methods of use and facilitate accuracy and ease of costings.</td>
<td>Industry</td>
</tr>
</tbody>
</table>

THEME 4 – SUSTAINABILITY

Demonstrating the Forest and Wood Products Industry’s environmental credentials to consumers and the community will remain important into the future, especially in a low carbon economy.

<table>
<thead>
<tr>
<th>TOPIC</th>
<th>REALISING THE OPPORTUNITIES FOR SUSTAINABILITY</th>
<th>RESPONSIBILITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>International best practice</td>
<td>Identify and implement international best practice for sustainability in all areas of operations</td>
<td>Industry</td>
</tr>
<tr>
<td>Demonstration project</td>
<td>Partner in a demonstration project to highlight low embodied energy housing and/or construction</td>
<td>Industry and SA Government</td>
</tr>
<tr>
<td>Tourism and recreation</td>
<td>Increase economic development by further integrating forests with tourism, recreation etc.</td>
<td>Industry and Government</td>
</tr>
<tr>
<td>Fire safety collaboration</td>
<td>Encourage public–private collaboration and effective regional coverage on fire safety</td>
<td>Industry and Government</td>
</tr>
</tbody>
</table>

THEME 5 – MARKETING AND PROMOTION OF INDUSTRY VALUES

Strengthening the understanding between industry and the community, and the marketing and promotion of the resource and its environmentally friendly products, will help to attract industry investment.

<table>
<thead>
<tr>
<th>TOPIC</th>
<th>REALISING THE OPPORTUNITIES FOR MARKETING AND PROMOTION OF INDUSTRY VALUES</th>
<th>LEADERS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unified voice</td>
<td>Establish a unified voice for industry</td>
<td>Industry</td>
</tr>
<tr>
<td>Engage community on plantation benefits</td>
<td>Actively engage with the community on the benefits and opportunities of a sustainable plantation forest and wood products industry</td>
<td>Industry</td>
</tr>
</tbody>
</table>

THEME 6 – TRADE

The industry can expand its strong domestic market share with innovation and production efficiencies, which would also increase opportunities for expansion to export markets in South East and North Asia, and other regions undergoing rapid growth.

<table>
<thead>
<tr>
<th>TOPIC</th>
<th>REALISING THE OPPORTUNITIES FOR TRADE</th>
<th>RESPONSIBILITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Higher valued exports</td>
<td>Encourage higher value and processed exports</td>
<td>Industry</td>
</tr>
</tbody>
</table>
The South Australian Forest and Wood Products Industry has been in a period of change unlike any it has experienced in the past. The industry is faced with increasing interest in biomass markets, major changes in pulpwood use in the region, increased competition from imports, depressed housing and construction conditions, and a forward sale of Government harvesting rights, mills rationalising and/or changing ownership. These factors, and the need to survive under an enduring relatively high Australian dollar, are prompting the industry to revisit and reconsider innovative opportunities. The Board is of the view that the time is right to identify an appropriate way forward.

In doing so, it is building on the work completed for the South Australian Forest Industry Strategy 2011–2016 and the South East Forestry Industry Roundtable (SEFIR) criteria for a secure future for the South East Forest and Wood Products industry.

A South Australian Government policy statement for the Forest and Wood Products Industry was recommended by both former industry bodies, the Forest Industry Development Board (FIDB) and SEFIR. The Board has facilitated consultation on a South Australian Forest and Wood Products Industry Policy Statement, which has been transmitted to Government for consideration.

Another of the Board’s principal tasks is to develop this Blueprint for the future South Australian Forest and Wood Products Industry (2014–2040). Its main aim is to identify and advise on emerging opportunities to improve sustainable economic development of the industry sectors.

<table>
<thead>
<tr>
<th>Table 1. Summary of recent initiatives in the Forest and Wood Products Industry</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>INDUSTRY/GOVERNMENT STRATEGIC CONSULTATION AND PLANNING</strong></td>
</tr>
<tr>
<td>Forest Industry Development Board</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>South East Forestry Industry Roundtable</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Limestone Coast Economic Diversification Forum</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>South Australian Forest Industry Advisory Board</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>

**GOVERNMENT SUPPORT – ENABLING BUSINESS ENVIRONMENT**

- Decision to Sell FSA Forward Rotation ($670m)
  - Conditions of sale informed by advice from the South East Forestry Industry Roundtable
  - New owner must offer resource to local processors
  - New owner must replant, must manage resource sustainably

- South East South Australia Innovation and Investment Fund ($12m)
  - Australian and South Australian Government program, following Kimberly-Clark Australia decommissioning its pulp mill and retaining its paper mill
  - To support projects to strengthen regional economy and employment base
  - To create long-term jobs in high-value manufacturing and manufacturing services

- South East Forestry Partnership Program ($27m)
  - South Australian Government program
  - To facilitate industry recovery by encouraging investment in new/existing business
  - Grants need to be matched
  - Government has announced that remaining funds will be allocated

- SA Cellulose Fibre Value Chain Study ($1.13m)
  - An outcome of Limestone Coast Economic Diversification Forum
  - Awarded to VTT Finland, experience from northern hemisphere
  - Emphasis on a future based on high value products including bioenergy, biorefining
In developing the Blueprint, the Board established its coverage as statewide and took into account findings from various initiatives such as the:

- Forest Industry Development Board’s South Australian Forest Industry Strategy, which outlined strategic directions for the industry to 2016 (see Appendix 4), and the ‘next steps’ of continuing dialogue with regional communities and industry, implementing the strategy through a whole of government and industry partnership approach, and facilitating effective action on ground
- The South Australian Government’s Cellulose Fibre Value Chain Study, which outlines various options for the future, including a biorefinery for Mount Gambier

- South East Forestry Partnership Program which delivers funding for technology upgrades in a number of forestry and processing operations
- Limestone Coast Economic Diversification Forum, facilitated by Regional Development Australia Limestone Coast, which documented strategies on key areas for investment and opportunities in the region.

These and other major initiatives affecting the industry in recent times are summarised in Table 1.

This Blueprint will find much of its value in ongoing input from industry and interested parties, particularly those stakeholders that share the vision of an evolving and innovative industry making the best possible use of our world class plantation assets.
BACKGROUND TO THE FOREST AND WOOD PRODUCTS INDUSTRY

OWNERSHIP AND INDUSTRY STRUCTURE

All South Australia’s timber production comes from plantations (Figure 1). These plantations cover only 0.02% of South Australia’s land area and over time have been increasingly regulated. South Australia’s native forests are 4.4% of the land area and are not harvested commercially.

An estimated 90% of the trees or harvesting rights are owned by the private sector, including several large institutional investors; nearly half the land is owned by the SA Government.

Forestry is more than a primary industry; it is also a manufacturing industry, which comprises processing plants and value added products along the value chain. Major participants include growers, forest managers, landscape suppliers, harvesters and hauliers, sawmills, panelboard plants, paper mill, preservation plants, engineering and fabrication plants, importers and distribution outlets, as well as timber merchants, wholesalers and retailers. The industry plays a major role as a direct employer, contributing to the State’s regional stability.

Figure 1. South Australian plantation and processing regions

Source: ABARES 2013
PLANTATION ESTATE

Most plantations are located in the South East which, combined with South West Victoria, forms a region known as the Green Triangle (Figure 1). Here, areas of hardwood and softwood plantations were almost equal in 2010.

In 2012, South Australia’s plantation estate was more than 188,500 hectares, representing over 12% of softwood (Pinus radiata) and 6% of hardwood (mainly Eucalyptus globulus) plantations in Australia (Figure 2). The state’s Mediterranean climate and relatively flat terrain have given the plantations a competitive advantage.

According to published data, 52% of South Australian plantations in 2010–11 were owned privately. In recent years both hardwood and softwood new annual plantings have declined, in South Australia and nationally (Figure 3). Part of this decline is due to the global financial crisis and reduced investor confidence in all types of managed investment schemes. The low confidence was ameliorated by amendments to national financial laws and strengthened prudential arrangements by the Australian Securities and Investments Commission.

The reduced level of planting will eventually impact on the potential to increase future wood flow and supply to the processing sector.
HARVESTING

About 2.3 million cubic metres of softwood logs are harvested each year, representing 16% of the nation’s softwood logs. Most are processed into sawn timber (60%); the remainder are used in panels such as particleboard, or preservative treated timber and woodchips. Nearly 500,000 cubic metres of hardwood logs in South Australia are now harvested for export as logs or woodchips through the deep port of Portland in Victoria.

Figure 3. Annual new plantation establishment* by type in South Australia and Australia  
* New areas planted (excludes replanting). Source: ABARES 2014
EMPLOYMENT

In South Australia, the forestry sector directly employs around 6500 people, with further contribution through indirect employment across the State. The Green Triangle region employs nearly 2600 people in forest related sectors, with 73% of those employees located in South Australia. The town of Mount Gambier relies more heavily on forestry sector employment than other regions and large cities in Australia, with 11% of its workforce in the industry (Figure 4).

TRAINING

The full range of training and educational options continue to be available in Australia but the availability of forestry-specific undergraduate university degrees has fallen. In some instances, forestry has been incorporated as special units in broader natural resource management degrees.

More than half the industry’s employees in South Australia identify themselves as either technical or trade workers, or as machinery operators and drivers (ABS 2011a).

Shortages of skilled workers and gaps in the skill level of the existing work force have been identified across the industry in Australia (ForestWorks ISC 2014). To address this, the ForestWorks Industry Skills Council assists in learning and skills development in the forest and timber products industry, and is contracted by the Australian Government to develop, maintain and continuously improve the required training packages.

The Limestone Coast is seen as a desirable forest, forest product, wood science, timber engineering, plant based chemical, education destination (rather than capital city based campuses).
RESEARCH AND DEVELOPMENT

Business research and development expenditure in the forest and wood products sector nationally has been falling (ABS 2011b). In 2008–09 its share of Australian business expenditure was 0.8%.

TOURISM AND RECREATION

Each year about 150,000-200,000 people are recorded as visiting state forests in South Australia, excluding those in the Green Triangle. This reflects the many walking and riding tracks and their lengths (more than 900 kilometres), as well as the diverse sites and events that the multiple-use plantation areas provide in South Australia.

CARBON AND GREENHOUSE GAS

Carbon sequestered from the atmosphere and stored in Australia’s plantations increased from 137 million tonnes in 2001 to 171 million tonnes in 2010 (MPIG 2013).

Use of softwood sawntimber as a building material therefore helps reduce Australia’s greenhouse gas emissions because comparatively little energy is used in its manufacture (Figure 5).

Figure 5. Embodied energy of building materials manufactured in Australia
Source: Lawson 1996
FUTURE SUPPLY

The Green Triangle Region will be the most significant area for future log supplies in South Australia. Here, annual log supplies (Figure 6) are projected to average 3.8 million cubic metres of softwood logs by 2040 and over 2.5 million cubic metres of hardwood logs (Gavran et al. 2012). In preparing these projections, ABARES assumes that areas harvested are replanted with the same species.

![Figure 6. Forecast log supplies in the Green Triangle, 2010–2040](Source: Gavran et al. 2012)
FUTURE DEMAND

Nationally, various industry commentators expect a continuing increase in sawntimber and panel demand, driven by the trend to higher density living, house renovations, increasing population and the emerging interest in timber buildings. Future bioenergy demand will depend on a range of factors, including electricity and energy demand, carbon price, renewable energy incentives, and competitiveness of alternative renewable energy sources.

Overseas, continued economic and population growth is expected to lead to a significant increase in demand for wood and paper products in Asia and the Pacific to 2030, as illustrated by the projected increase in consumption of paper and paperboard (Figure 7).

![Figure 7. Asia and Pacific paper and paperboard forecasts](image)

Data presented for 1990 and 2005 are actual levels.

*Source: FAO 2009*
REALISING THE OPPORTUNITIES: TRENDS AND DRIVERS

The context in which an industry operates has trends and drivers – both positive and negative – that pose opportunities for, and threats to, the future of that industry. These trends and drivers can be used to inform development of a blueprint and those taken into consideration for this Blueprint are listed below under the headings of the six themes identified to advance the industry. Some fit neatly into a theme; others are relevant to several themes. The actions for realising opportunities under these themes are listed in ‘Realising the opportunities’ and Appendix 2.

COLLABORATIVE INNOVATION AND RESEARCH

- Innovation and new technologies driving cost reduction across the value chain and new product development
- Nanotechnology and molecular materials science driving new uses for wood including cellulosic fibre and polymers for the bio-plastics industry
- Increasing globalisation of private sector innovation
- Contraction in public and private investment in research and development

COMPETITIVE ADVANTAGE

- High quality softwood resource and concentration of timber industry infrastructure in Green Triangle
- Access to sustainable supplies of quality land and water for sustainable plantation forestry
- Resource and industry located near two markets (Melbourne and Adelaide) where sawn timber and panel demand is driven by a cyclical house building market
- Trend to higher density living in Australia creates opportunities for appearance-grade timber and composite panels for flooring and walls
- Emerging interest in timber buildings for higher density, quality living
- Wood product substitutes likely to remain competitive
- Rapid increase in coal seam gas/shale oil resources potentially limiting opportunities for viable bioenergy
- An ageing Australian population with changing purchasing preferences
- Scale required for viable manufacturing and processing infrastructure growing as supply chains become global and unit cost of transport declines significantly
- Governments seeking to reduce red-tape
- Australian labour and production costs higher than most sources of competing products
- Digital communications reducing demand for newprint paper products but increased demand for high value, special quality papers and bespoke stationery
PEOPLE

- Collaboration and integration at regional and national levels essential to develop the scale needed for global competitiveness
- National competition for skilled labour
- Increasing education, skill levels and age of industry workers
- Need to be responsive to future skills needs in a rapidly changing industry

SUSTAINABILITY

- Well understood regional water resource
- Increasing understanding of the ecosystem services provided by plantation forests
- Social capital for natural resource management well established and sustainable
- Trend towards verified chain of custody and sustainability certification for access to premium wood product markets
- Consumers seek environmentally friendly products and construction where it is cost competitive

MARKETING AND PROMOTION OF INDUSTRY VALUES

- More media and marketing mechanisms resulting in more immediate communication
- Consumers interested in origin, values and ‘story’ behind products as well as cost competitiveness
- Status quo building approaches open to change from compelling communications
- Plantation wood has easily verified chain of custody and sustainability certification for access to premium wood products markets
- Prospect of global and national markets for carbon

TRADE

- Urbanisation and economic development in Asia driving global demand for a wide range of wood products as well as innovative products such as fibre for water filtration, bio-energy, and housing and building materials
- Large-scale retailers buying direct from manufacturers in Australia and internationally
- Public company sensitivity to public opinion and requiring a social licence to operate
- Australian terms of trade determined by factors outside the control of Australian government or companies
APPENDIX 1.
SOUTH AUSTRALIAN FOREST INDUSTRY ADVISORY BOARD

BOARD MEMBERSHIP

**Trevor Smith (Presiding Member):** Trevor has demonstrated leadership in facilitating consensus outcomes of high level complex review processes and conflicting views and situations. He is currently Managing Director of Advisory Consulting Employment Services, and the former National Secretary of the Construction, Forestry, Mining and Energy Union, Forest and Furnishing Products Division, and Chair of the South-East Forestry Industry Roundtable.

**Jane Calvert:** Jane has been employed by the Forestry and Furnishing Products Division of the CFMEU for more than 20 years, and is currently National President of that Division. She is Deputy Chair of ForestWorks, the industry skills council, and of Tasmania Forest and Forest Industries Council.

**Alison Carmichael** DipAgSci, GradDipFET, MEd (T&D), GAICD: Alison has extensive experience as a senior executive and a consultant in the agricultural, natural resource management, sustainability and communications sectors, with particular expertise in business and industry development. She is currently Chief Executive Officer of the Institute of Foresters of Australia.

**Shelley Dunstone** LLB, B Bus (Marketing): Shelley has a background in law and works as a consultant in innovative practice and competitive advantage. She has legal, marketing and financial qualifications coupled with experience re-conceptualising business problems.

**John Fargher** BAgSc, M Nat Res, Adv Mang Program: John has extensive experience in forest and water management. His current activities include work with the Australian Government and their overseas development programs. He is a former Chair of the Forest Industry Development Board and Presiding Member of the Water Resources Council under the *Water Resources Act 1997*.

**Phil Lloyd** BForSc, MBA, MIFA, RPF: Phil is General Manager, Resource, with Timberlink Australia in the South East. He was a member of the South East Forest Industry Roundtable and has extensive plantation resource experience in both the South East and Victoria.

**Ian McDonnell:** Ian has been involved in the sawmilling industry for 38 years, and in industry bodies, such as the Logging Investigation and Training Association and the South East Log Hauliers Association (including two terms as President).

**Caroline Pidcock** BArch (Hons), BSc (Arch): Caroline is an architect with interest and experience in sustainable built environments. She is currently Director of Pidcock Architecture + Sustainability; Chair of the Carriageworks and Living Futures Institute Australia boards, and a member of the Greening Australia NSW Board.

**Dr Bob Smith** BForSc, MBA, MS, PhD (Resource Economics): Bob is an independent forestry consultant after being Chief Executive of both the Victorian and New South Wales public forest growers.
BOARD TERMS OF REFERENCE

Lead a process to address the future strategic needs of the forest and wood products industry including the provision of advice to the Minister for Forests on the long-term future and viability of the industry.

Identify and advise on emerging domestic and international opportunities, innovation and challenges for the sustainable economic development of the forest and forest product industry sectors in South Australia.

Provide high-level industry insights and advice including workforce development and skill needs, and inform the Minister for Forests with recommendations.

Act as a high-level conduit between industry and the South Australian Government, using the expertise and networks of its membership, to facilitate industry consultation and engagement regarding identified economic opportunities and challenges at state and national levels.

Work with organisations and initiatives that aim to further industry development and improve public perception of the industry including: relevant initiatives from the Limestone Coast Economic Diversification Forum; SA Cellulose Fibre Value Chain Study; and the South-East Forestry Partnerships Program.

Be high profile advocates of the programs developed by the South Australian Forest Industry Advisory Board in the community.

Facilitate the development of a forest and wood products industry policy statement for the consideration and endorsement of the Minister for Forests and industry.

Develop, review and support the implementation of a strategic blueprint for the future of the South Australian Forest and Wood Products Industry.

Provide an annual report of activities to the Minister for Forests.

Undertake these duties for a period ending 1 May 2015 when the role of SAFIAB and these Terms of Reference will be reviewed.
APPENDIX 2.
FURTHER OPPORTUNITIES

The actions listed below complement the critical actions listed in ‘Realising the opportunities’. Together, the two sets cover the actions suggested by previous work and consultation on this Blueprint to seize emerging opportunities for advancing the industry.

<table>
<thead>
<tr>
<th>TOPIC</th>
<th>REALISING THE OPPORTUNITIES</th>
<th>RESPONSIBILITY</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>THEME 1. COLLABORATIVE INNOVATION AND RESEARCH</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>National Centre of Excellence</td>
<td>Progress research and development (R&amp;D) collaboration for improved productivity by aggregating existing R&amp;D institutions into a national centre of excellence in Mount Gambier</td>
<td>Industry</td>
</tr>
<tr>
<td>R&amp;D topics</td>
<td>Initiate R&amp;D that focuses on: products unique to SA; new value added products; new tree species; improved genetics and tree breeding; improved silvicultural techniques, harvesting and waste utilisation</td>
<td>Industry and SA Government</td>
</tr>
<tr>
<td>Innovation forums</td>
<td>Improve communication of technology and policy options, including knowledge sharing forums on innovative products and innovative world leaders that help build the industry and associated industries</td>
<td>Industry and SA Government</td>
</tr>
<tr>
<td>R&amp;D levies</td>
<td>Negotiate investment by industry and Government, including through industry negotiated reprioritising of current industry levies to leverage industry investment in R&amp;D</td>
<td>Industry and SA Government</td>
</tr>
<tr>
<td>Heavy vehicles</td>
<td>Investigate safer and more efficient heavy vehicles</td>
<td>Industry and Government</td>
</tr>
<tr>
<td><strong>THEME 2. COMPETITIVE ADVANTAGE</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Access to natural resources</td>
<td>While maintaining strong compliance with environment regulation, ensure the industry has the same access to natural resources as other land-based industries; in particular, seek science-based evidence, consistency and equity in water policy and allocations across water using industry groups</td>
<td>SA Government</td>
</tr>
<tr>
<td>Cross-border arrangements</td>
<td>Negotiate consistent infrastructure and resource access regimes across the South Australian–Victorian border</td>
<td>SA Government</td>
</tr>
<tr>
<td>Transport infrastructure</td>
<td>Collaborate to improve and maintain transport infrastructure (such as roads and bridges) used by industry’s articulated and high productivity vehicles and simplify transport related regulation and approvals in the Green Triangle and Adelaide, e.g. as in National Heavy Vehicle Regulator’s access management system</td>
<td>All levels of government and industry</td>
</tr>
<tr>
<td>Building codes forum</td>
<td>Convene a forum to modify relevant standards, building codes, rules and Government regulation to progress the adoption of innovative products</td>
<td>Industry and SA Government</td>
</tr>
<tr>
<td>Cross-border comparison of business attraction</td>
<td>Identify the main issues affecting attraction and retention of businesses to SA compared to Victoria</td>
<td>SA Government</td>
</tr>
<tr>
<td>Long-term supply agreements</td>
<td>Use long-term supply agreements to attract new industry investment and initiatives</td>
<td>Industry</td>
</tr>
</tbody>
</table>

**THEME 3 PEOPLE**

| Up-skilling | Up-skill operational and professional staff, and increase traineeships and graduate programs to attract and retain workers needed at all role levels | Industry |
| National Curriculum | Lobby to integrate forest and wood products into the national curriculum to raise understanding of SA’s plantation-based industry, its environmental benefits and its requirement for more highly educated and/or skilled workers | Industry and SA Government |
| Easier access to product information | Ensure easy access to information about and supply of products for specifiers and contractors | Industry |
| Career choice | Ensure the industry is a competitive career choice | Industry and SA Government |
| Workforce retention strategies | Develop industry-based strategies to retain a highly trained and skilled workforce | Industry |
| Regional community services | Maintain and/or increase the level of community services in regional areas to attract and retain skilled staff | SA and Local Government |
| Registered Training Organisations | Maintain and/or increase funding for registered training organisations and educational institutions in the South East and in Adelaide; encourage trainers who provide after-course support on-site to trainees | Industry and SA Government |
| Funded Training List | Seek exemption from the current “Skills for All” Funded Training List reviews | Industry and Government |
| Payroll tax relief for traineeships | Seek payroll tax relief for industry traineeships from the SA Government | Industry |

**THEME 4 SUSTAINABILITY**

<p>| Environmental benchmarking | Demonstrate environmental sustainability by monitoring key environmental impacts, regularly benchmarking and reporting performance of the industry against international standards | Industry |
| Environmental stewardship | Encourage excellence in environmental stewardship by considering reductions in compliance costs, e.g. the Accredited Licence system offered by the South Australian Environment Protection Authority | SA Government |
| Low carbon economy products | Continue to develop leading approaches to supplying products and services for a low carbon, non-toxic economy | Industry |
| Industry and product sustainability | Partner and collaborate to promote the sustainability of industry and related products | Industry, wood users and SA Government |</p>
<table>
<thead>
<tr>
<th>Certification</th>
<th>Continue to demonstrate sustainability by maintaining certification and seeking to lower its costs</th>
<th>Industry and commercial partners throughout value chain</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biosecurity and extreme events</td>
<td>Maintain preventative actions that minimise biosecurity and natural resource risks and report industry progress, while improving responses to extreme events</td>
<td>Industry</td>
</tr>
<tr>
<td>Native animals</td>
<td>Advance science-based understanding of native animal behaviour around plantations</td>
<td>Industry and Government</td>
</tr>
<tr>
<td>Waste use</td>
<td>Develop a comprehensive approach for industry to find alternative valuable uses for forest product waste and residues</td>
<td>Industry and SA Government</td>
</tr>
</tbody>
</table>

**THEME 5 MARKETING AND PROMOTION OF INDUSTRY VALUES**

| Community perceptions of the industry | Strengthen industry's understanding of, and response to, community perceptions of the industry | Industry |
| Urban pride in the industry | Explore ways to engender pride in the industry in the Australian community, especially to urban populations | Industry and SA Government |
| Certified plantation products | Build consumer trust and preference for certified sustainable plantation forest products | Industry and commercial partners throughout value chain |
| Environmental awards | Investigate annual environmental awards for industry sectors in SA | Industry and SA Government |
| Social media | Use social media as a part of implementation of communication and marketing strategies | Industry |
| Fit-for-purpose products | Ensure that products are fit for purpose and encourage correct use in marketing documentation | Industry |
| Promotion to increase demand | Increase industry promotion to consumers, further processors, investors, government, community and schools to grow product demand | Industry |
| Promote resource availability globally | Promote the availability of the resource both nationally and internationally to commercial investors | Industry |
| Procurement policies | Ensure procurement policies and building proposals consider both local and innovative wood products | All levels of government |

**THEME 6 TRADE**

| Build resilience to currency fluctuations | Develop strategies for a more resilient approach to currency fluctuations | Industry |
| Investment and export partnerships | Establish public–private partnerships to promote new investment and for industry to be investor and export ready | Industry and SA Government |
| Import replacement and export enhancement | Seek Government assistance for industry to understand export enhancement, import replacement, and (import) dumping provisions | Industry and SA Government |
| Import replacement through government procurement | Provide more import replacement opportunities through government procurement, particularly buildings | SA Government |
| Not-fit-for-service imports | Approach the Australian Government to address imports that are not fit for service | Industry and SA Government |
APPENDIX 3.
A CELLULOSE FIBRE VALUE CHAIN STUDY – SUMMARY AND RECOMMENDATIONS

The South Australian Cellulose Fibre Value Chain Study (VTT 2013) recommendations seek to modernise and diversify the industry to extract maximum value from the region’s forestry resource and build and maintain a globally competitive industry. The study estimates that its recommendations, if implemented, could increase annual industry revenues by at least $365 million.

Stage 1 of the study identified that:
- There is general agreement on the need to renew the industry and its processing.
- Without a pulp mill, the use of chips and saw dust for bioenergy, biochemical or biomaterial generation should be seriously considered.
- The future of the industry should be based on a high Australian dollar.
- Raw material in the Green Triangle is cheaper than that in Scandinavia.
- Average Australian sawn timber sale prices appear higher than in Northern Europe.
- Low profitability in Australia may be linked to poorer yield for average size logs.
- Management capacity and work place culture could be better.
- A more highly trained workforce is necessary to improve industry profitability.

Stage 2 provides a roadmap of pathways for industry opportunities, from several key ‘lenses’:
- Mass lens – more efficient traditional forest and wood products industry
- (Renewable) energy lens – industry renewal through energy biorefinery
- Molecular lens – (Wood based chemicals lens)
- Atomic lens – (Advanced wood plastics, composite and nano material lens).

RECOMMENDATIONS

Pathway 1: Oriented Strand Board
- Forest owners, regional councils and the State Government work together to define the biomass opportunity, favourable factory location and investment hosting inducements.
- Initiate a national/international investor search process canvassing oriented strand board producers as one of a range of possible end-uses for the underutilised pulpwood logs.

Pathway 1: Veneer-based Engineered Wood Products
- Evaluate the proportion of hardwood (HWD) pulpwood logs that would meet the requirements for laminated veneer lumber (LVL).
- Forest owners and SA regional and State Governments work together to define the biomass opportunity, favourable factory location and investment hosting inducements.
- Initiate a national/international investor search process canvassing LVL producers as one of a range of possible end-uses for the underutilised HWD pulpwood logs.

Pathway 1: Improved sorting and better yields by X-ray scanning
- Evaluate X-ray technology suppliers and establish how much yield can be reached, through real material tests on local radiata pine logs.
- Check labour safety regulations concerning the installation and use of scanners.
- First installation of X-ray equipment should be at one of the larger mills with good log-sorting facilities.
Pathway 2: Cross-laminated timber and high storey houses

- Consider in detail the recent experiences in Europe and initiate contact with cross-laminated timber (CLT) equipment and adhesive suppliers.
- Work with FWPA, South Australia Government and other groups to modify relevant building codes to permit use of CLT in a range of applications including construction of high-rise CLT buildings.
- Initiate training programs to build competence in wooden building skills and encourage use of CLT in public construction projects.
- Promote wooden buildings, including CLT, with architects and building developers, and have initiatives for building construction out of CLT.
- The value chain of building code authorities, sawmill, CLT site, construction company and ecomarketing company needs to be developed.

Pathway 2: Glued Laminated Timber (GlueLam)

- Consider in detail the vast experience in Europe and follow the seasoned practices.
- The building codes should be modified to permit and promote the use of GlueLam products in large constructions such as municipal buildings.
- An initiative for an investment into a large scale GlueLam site integrated into one of the larger sawmills.
- Research the acceptability of radiata pine pulpwood based GlueLam products to the Japanese market.

Pathway 2: Wooden bridges

- Consider in detail the experience in northern Europe and follow the seasoned practices and building models.
- The building codes should be modified to permit and promote the use of wooden bridges.
- Research the local coating and preservation needs with local expertise to extend lifetime and prevent termite damage.

Pathway 2: Biocomposites

- Assess the possibility to retro-fit an existing MDF mill, using the same front end to provide an alternative product and market stream.
- The logistics of the supply of suitable polymer are crucial.
- Forest owners, regional councils and the State Government work together to better define the biomass opportunity, and investment possibilities.
- Initiate a national/international investor search process canvassing biocomposite producers as one of a range of possible end-uses for the underutilised pulpwood logs.

Pathway 3: Bio-oil by fast pyrolysis

- Identify suitable sawmills for installation of pyrolysis plant based on feedstock availability and potential bio-oil users in the region.
- Establish conditions and regulations for bio-oil market development.
- Asses potential ‘crude’ bio-oil and upgraded bio-oil users and the develop a bio-oil supply infrastructure.
- Follow the bio-oil upgrading technology development.
Pathway 3: Biochar by torrefaction
- Develop incentives and regulation for biomass use in heat and power production
- Identify potential biochar customers and establishing the appropriate value chain connections (e.g. forestry, power, mining and metal industries).
- Identify suitable torrefaction plant location and biochar logistics design and planning.

Pathway 3: Power, heat and biofuels by gasification
- Introduce incentives or capital investment subsidies for liquid transportation fuel production; feed-in tariffs for bio-based electricity production.
- Develop contacts and cooperation with fuel producers and distributors.
- Due to large capacity requirement for economic production of gasification based biofuels, establish a well-operating low cost biomass supply chain.
- Identify by-product heat integration possibilities.

Pathways for longer term development are:
- manufacture of wood based plastics
- bio based chemicals
- nano-cellulosic materials.

To progress along all the pathways, VTT suggests that governments consider:
- promoting an increase in the use of wood in society
- building education strategies for cellulose based industries
- creating targeted government policies and policy instruments.

A clear message from the study is that pursuit of the recommended technologies to transition the industry into a sustainable and competitive footing will require investment (Table 2) and collaboration between industry players and the coordinated support of education and research institutions together with governments of all levels. Overseas researchers, companies and investors will also need to be engaged if the region’s potential is to be fully realised and maintained.
Table 2. Revenue from forest products, investment cost of implementing the hypothetical future energy biorefinery platform and the feedstock costs. Production costs not included

<table>
<thead>
<tr>
<th>PROCESS</th>
<th>PRODUCT</th>
<th>PROD. RATE</th>
<th>UNITS</th>
<th>PRICE (A$/m³)</th>
<th>REVENUE (MAS/m³)</th>
<th>INVESTMENT COST RANGE (MAS)</th>
<th>FEEDSTOCK COST** (A$/m³ OR MWh)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sawmill (increase)</td>
<td>Structural timber</td>
<td>66,000</td>
<td>m³/a</td>
<td>400</td>
<td>26</td>
<td>40-50</td>
<td>130</td>
</tr>
<tr>
<td></td>
<td>Non-structural timber</td>
<td>4,000</td>
<td>m³/a</td>
<td>180</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CLT</td>
<td>CLT</td>
<td>60,000</td>
<td>m³/a</td>
<td>650</td>
<td>39</td>
<td>35-50</td>
<td>440</td>
</tr>
<tr>
<td>Gluelam</td>
<td>Gluelam</td>
<td>40,000</td>
<td>m³/a</td>
<td>650</td>
<td>26</td>
<td>20-30</td>
<td>410</td>
</tr>
<tr>
<td>OSB</td>
<td>OSB</td>
<td>200,000</td>
<td>m³/a</td>
<td>270</td>
<td>54</td>
<td>90-120</td>
<td>140</td>
</tr>
<tr>
<td>EWP</td>
<td>LVL</td>
<td>60,000</td>
<td>m³/a</td>
<td>700</td>
<td>42</td>
<td>120-140</td>
<td>140</td>
</tr>
<tr>
<td>CHP</td>
<td>Power</td>
<td>136,000</td>
<td>MWh/a</td>
<td>50</td>
<td>7</td>
<td>114-190</td>
<td>90</td>
</tr>
<tr>
<td>Pyrolysis</td>
<td>Bio-oil</td>
<td>90,000</td>
<td>bdt/a</td>
<td>680</td>
<td>61</td>
<td>32-50</td>
<td>120</td>
</tr>
<tr>
<td>Torrefaction</td>
<td>Torrefied pellets</td>
<td>120,000</td>
<td>bdt/a</td>
<td>100</td>
<td>12</td>
<td>27-50</td>
<td>100</td>
</tr>
<tr>
<td>Gasification</td>
<td>FTL</td>
<td>97,000</td>
<td>bdt/a</td>
<td>1140</td>
<td>111</td>
<td>636-1070</td>
<td>460</td>
</tr>
<tr>
<td>Export</td>
<td>SWD pulplogs</td>
<td>200,000</td>
<td>m³/a</td>
<td>70</td>
<td>-14</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

Total increase in revenues from the forest 365
Investment requirement 1100-1700

* Investment cost depends on the number of installations; for many technologies the hypothetical scenario total capacity would be possible to achieve only with one plant, except in the case of torrefaction.

** Feedstock for the processes are illustrated in the hypothetical scenario in the VTT report; feedstock costs are fully allocated to the product of the technology and credits from by-products and all other costs not included.

Source: VTT 2013

Figure 8. Technology evolution in the three suggested pathways. Position of each technology on the curve describes its current technological progress level and the time scale presents the estimated time needed until breakthrough is achieved or the technology is matured. Source: VTT 2013
APPENDIX 4.  
SA FOREST INDUSTRY STRATEGY VISION 2050  
SUMMARY AND RECOMMENDATIONS

Prepared by the Forest Industry Development Board (2011)

STRATEGIC DIRECTIONS FOR INDUSTRY DEVELOPMENT  
2011–2016

- Enabling an open and competitive policy and business environment
- Increasing investment in the industry
- Capturing new value-adding opportunities
- Encouraging industry innovation
- Fostering industry collaboration
- Strengthening workforce development
- Promoting best practice forest management
- Benchmarking industry performance
- Improving public perception and understanding of the industry

DEVELOPING SOUTH AUSTRALIA’S FOREST INDUSTRY –  
PRIORITIES FOR IMPLEMENTATION

<table>
<thead>
<tr>
<th>Collaboration</th>
<th>Foster capability to pursue regional actions in support of the Strategy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Community acceptance</td>
<td>Promote the environmental benefits of forestry and forest products to the public to establish better consumer understanding and demand</td>
</tr>
<tr>
<td>Value adding</td>
<td>Capture new value-adding opportunities to maximise returns from plantation resources</td>
</tr>
<tr>
<td>Business environment</td>
<td>Achieve a stable operating environment and harmonise regulatory regimes with other states to expedite planning, development and transport</td>
</tr>
<tr>
<td>Investment</td>
<td>Increase the resource base and processing capacity to enhance industry international competitiveness</td>
</tr>
<tr>
<td>Workforce</td>
<td>Develop additional support and funding for training, education and innovation to meet current and future needs</td>
</tr>
<tr>
<td>Policy</td>
<td>Articulate the State Government’s policy position on the forest industry to increase investor confidence</td>
</tr>
</tbody>
</table>
The South Australian Forest and Wood Products Industry encompasses:

- plantation forest growing
- forest-related natural resource management
- environmental services
- research and development
- workforce and training
- public recreational use and tourism
- timber harvesting and haulage
- sawmilling and processing
- paper manufacturing
- wood manufactured products
- wood panel and board production
- timber merchandising
- marketing and use of forest products.

Major products from the industry include:

- sawn timber and engineered wood products used in building and construction
- furniture manufacture and other higher value products
- woodchips, pulp and paper products
- engineered wood products
- wood panel board products
- landscaping materials and fencing
- bioenergy and biofuels.

Forest Industry Development Board: Established in January 2009 to provide leadership for innovation and development for a forest and forest products industry that supports sustainable economic growth in South Australia.

ForestWorks ISC: Industry Skills Council for the forest, wood, paper and timber products industry

Growing Advanced Manufacturing: helping South Australian businesses compete on innovation and high value, education and skills to drive transition, and supporting manufacturing capabilities to encourage investment and growth.

South Australian Forest Industry Advisory Board: Established by the Minister for Forests in early 2013 to provide advice and recommendations about the future strategic needs of the forests and wood products industry to the State Government.
# ABBREVIATIONS

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ABARES</td>
<td>Australian Bureau of Agricultural and Resource Economics and Sciences</td>
</tr>
<tr>
<td>AFPA</td>
<td>Australian Forest Products Association</td>
</tr>
<tr>
<td>CLT</td>
<td>cross-laminated timber</td>
</tr>
<tr>
<td>FIDB</td>
<td>Forest Industry Development Board</td>
</tr>
<tr>
<td>FWPA</td>
<td>Forest and Wood Products Australia Ltd</td>
</tr>
<tr>
<td>HWD</td>
<td>hardwood</td>
</tr>
<tr>
<td>LVL</td>
<td>laminated veneer lumber</td>
</tr>
<tr>
<td>MDF</td>
<td>medium density fibreboard</td>
</tr>
<tr>
<td>R&amp;D</td>
<td>research and development</td>
</tr>
<tr>
<td>SEFIR</td>
<td>South East Forestry Industry Roundtable</td>
</tr>
<tr>
<td>VTT</td>
<td>VTT Technical Research Centre of Finland</td>
</tr>
</tbody>
</table>

Photo courtesy of Kimberly-Clark Australia
REFERENCES


ForestWorks ISC. 2014 and previous issues. Environmental Skills Scan.


VTT Technical Research Centre of Finland. 2013. *Stage 2. Future options for the cellulosic fibre value chain in the Green Triangle, South Australia: strategic technology roadmaps, business cases and policy recommendations*.

Photos courtesy of ForestWorks ISC
WHAT HAPPENS NEXT?

The South Australian Government is committed to supporting comprehensive industry strategies that set out a vision, strategic directions and targets. Identifying major opportunities for the forest and wood products industry to progress with government and the community will ensure the development of a viable future for the Forest and Wood Products Industry in South Australia.

Primary Industries and Regions SA is tasked with leading the government’s forestry development activities and will seek to achieve whole-of-government approaches to optimise the potential for satisfactory outcomes. Where necessary, it will work nationally to achieve cooperation between states on important policy and industry development opportunities.

The Blueprint identifies investment and development opportunities for the Forest and Wood Products Industry that will need to be progressed by effective action and support of government, community and Industry stakeholders throughout the implementation process.

Industry stakeholders and investors are advised South Australia is open for business. It has demonstrated it is attractive for investment that creates employment opportunities, innovative new products, increases production and value-added exports. The many opportunities include diversification and further value adding to existing forest and wood processing activities with ready access to strong and dynamic Asian markets. For global investors, Australia offers low sovereign risk and a stable business environment.