



## Case Study 2: Innovation in Frame and Truss Technologies

### Frame & Truss Innovation Working Group

#### Working in collaboration to deliver innovation and cost reduction

The Frame & Truss Innovation Working Group was established and supported by the ForestWorks Innovation Skills Program (ISP) to examine a wide range of options for collaborative developments. However the group decided to pursue opportunities that would provide specific solutions to timber waste disposal costs, as these costs are large and carried by every business that operates in this industry sector.

The group met for the first time in August 2014 under the leadership of the Frame & Truss Manufacturers Association Australia (FTMA).

The group started with seven small sized frame and truss manufacturers from across Australia, a timber supplier and three nail plate manufacturers and suppliers representing businesses of the sector's value chain.

After two sessions of group discussions, with expert facilitation provided by the ISP, as well as leadership and management support from ForestWorks and the industry association, the group agreed that process efficiency optimisation is important in assisting fabricators to increase their value contributions to the market. The focus for collaborative innovation quickly became waste and workforce safety.



Kersten Gentle, CEO of the Frame & Truss Manufacturers Association of Australia, and leader of the Frame & Truss Innovation Working Group speaking at the *Innovation in Action* forum in March 2015

With a growing enthusiasm for their collaboration focus, and by building insights and evidence into the subject, the group decided to concentrate their attention on solutions to timber residues (particularly treated timber offcuts) to reduce disposal costs. Studies<sup>1</sup> estimate that 7% (or 42,500 tonnes/annum) of a fabricator's total timber input ends up as waste. At \$1,100 per tonne of raw timber, this waste is costing the industry about \$A46 million per annum.

### **The group learnt to look at all options and opportunities**

The group identified and explored all options available for an alternative to disposal of treated timber residues. A key source of information was the open exchange of information within the group about what companies in their networks had tried.

They also conducted research on recommendations from Australian studies, and examples from overseas companies. They talked with people at Emergence<sup>2</sup> to channel possibilities and suitability of supplying treated timber feedstock to other industries' biomass plants.

The group investigated the business model of BB Truss & Timber which incorporated the manufacture of timber briquettes into their production processes.

A number of short term solutions for regions and individual companies were found through ongoing discussion. One example is an agreement with D&R Henderson, (a particleboard manufacturer from Benalla Victoria), to take timber waste from fabricators and incorporate it in the particleboard manufacturing process.

Fabricators who can't take their product to D&R Henderson, but use the same waste company, have the option, as identified by the group, to tender their waste collectively to reduce costs.

More work is being done with freight companies to allow collective tendering services in other regions to reduce the cost of transporting timber waste for disposal.

### **Where to from here?**

The next step in the evolution of the Frame and Truss Innovation Working Group is to collaborate with Sustainable Advantage (NSW Government), in partnership with The Crucible Group, a company that has developed a Continuous Biomass Converter (CBC). This innovative industrial technology performs functions of dewatering, char making (pyrolysis), tar cracking and gas scrubbing in a single unit.

The CBC technology uses biomass/organic wastes and residues to create three valuable products; bio-char, gas and a water product (wood vinegar).

These resources have the potential to become significant assets to global agriculture and industry.

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<sup>1</sup> Advitech Pty Ltd, 2015, Timber Waste - Specific Resource Recovery Exemption Application. Filename: 13046 Timber RRE Application v07

<sup>2</sup> Emergence is a company focussed on delivering renewable energy solutions to industry

This project has the potential to be a NSW Government Flagship Program. Fabricators may be able to dispose of treated timber residues for free under such a program.

The Innovation Working Group is also looking at options to produce a feasibility study for larger fabricators to install smaller Biomass Plants, to utilise timber waste and save on energy costs.

The group leader describes that changing opinions on treated timber (such as blue, the colour of treated wood, is considered the new green) is the aim in the long term; and that the collaboration taking place at the moment is leading to significant improvements.