



CONSULTANTS EXPRESSION OF INTEREST



MANUFACTURING COMPETITIVENESS

Adhesive research for softwood and hardwood
engineered wood products

Our goal is to maximise manufacturing processes and products through innovation, science and technology, and add value through improved supply chain logistics.

EXPRESSION OF INTEREST

Adhesive research for softwood and hardwood engineered wood products

Key EOI Information

The South + Central Queensland Regional Forestry Hub is seeking Expressions of Interest (EOI) from individuals and organisations with the necessary expertise to assist Hub members in understanding the current state of research and development, investigations and applicable technical standards pertaining to the use of commercially available adhesives in the engineered wood product industry.

This study will report on adhesive performance for specific species (softwoods, mixed hardwood species), technical issues and value-added processing/applications such as finger joined and glued panels, blockboard, glulam and CLT for interior, exterior exposed or unexposed applications.

This study is expected to be delivered a desktop-based literature review/summary of the current state of knowledge, gaps in knowledge, and opportunities for future R&D, presented in an easily understandable, ready-to-use, and applicable format.

If you believe that your expertise satisfies the requirements outlined in this document, please complete and submit an Expression of Interest (EOI).

Closing date for the EOI submission: 1 April 2022

Email your EOI to: k.fullarton@seqfh.com.au

Contact person: Kerry Fullarton, Hub Manager

South & Central Queensland Regional Forestry Hub

Phone: 0498 018 144

Once submitted, your EOI will be considered by the Hub Committee. If the proposal is deemed acceptable for consideration, a Hub representative will contact you to discuss your proposal.

1. Introduction

South & Central Queensland Regional Forestry Hub

In September 2018, the Australian Government launched the National Forest Industries Plan: Growing a Better Australia – A Billion Trees for Jobs and Growth. The Plan outlines the Commonwealth Government’s strategy to drive growth in the renewable timber and wood fibre industry. It provides the vision and certainty needed for Australia’s forestry industry and supports the sustainable forest industries as long-term growth engines for regional Australia.

The plan ambitiously aims to deliver a billion new trees over the next decade (including 400,000 new hectares of plantations nationally) to meet a projected fourfold increase in global demand for timber and wood fibre products by 2050. This translates to planting the right trees, at the right scale, in the right places.

The Commonwealth Government supported the Plan in the 2018-2019 Federal Budget with a \$20 million commitment over four years to help implement actions identified in the Plan. The Hub was setup as part of the Commonwealth’s commitment which, pursuant to the Plan, includes nine forestry hubs across Australia.

The South & Central Queensland regional forestry hub will determine the opportunities and barriers for the forestry and wood products sector and detail the finding of its assessment and growth pathways in reports to the Commonwealth Government and stakeholders.

The steering committee is representative of industry and includes key stakeholders in the region. In order to drive the Commonwealth’s key objective of planting one billion trees in the next decade under the plan, the Hub has identified a number of key priorities in consultation with both industry, community, and government stakeholders.

The Hub’s five priorities include:



Skills & Training

We will support forestry training and education and promote further uptake of forestry-related courses. In addition, we will support sustainability and contribute to growing a skilled and safe workforce to meet industry’s future needs.



Manufacturing Competitiveness

Our goal is to maximise manufacturing processes and products through innovation, science, and technology, and add value through improved supply chain logistics.



Plantation Investment Models

Our focus is to grow the forestry sector to deliver strong financial outcomes and design and test new models of investment for plantation forest.



Native Forest Management

We want to ensure ecological and sustainable forest management of native vegetation on private and state property for increasing timber supply.



Bioenergy & Carbon

We aim to promote the benefits of forestry in reducing climate change, by delivering bioenergy, carbon storage, and biomass for future sustainable growth.

2. Project Justification

The global wood products market remains competitive, and Australia is in close proximity of the largest global market with a strong growth over the last decade. Domestic and global wood product demand has increased because of, among other things, lifestyle changes (home renovations and DIY projects), growing consumers demand for sustainable source and produced materials, low interest rates stimulating construction activity, and increased demand for structural and packaging materials.

The demand for engineered wood products able to utilise small dimension timber has also increased with more players getting into the market (CLT, GLULAM, LVL and other wood-based panels such as OSB, MDF and PB). Finger jointed and edge glued panels for the furniture manufacturing sector continue to show positive prospects as well. All these designer materials have superior technological and mechanical properties compared to many established building products (e.g. sawn timber, plywood) and are well suited for markets that seek products with high quality, consistency, a large range of sizes /specifications and recyclability.

Better raw material utilisation and the drive to increase recovery rates have increased demand for reconstituted wood panels made from low-cost timber as well as processing residues.

The fundamental demand drivers for wood products related to construction and furniture manufacturing remain relevant, and matching product demand with the ability to process appropriate products from the right resource remains critical.

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All business models require a consistent supply of raw materials, access to equipment, dependable utility supplies, and a well-educated workforce, all of which are supported by an innovative research and development sector, open-minded businesses, and, last but not least, product innovators, testing laboratories, and product and market development capacity.

State-of-the-art equipment and processes with medium to large production capacities can help to ensure regional and, in some cases, global competitiveness, while up scalable flexible technology proving to be more appropriate to current business environments for products with a developing market (CLT as an example).

Processing success necessitates not only matching products to markets, but also matching products to the processing environment, which includes aspects such as equipment requirements, skill availability, raw material supply, and quality.

A common element in most above-mentioned wood products is the adhesive used to manufacture these products. Nowadays adhesives are manufactured in a range of versions, formulations with some appropriate for general use while others developed for specific products, applications and even markets.

3. Project Scope

The purpose of this project is to conduct a comprehensive review of:

- the current state of knowledge (both in Australia and internationally), including Queensland/Australia based projects and results, related to commercially available and used adhesives in the engineered wood product and wood-based panels industries;
- potential use of identified adhesives in the manufacture of engineered wood products and wood-based panels, with particular reference and applicability to Queensland's specific log resource characteristics and manufacturing sector.

4. Methodology

The study should identify and discuss the following key components:

- a. Commercial adhesive used in Australia and in markets of interest for the manufacturing of laminated solid timber products and wood-based panels;
- b. Current state of knowledge, gaps in knowledge, and opportunities for future R&D, with a focus on:
 - Determination of the appropriate adhesives for use in the production of engineered wood products and wood-based panels (including finger joined and glued panels, blockboard, glulam and CLT for interior, exterior exposed or unexposed applications), with applicability to Queensland's specific log resource characteristics and manufacturing sector;
 - Technical evaluation of the adhesive glued product workability, finishing potential (staining, painting), service in life (weathering tests) and mechanical properties (MOR, MOE, delamination, weathering testing, etc.);

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- Commercial evaluation of the adhesive glued product, including target market (size, growth trends), industry competitiveness (threats and risks towards commercialisation), supply chain, assessment of its competitive advantage, expected life cycle (applications, ability to update).

The project is expected to be completed using a combination of desk research and in-person/remote stakeholder consultation.

LGAs covered by the Hub include:

- Banana Shire Council
- Bundaberg Regional Council
- Central Highlands Regional Council
- Cherbourg Aboriginal Shire Council
- Fraser Coast Regional Council
- Gladstone Regional Council
- Goondiwindi Regional Council
- Gympie Regional Council
- Livingstone Shire Council
- Lockyer Valley Regional Council
- Maranoa Regional Council
- Moreton Bay Regional Council
- Noosa Shire Council
- North Burnett Regional Council
- Rockhampton Regional Council
- Scenic Rim Regional Council
- Somerset Regional Council
- South Burnett Regional Council
- Southern Downs Regional Council
- Sunshine Coast Regional Council
- Toowoomba Regional Council
- Western Downs Regional Council
- Woorabinda Aboriginal Shire Council

The project must also contain consultation with businesses market leaders, research and development organisations and other relevant stakeholders.

Key stakeholders to be consulted during the project include, but are not limited to:

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- Processors
- R&D and research organisations
- Standards and testing companies and organisations
- Timber adhesives suppliers and distributors.

5. Project Deliverables

Key deliverables include the completion of the following at the satisfaction of the Hub Committee:

- Detailed project plan, including stakeholder identification and consultation methodology, is completed by applicant;
- Draft reports are completed and presented to the Hub Committee at different stages of the project life (as agreed);
- A final report is completed and presented to the Hub Committee before the project completion.

6. Project Timeline

The project is scheduled to begin 1 May 2022 and conclude 1 June 2022.

7. Selection Criteria

The Hub will select the successful applicant for the report based on evaluation of all submitted proposals against the following criteria.

CRITERIA 1: Capabilities and expertise in producing technical reports related to the project scope

To address this selection criterion, the expression of interest should describe the following:

- An overview of the applicant's organisation and business operations;
- Applicant's experience, skills and capabilities relating to the project's scoping requirements as outlined in Section 3 above;
- Examples (list) of any publicly available reports that the applicant has produced related to the project scope;
- An overview of the proposed project team;
- A brief description of professional experience for each project team member, highlighting their experience and capabilities in relation to the project requirements;
- A key point of contact for the Hub who will act as the Project Manager for the project.

CRITERIA 2: Total cost and cost structure (against the identified deliverables)

To address this selection criterion, the expression of interest should provide the following:

- Total cost that will be charged, inclusive and exclusive of GST, for completing the project;
- Breakdown of cost structure against key project deliverables.

The Hub may additionally request candidates to engage in interviews and/or to present their plans formally as part of the selection process.

Attachment 1: EXPRESSION OF INTEREST FORM

Adhesive research for softwood and hardwood engineered wood products

PART A: Applicant Details

Lead Organisation Name	
Address	
Primary Contact Name	
Position Title	
Telephone	
Email	

Part B: Selection Criteria

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