

Forestry and Timber

Australian forests are a valuable, sustainable and renewable resource. They are managed by a skilled workforce that is part of the value chain for producing many products that are essential to our daily needs, from housing to paper.

The industry is made up of many sectors and skilled occupations that all play a vital role, from growing and managing forests, to producing the raw materials that can be used to construct buildings, furniture, flooring, timber products and other items.

In keeping up with the high demand for these materials, industry has adopted new technologies and equipment to improve safety, sustainability, and efficiency. The manufacture of engineered wood products, like cross-laminated timber and glulam, has seen innovations like the 52-metre-tall office tower '25 King' in Brisbane. High levels of technical skills are required for operating the latest technologies and machinery, including optimisation equipment, allowing industry to continue to supply the high-quality timber that is used to produce some of our most necessary structures and products.

While bushfires, climate change and COVID-19 have presented recent challenges to industry, they have also highlighted the need and value of a skilled forest management and harvesting workforce. COVID-19 has also reaffirmed the importance of Australia producing its own timber and paper products, with an ongoing focus on environmental sustainability and safety.

The national skills standards and qualifications for Australia's forestry and timber industry are overseen by the Forest Management and Harvesting Industry Reference Committee (IRC), Timber and Wood Processing IRC and Timber Building Solutions IRC.

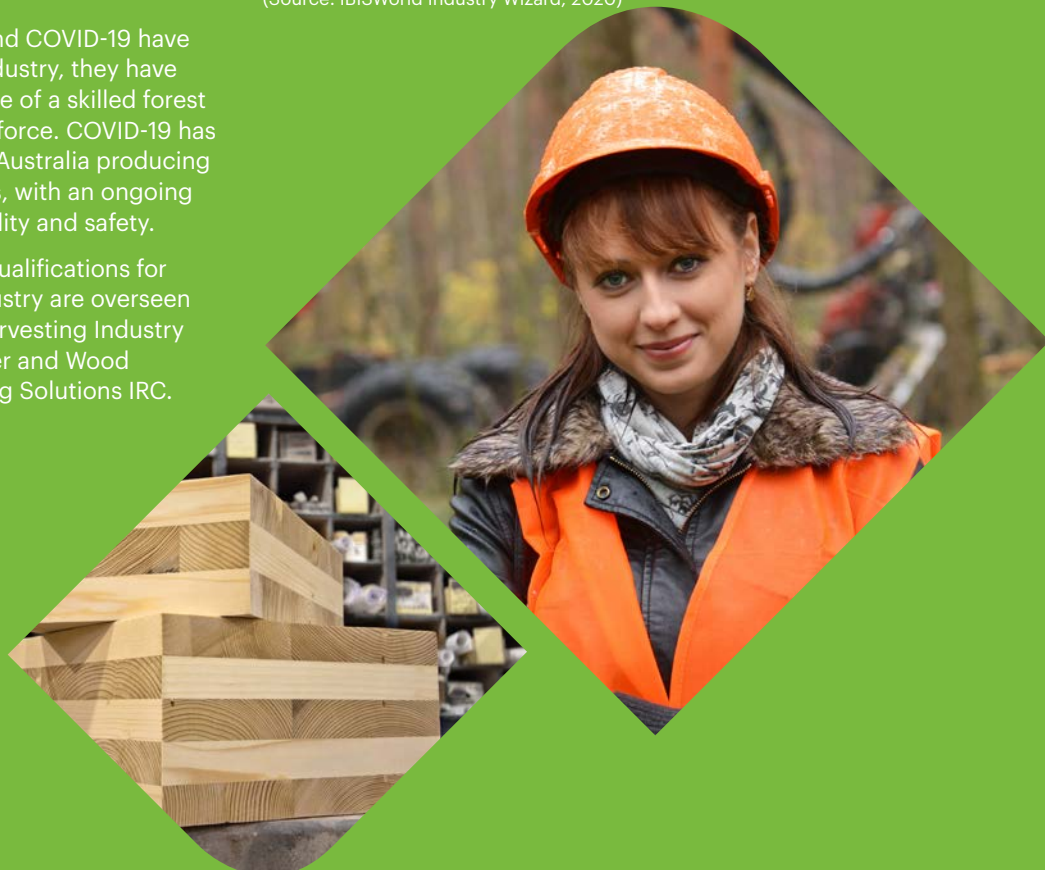
Employs about
52,000 people

Contributes
\$7.2 billion
to Gross Domestic Product

Revenue of
\$23.1 billion

Export revenue of almost
\$2 billion

(Source: IBISWorld Industry Wizard, 2020)



Skills Forecast

Annual update and proposed projects for 2020-2021

This year's Annual Update to the IRC Skills Forecast and Proposed Schedule of Work (Skills Forecast) proposed five key projects for 2020 – 2021 and identified specific changes to the industry environment.

2020 brought about many challenges for industry. Bushfires have, and will continue to, impact the industry and its resources. Skills and training in this space has become even more important, so operators can continue to safely respond and assist in bushfire situations. The impact of COVID-19 on supply chains has intensified the necessity of being able to produce timber and paper products in Australia.

Aside from these national challenges, the industry continues to grow, both in terms of revenue and employment. With that, demand for training will continue, but training supply is a challenge in thin, regionally dispersed markets. The need for clearly identified career pathways also continues to preoccupy employers throughout the country.

Government policy continues to focus on increasing both the supply and use of timber, including in response to climate change, with industry hubs commencing operations in key forestry regions this year. These hubs have identified the need for a skilled workforce among their key priorities.

Projects for 2020-21

The following projects have been approved by the Australian Industry and Skills Committee (AISC) for 2020-21:

Review Qualifications to Attract New Entrants

In forestry regions around the country, school students should be able to access school-based vocational education or apprenticeships that provide a career path into a range of forestry roles. The forest growing, management and harvesting industry is aging, with the highest represented group between 53 and 68 years of age. Employers are consistent in their message that a high priority for the industry is attracting young people. This project will review entry level qualifications to support this industry goal, so they can be delivered in a school environment.

Review of High-Level Jobs in Forestry

Foresters continue to be an occupation in demand. Australian tertiary education has struggled to play a role in supporting future foresters, with few courses available and low uptake of the Certificate IV and Diploma. Often the gaps are filled through transfer from agricultural specialist areas and many vacancies are filled by foresters from

South Africa and New Zealand who need to be trained in the Australian forests' context. This project proposes a comprehensive analysis of skills and knowledge required by foresters to manage public and private forests. Three high level qualifications for forest management and operations and 52 units of competency will be reviewed to incorporate skills needed by the industry.

Safety Mindsets in Remote Operations

Working in remote areas requires a different set of safety skills than operating in a manufacturing site, on a construction site or in another location where medical assistance is only a phone call away. Forest Harvesting and Haulage Contractors work in small teams, sometimes only with two-way radio contact and in locations that are often difficult to access for emergency personnel. This project proposes the development of a skill set and up to two new units of competency for operators, relating to shaping and sustaining safety culture and practices whilst working in remote high-risk operations.

The following projects will be considered in the second half of 2020:

Assessment Materials

To support safer work practices in the forest harvesting sector, this project proposes the development of assessment materials for 40 units of competency. Consistent skills standards are particularly important for job roles which are inherently dangerous. These assessment materials will be developed with industry and registered training organisations. They will incorporate, moderate and validate content relating to a broad range of forest types and jurisdictional codes of practice.

Responding and Assisting in Bushfires

The frequency and intensity of bushfires in Australia is expected to increase, and these fires often burn in plantation and hardwood areas. Harvesting and haulage contractors provide valuable assistance in fire mitigation, firefighting, clean up and clearing operations. Safety of operators is a key concern. To support this, operators need to be effectively trained and ready to respond and assist. It is important that units of competency and qualifications in this sector reflect the need to undertake operations not only in harvesting operations, but also in firefighting and recovery assistance. This project proposes an examination of the roles played by forestry operators responding to and assisting in bushfire situations, to update national qualifications and skills standards with the necessary skills. The AISC considered this project in early 2020 and requested additional information and scoping.

Projects

Project work between 2019-20

Outlined over the following pages is a summary of projects managed by Skills Impact, with support from ForestWorks, between July 2019 and June 2020.

The Forest Management and Harvesting IRC, Timber and Wood Processing IRC and Timber Building Solutions IRC oversaw the project development, as part of their responsibility to support engagement with their industry and to ensure the projects meet stakeholder needs.

The skills standards and qualifications updated as part of the following projects are expected to be endorsed by the AISC and State and Territory Ministers later in 2020.

New Timber Harvesting Technologies Project

The forestry industry is becoming safer, more environmentally sustainable and more productive thanks to the use of new technologies such as digital maps, forest operation plans, and new harvesting systems. Mapping and evaluation of forests is increasing in efficiency and accuracy as a result of drones and remote sensing methods. Developments in techniques for cable logging and tethered harvesting mean a higher degree of safety and efficiency when working on steep slopes. Many job roles have adapted to incorporate the technical and digital skills required to use these and other new technologies. At the same time, skills and safety standards have developed in other areas of timber harvesting, including those that use more traditional technologies such as chainsaws. It is important that these skills are captured in nationally endorsed skills standards, supporting the timber harvesting industry as it moves towards better ways of meeting the high demand for sustainably grown timber in Australia.

As a result of consultation throughout this project, the skills needed to perform harvesting activities using new technologies have been captured in five new units of competency. The project has also reviewed and updated 25 units across the forest harvesting sector, so that they are up to date with current work practices, safety standards, and equipment. They also reflect the skills required by harvesting machine operators who are involved in winch assisted harvesting and forestry site preparation on steep slopes. The skills needed to use chainsaws within a tree when conducting tree trimming or dismantling work have also been captured.

Key Outcomes

- Five units of competency have been developed for accessing, capturing and communicating forestry field data using mobile devices, read and interpreting digital maps and forest operation plans, operating a harvesting machine with winch-assist system, using mechanised equipment for forestry site preparation on steep slopes, and using a chainsaw within a tree.

- Four cable logging units have been revised to clarify job tasks.
- Seven environmental care (forestry operations) units have been revised, and knowledge of cultural heritage protection principles, threatened and endangered plant and animal species and protection zone methods added where relevant.
- Two transporting forestry logs and produce units have been updated, and the skills requirements in the Draft Log Haulage Code of Practice were reflected in the transporting logs unit.
- Nine tree felling/chainsaw operations units were reviewed to improve their relevance to the full range of users, provide for the progressive development of tree felling skills through the addition of a relevant prerequisite unit, and include clear benchmarks for the assessment of competency.
- Three wood chipping units were revised, with separate units for using an integrated or split flail and wood chipper with a crane and for using a split flail and wood chipper fed by a mobile machine.
- One unit, FWPFGM2210 Implement animal pest control procedures, is proposed for deletion and to be replaced with AHCPMG309 Apply pest animal control techniques, a unit of similar content and outcomes from other training packages to reduce duplication across training packages.

Marcus Casey from AKS Forestry Solutions and Sam Elphinstone from Mechanised Logging





Timber Merchandising Project

Construction businesses and individual consumers alike are dependent on the expertise of the timber supply industry for facilitating advisory and sales services specific to timber. This can include wholesale operators who provide services to timber retailers or companies that construct housing or timber products; the timber advisors, retailers and timber product companies themselves; and distributors who negotiate deals across the globe. Providing an integral step in the supply chain, timber supply businesses require their employees to have skills in timber advice, customer service, sales, purchasing, and managing sales accounts. Just as important in carrying out this work is knowledge of different timber types, along with technical skills to measure and cut wood, and correct practices for storage, dispatch and transport of goods.

Consultation has taken place throughout this project to identify the skills standards for those working in the timber supply industry. As a result, the Certificate III in Timber Merchandising has been redeveloped to create different learning pathways and relevant job outcomes for timber building supply job roles. The updated qualification, FWP30620 Certificate III in Timber Building Products Supply, will support all specialist jobs in the timber building supply sector from timber yard and warehouse operators to transport and dispatch coordinators and customer advisors and sales officers. It enables specialisations in timber warehousing, logistics, or customer advice and sales.

Key Outcomes

- The Certificate III in Timber Merchandising renamed to Certificate III in Timber Building Products Supply and redesigned to reflect the skills needs of people who work in warehousing, logistics and customer sales roles in timber wholesales, hardware and timber supply and timber manufacturing businesses.
- Proposed deletion of Certificate II in Timber Merchandising, as appropriate alternative training is available at this level.
- Four units revised to update workplace health and safety and foundation skills requirements, and to more clearly define the nature and scope of work tasks described in the units.
- One unit, FWPCOT3251 Promote the carbon benefits of wood products, proposed for deletion as industry has not indicated a need for it, it has had very low or no student enrolment over the last five years, and it is not listed on in any other Forest and Wood Products (FWP) qualification or training package.
- Three units that were initially included on the project scope, but were not selected for the Certificate III in Timber Building Products Supply, have also been revised. They relate to job tasks in the broader timber manufactured products and sawmilling and processing industry sectors.

Timber Truss and Frame Estimating and Design Project

Timber trusses and frames play an essential role in many modern homes and other buildings, as a key structural element supporting the weight of the building, as well as roofing including solar, air conditioning or hot water units, and providing surfaces for a wide range of cladding technologies. It is the responsibility of timber systems fabricators and designers (estimators) to work together to produce structurally sound trusses and frames for building construction. While the roles of timber systems designers and fabricators both require the ability to read plans, work as a team, and follow appropriate health and safety practices, distinct skills are needed for each position. Expertise in engineering, architecture, and building codes enable designers to draw up plans and calculate the quantity of materials used and their cost. Knowledge of different timber types and how to work with them using appropriate tools and methods allow fabricators to produce trusses and frames to put these plans into action.

While demand for timber roof trusses and wall frames is projected to grow over the next five years, there is a continued shortage of locally based timber systems designers in Australia. Support for more local designers is important, as nothing compares to having eyes on the factory floor or building site for smooth communication and checking building codes are being adhered to.

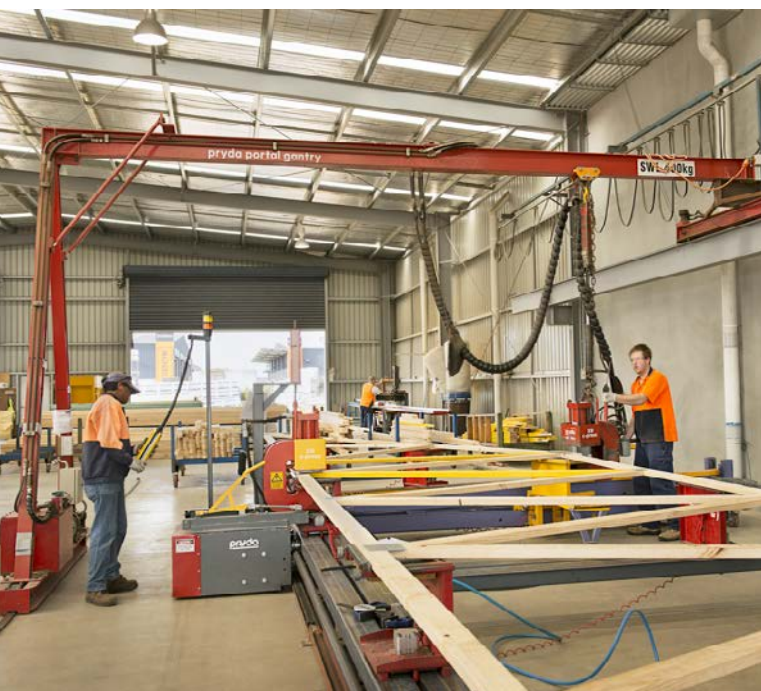
Industry has driven this project to review the current skills standards for timber truss and frame estimating and manufacture so that they reflect the distinct job roles within the sector. This has resulted in the update of three qualifications and 25 units of competency and the development of five new skill sets and one new unit of competency. They have been updated to broaden entry requirements and improve consistency.

“Education, training and continuous improvement to process, product development and quality systems are critical success factors for the timber industry. The committee’s approach to update the incumbent courses is a step to recognise the essential skills required to educate current timber industry workers and introduce a new generation of timber systems designers.”

Cris Garcia, Timber Systems Designer, TMIEAust

Key Outcomes

- Three qualifications revised, including a Certificate III in Timber Systems Design and a Certificate III in Timber Frame or Truss Manufacture. The Certificate IV in Timber Systems Design supports a career pathway from the Certificate III in Timber Systems Design for junior designers/estimators, or direct entry for more senior designers/detailers.
- Four current qualifications from the Certificate II to Diploma level are proposed for deletion due of low demand for training and the availability of alternative qualifications.
- Five skills sets have been developed so that fabricators can develop technical skills related to a job function as opposed to a complete end-to-end manufacturing process. Each skill set is a subset of, and will provide credits toward, the revised Certificate III in Timber Frame or Truss Manufacture.
- Twenty units of competency revised. A number of units were re-titled to reflect the required skills and knowledge accurately. Eight units were merged into four units following feedback from experts in the industry. Content from the unit FWPCOT3243 Operate a truss press was incorporated into two units (assemble timber roof trusses and assemble timber floor trusses).
- One unit developed for working effectively in the timber systems design industry.
- Seven additional units reviewed. These units were initially included on the project scope, but were not selected for the Certificate III in Timber Systems Design, Certificate III in Timber Frame or Truss Manufacture or Certificate IV in Timber Systems Design. They relate to job tasks in the broader timber manufactured products and sawmilling and processing industry sectors.



Completed Projects

The following projects were endorsed by the Australian Industry and Skills Committee (AISC). The revised qualifications, skill sets and units of competency, that were developed as part of these projects, are published on training.gov.au and available for delivery by registered training organisations (RTOs).

Visit www.skillsimpact.com.au/completed-projects for further details.

Advances in Woodmachining and Sawdoctoring Project

Technological advancements and market demands have had a significant impact on how wood machinists and saw technicians perform their job. Qualifications and skills standards have been developed and updated to reflect current practices, equipment and terminology.

Sawmill Timber and Process Optimisation Project

Skills standards have been developed and revised to support production efficiencies in sawmills, including the use of optimisation software to process information from a range of scanning technologies.

