Australian Pulp & Paper Manufacturing Industry Sector

Annual Update 2020

IRC Skills Forecast and Proposed Schedule of Work

Prepared on behalf of the Pulp and Paper Manufacturing Industry Reference Committee (IRC) for the Australian Industry Skills Committee (AISC).

Contents

Purpose of this Skills Forecast

This Skills Forecast and Proposed Schedule of Work presents the latest industry intelligence from the Pulp and Paper Manufacturing Industry Reference Committee (IRC), inclusive of national and industry data sources and input from key stakeholders. It further proposes vocational education and training (VET) Training Package review and development work that the IRC deems necessary to meet the needs of industry. The Australian Industry and Skills Committee (AISC) considers this information and includes commissioned work in the National Schedule[1].

At its June 2019 meeting, the AISC changed the requirements for the annual Skills Forecast. IRCs are now required to submit comprehensive Skills Forecasts once every three years, with abridged annual updates in the intervening two years. As IRCs submitted comprehensive Skills Forecasts in 2019, the next are due in 2022.

This document is not intended to be representative of every issue encountered across all industry sectors; it identifies and addresses the challenges and opportunities that industry has determined as 'priority' for this stage of the schedule, and is a resource for industry and associated skills, learning and accreditation bodies seeking to act upon them.

Detailed information concerning industry skills needs across all sectors covered by the Pulp and Paper Manufacturing Industry Reference Committee IRC, including information from previous Skills Forecasts, can be found on the Skills Impact website: https://www.skillsimpact.com.au/pulp-and-paper/skills-forecast/.

Method & Structure

This is an annual update to the comprehensive Skills Forecast submitted in 2019. IRCs are required to answer the questions in **Section A** to provide updates on issues such as industry skills and workforce development, and qualification utilisation.

IRCs are also permitted to propose additional Training Package development work projects to be included in the Proposed Schedule of Work. Where relevant, these are included in **Section C**, which includes:

- Evidence of employer and industry need for graduates;
- Alignment to Ministers' Priorities;
- Consultation plan.

Section B details the extensive, robust and ongoing industry consultation undertaken by IRC members and Skills Impact, including with rural, regional and remote stakeholders. In line with Skills Impact's values[2], this helps to ensure transparency and accountability in the process of industry research and Training Package development work.

This Skills Forecast and Proposed Schedule of Work is developed in line with:

- Standards for Training Packages 2012[3];
- Training Package Products Policy[4];
- Training Package Development and Endorsement Process Policy[5].

[1] https://www.aisc.net.au/content/national-schedule
[2] https://www.skillsimpact.com.au/about/
[3] https://docs.education.gov.au/documents/standards-training-packages-2012
[4] https://docs.employment.gov.au/documents/training-package-products-policy
[5] https://docs.employment.gov.au/documents/training-package-development-and-endorsement-process-policy-0

Industry Reference Committee

The Pulp and Paper Manufacturing IRC is responsible for national training package qualifications relevant to the manufacture of pulp and paper products in Australia.

Qualifications overseen by the IRC are in the PPM Pulp & Paper Manufacturing Industry Training Package.

The Pulp and Paper IRC is supported by the Skills Service Organisation, Skills Impact.

Name	Organisation or Area of Expertise
Adele Elice-Invaso	APPITA Australian Pulp & Paper Industry Technical Association (APPITA)
Denise Campbell-Burns (Chair)	Construction, Forestry, Maritime, Mining and Energy Union (CFMMEU) Manufacturing Division
James Swan	Orora Group
Kaye Tyter	Australian Paper
Kevin Peachey	Australian Forest Products Association (AFPA)
Nathan Bright	Norske Skog
Terry McDonald (Deputy Chair)	Visy

Executive Summary

The Pulp and Paper Manufacturing (PPM) sector has experienced a tumultuous year with major impacts from drought, bushfires and the COVID-19 (Coronavirus). There has been unforeseen and record demand for products such as toilet paper, tissues, medical, sanitary and packaging products as well as a recovered materials export ban.

At the same time, the industry has continued with its push for a circular economy and move towards up taking bioenergy and biomass opportunities. There have been sectoral changes highlighted by consumers increasingly moving to online and digital habits, Australian grocery stores moving to reduced paper quality and the closure of mill sites.

With no registered training organisation (RTO) willing and able to deliver the PPM Training Package, there have been no enrolments in formal PPM qualifications. Training continues to occur on-the-job, provided by in-house subject matter experts, often utilising PPM Training Package products to design activities. Nonetheless, the industry remains strongly committed to engaging with the national VET system and are working to find an RTO and a method of delivery that will allow PPM qualifications and units of competency to be delivered.

Bio-manufacturing and recovered paper offer opportunities for specific skill development in the PPM sector. Work is underway to ensure bio-manufacturing is conducted in a standardised, safe and effective manner.

Current proposed projects aim to re-establish formal VET training within the sector. The first project will review and rationalise the PPM Training Package, identifying any possibilities for the utilisation of cross-sector units and ensuring accredited qualifications exist with core competencies supported by a larger bank of electives.

The second project aims to develop a suite of nationally consistent training and assessment materials to support technical units of competency within the PPM Training Package as a result of the above review.

These projects will ensure the PPM Training Package is developed to reflect the evolving industry roles and skill requirements and assist in attracting RTOs back to the sector.

Section A: Overview

Industry Developments

Impact of COVID-19

Australia's forest products industries manufacture and deliver a range of essential services and products, many of which are experiencing record demand as a result of COVID-19.

The integrated nature of the industry means the continued supply of vital products is contingent on the continuation of the whole forest products supply chain. The harvest of pulp logs for paper and cardboard manufacturer is only commercially and operationally feasible if higher-value timber for sawmills is also harvested.

Forest products industries, including the pulp and paper manufacturing industry, are essential services that must continue to operate throughout the COVID-19 crisis to ensure Australians continue to have access to essential goods and services including:

- Toilet paper, tissues, medical products, sanitary products and other paper products experiencing record demand;
- Cardboard packaging for supermarket and retail deliveries, including pharmaceuticals;
- Food and beverage packaging;
- Wooden pallets for supermarkets and other retailers' distribution operations;
- Timber for housing and building construction, which could prove even more vital should the urgent construction of new makeshift hospitals and temporary structures be required;
- Kerbside, wastepaper and packaging recycling services;
- Newspaper for most of Australia's metropolitan and regional newspapers, which are an essential source of information for the community;
- Supply of wood residues to the agriculture sector, essential for food production;
- Bushfire mitigation and suppression conducting significant fuel load reduction and frontline fire suppression, as they were during the recent bushfires;
- Sawn timber and laminated veneer lumber (LVL) are used to make poles for electricity and telecommunications services, as well as fence posts. These are in high demand after the catastrophic bushfires; and
- Firewood, which is the main source of heating for many households.

The Pulp and paper Manufacturing IRC met on 27 March 2020 and discussed at length the current and potential impact of COVID-19 on the industry across the following aspects:

- Status as an essential industry.
- Current policies and procedures to minimise risk of the spread of COVID-19.
- Whilst enterprises are doing everything possible to minimise the risk of an outbreak, if there is one, the impact will be profound, based on the following aspects:
    - Many manufacturing plants are located in regional towns (Maryvale VIC, Tumut NSW, Boyer TAS, Millicent SA), which means even for lower level jobs, the potential recruitment pool is very small, and in the event of an outbreak will be severely compromised in a regional town's population. Despite social distancing measures, regional towns may be more inclined to see spikes in outbreaks.
    - Many pulp and paper manufacturers, both regional and metropolitan, are the sole Australian producers of a range of products, including feminine hygiene products, newsprint, medicinal packaging and food packaging.

The Pulp and Paper manufacturing IRC discussed the following strategy for dealing with any skills shortages as a result of COVID-19:

- Any immediate needs to replace operators involved in a localised outbreak of COVID19 are best dealt with by upskilling lower level operators, citing it is easier to backfill lower level roles than to recruit or transfer in skills from other occupations or industries.
- In order to be able to respond to workforce gaps due to a COVID-19 outbreak, the following needs to be done:
    - Identify skills gaps for operators who need to upskill to fill roles that are impacted – this includes specific gap identification and mapping for industry enterprises.
    - Identify routes for cross-skilling – so that operators can move between areas of the plant to fill gaps.
    - An entry level course or skill set developed for lower level roles.
    - Development of learning and assessment materials for this entry level skill set or course. Materials must be available for mixed mode delivery in some skill areas (such as live stream), online delivery in others (underpinning knowledge). Mixed mode learning and assessment materials for identified skills gaps for operators are also required to ensure quick and industry standardised delivery and assessment.

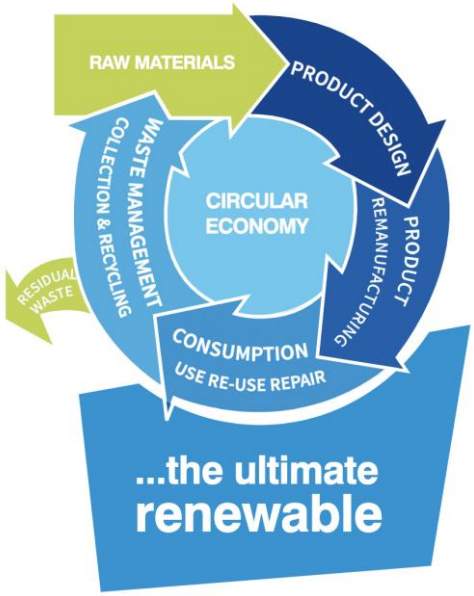
At the time of writing, the IRC has been on request providing information to the Department of Education, Skills and Employment (DESE) to contribute to the national training system response. The IRC appreciates the proposed direction of this work and hopes to see tailored solutions offered to the industry in this difficult time.

Bioenergy

There is a widespread industry push for a circular economy (see Figure 1), whereby the cycle of 'make, use, dispose' is replaced by a philosophy for 're-using and recycling', thus extracting maximum value from materials and resources and largely eliminating waste. Transitioning to a circular economy involves changing industrial practices to exploit bioenergy and biomass opportunities.

Bioenergy is a form of renewable energy that uses organic materials (known as biomass) to produce heat, electricity, biogas and liquid fuels. Biomass comes from forestry, agricultural and other domestic industry residues. It provides renewable and dispatchable energy, complementing existing power generation and intermittent renewables such as wind and solar. Energy from biomass can be used across all three energy sectors (transport, heat and electricity).

Figure 1: A circular economy



Source: Australian Forest Products Association, 2018, 2018 National Pulp and Paper Industry Sustainability Report

In November 2019, the Morrison Government announced that the Australian Renewable Energy Agency (ARENA) will develop a Bioenergy Roadmap to identify the role that the bioenergy sector can play in Australia's energy transition and help lower emissions[6]. The development of a Bioenergy Roadmap is welcomed by industry as it will potentially lower energy costs, thus safeguarding the PPM sector's activities and regional employment, as well as creating opportunities aligned with bioenergy use[7].

The 2016 report 'Energy from Waste in Australia: a state-by-state update', released by the Clean Energy Finance Corporation (CEFC), highlighted the leadership shown by New South Wales, Western Australia, Victoria, South Australia and the Australian Capital Territory in developing policies that encourage investment in energy from waste and supportive strategies aimed at diverting organic waste from landfill[8].

Industry is showing interest in the bioenergy space and exploring ways in which industrial waste can be used as biomass. A timber mill in the Snowy Mountains owned by a Korean lumber company, Dongwha Australia, has constructed a $10-million boiler to turn sawdust into bioenergy at its Bombala softwood mill[9].

The largest PPM mills in Australia, Australian Paper Maryvale and Visy Tumut, already operate using biomass energy. Australian Paper, TAFE Gippsland and Federation University have collaborated in the Workforce Training Innovation Fund (WTIF) Biopathways Partnership Project[10] to assess Gippsland's bio-manufacturing training needs and opportunities, and to develop accredited the bio-manufacturing training required to drive a successful regional bio-economy.

In partnership with Mainstream Aquaculture and the Victorian Government, Australian Paper is also embarking on an Aquaculture feasibility study to farm barramundi in the Latrobe Valley[11]. The $1.24 million feasibility study will investigate the technical, commercial, social and environmental aspects of a state-of-the-art aquaculture facility.

Norske Skog has begun the production of Cyrene, which converts radiata pine sawdust to a 'green' biosolvent[12]. This is part of Norske Skog Australasia's broader strategic vision of "Building our Future from Fibre and Energy".

Recovered Materials Export Ban

On 9 August 2019, the Council of Australian Governments (COAG) resolved to establish a timetable on banning the export of waste plastic, paper, glass and tyres, while building Australia's capacity to generate high value recycled commodities and associated demand[13].

China, which has been Australia's largest export market for recycled waste, have now, along with other countries, placed strict quality requirements on all imports of recyclable materials. Paper and cardboard had been the most voluminous and valuable waste materials exported (see Figure 2).

[6] Australian Government, 2019, *ARENA to develop roadmap to boost bioenergy opportunities in Australia*, viewed March 2020 <https://arena.gov.au/news/arena-to-develop-roadmap-to-boost-bioenergy-opportunities-in-australia/>

[7] Australian Forest Products Association, 2019, *Bioenergy Roadmap Will Help Reduce Emissions,* viewed March 2020 <https://ausfpa.com.au/media-releases/bioenergy-roadmap-will-help-reduce-emissions/>

[8] Clean Energy Finance Corporation, 2016, Energy from Waste in Australia: a state-by-state update, viewed March 2020, <https://www.cefc.com.au/media/222701/cefc-energy-from-waste-market-report-november-2016.pdf>

[9] ABC News, 2019, Timber mill's $10-million biomass boiler turns excess sawdust into energy, reducing gas bill, viewed February 2020 <https://www.abc.net.au/news/2019-05-21/timber-mill-turns-excess-sawdust-into-bioenergy/11120590>

[10] Victoria State Government, 2020, *Bio-manufacturing Training and Research,* viewed March 2020 <https://www.australianpaper.com.au/wp-content/uploads/N3277-AP-BioPath-Manu-8pg-V3FA.pdf>

[11] Australian Paper, 2020, *Aquaculture feasibility study*, viewed March 2020 <https://www.australianpaper.com.au/our-future/aquaculture/>

[12] Norske Skog, 2020, *Production of first in-specification 99% Cyrene*, viewed March 2020 <https://www.norskeskog.com/About-Norske-Skog/Press-room/Articles/Cyrene-FC5>

[13] Australian Government, 2019, *COAG waste export ban consultation*, viewed March 2020 <https://www.environment.gov.au/protection/waste-resource-recovery/coag-waste-export-ban-consultation>

Figure 2: Types of waste that will be subject to export bans

Waste material	Summary
Paper and cardboard	• Paper and cardboard comprised 79% of the export tonnage (1,118,408 tonnes) and 81% of the value ($235 million). • Unbleached kraft or old corrugated containers is 59% of the paper and cardboard exported, 58% of the value. These materials are largely from commercial and industrial waste sources. • Unsorted waste and scrap paper is 34% of the paper and cardboard exported, 32% of the value. These materials are largely from municipal recycling sources and are often contaminated by food, glass fines, and plastics making them more difficult to recycle. • Of all the waste paper and cardboard exported 48% is sent to China, 14% to Indonesia, 13% to India, 9% to Thailand, 7% to Vietnam and 5% to Malaysia. • 44% of Australia's exported waste paper and cardboard leaves from Victoria.

Source: Council of Australian Governments, 2019, p.5, Banning exports of waste plastic, paper, glass and tyres

If the exports detailed in Figure 2 are subject to bans, this poses a significant challenge for the PPM industry, which will have to devise strategies to manage their own waste products, including paper and cardboard.

One of the major and enduring elements of the Australian PPM industry is its ability to recover paper and paperboard at world-leading proportions of consumption. In 2017-18, the industry utilised around 1.668 million tonnes of recovered paper and exported a further 1.391 million tonnes, valued at $273 million[14]. The challenges of 2018 – especially China's expectations of recovered paper quality – have been met by still-emerging, but significant, activities to increase and improve domestic reprocessing of recovered paper.

Currently Australia's paper mills use all the recovered paper they can: about 1.6 Mt. Exports have fallen by 0.3 Mt over the last two years and in 2018-19 exports totalled more than 1.1 Mt.

Further, if the export ban is implemented, more than 1.5 Mt of recovered paper will be collected in, but not exported from, Australia every year.

At present, all unexported fibre is going to 'storage' or landfill. As domestic paper and paperboard mills use as much fibre as they can already, there are limited expansion options.

It is likely that the export ban proposal will be refined before implementation because the fibre has value and there are parties at each end of the transaction. However, even if that transpires, it is clear that only the highest-quality, cleanest and best prepared material will be exported in future.

As the main exporting location in Australia, Victoria will be most impacted by this situation. The ban will mean alternative arrangements will need to be found for supplies from Victoria, Tasmania and South Australia (up to 700,000 tonnes per annum).

[14] IndustryEdge, 2018, *Pulp & Paper Strategic Review*, Section 2

Recovered Paper Pulp

Pulp manufactured from recovered paper, sometimes called recycled fibre pulp (RCF) or deinked pulp, is a long-established product but is only recently emerging as a 'market' product in its own right.

All recycled paper grades – especially those used in corrugated boxes and for other packaging applications – are made from recovered paper pulp. In general, recovered paper pulp is manufactured and used inside an integrated facility, without being shipped to the 'market' as a separate product.

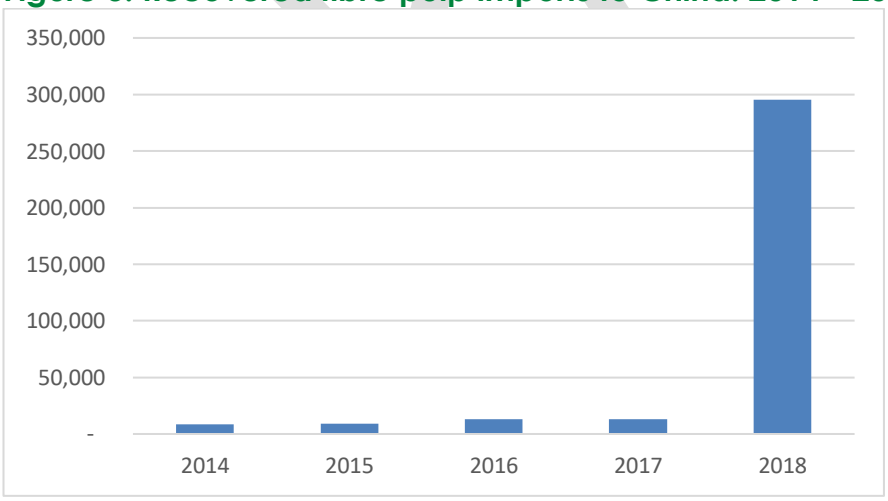
As the recovered paper crisis (discussed above in relation to exports) continues, traditional models of paper and paperboard manufacturing have been disrupted. Instead of acquiring recovered paper to manufacture recovered paper pulp (and use it immediately to manufacture packaging papers), manufacturers have begun to look to alternatives.

One of the most prominent and, in some respects, obvious solutions for manufacturers in countries such as China has been to buy a value-added and cleaned product to substitute for recovered paper. As that movement developed, some large manufacturers purchased old and, in some cases, mothballed assets in places like the USA and commenced producing and shipping recovered paper pulp to themselves. Similar developments are known to have been implemented by businesses in Vietnam and Malaysia.

As an example of the strategic nature of this market emergence, 'phase one' of their recent free-trade agreement with the USA sees China exempting imports of pulp and pulp substitutes (like recovered paper pulp) from tariffs but maintaining tariffs on recovered paper itself[15].

As it currently stands, the market for recovered paper pulp is small and emerging, with nearly all transactions being agreed between independent businesses. There are few published insights on the Australian market; however, the largest market for Australian exports is China, which imported 295,000 tonnes of recovered paper pulp in 2018, accounting for around 36% of the global total[16].

Figure 3: Recovered fibre pulp imports to China: 2014 - 2018 (tonnes)



Source: Food and Agriculture Organization, 2020, FAOSTAT, viewed March 2020 <http://www.fao.org/faostat/en/#data/FO/visualize>

[15] Resource Recycling, 2020, *China moves to relax recycled paper tariffs*, viewed March 2020 <https://resource-recycling.com/recycling/2020/03/03/china-moves-to-relax-recycled-paper-tariffs/>

[16] Waste Management and Resource Recovery Association of Australia (WMRR) and Sustainability Victoria, 2020, p.32, *Recovered Resources Market Bulletin*, IndustryEdge

In 2019, China's imports increased to approximately 1.25 million tonnes, with shipments from many countries[17].

Demand for this emerging product is difficult to predict, in part because it depends on how much recovered paper cannot be imported. Some estimates suggest that, in 2020, the market will expand to greater than three million tonnes in China alone.

Sectoral Changes

Consumer Behaviour

The combined PPM industries have contracted over the past five years in reflection of consumers' changing habits. The shift towards digital and online communication continues; communication paper and paper products, paper stationery and envelopes are all being used in much lower quantities; demand for corrugated paperboard and paperboard container products is contingent upon the volumes required by downstream manufacturing industries; sanitary paper product manufacturing continues to experience difficult trading conditions due to rising input prices and import competition, but does enjoy continued consumption growth, with Australian per capita demand rising to 11.5 kg per person in 2017-18, rivalling the highest consumption levels in the world[18].

Reduced Print Quality Affects Supply Chain

Australia's grocery retailers are downgrading their consumer printing services, a trend that is shredding sector value. In using less paper, the retailers are making a financial saving, but this is impacting negatively on the entire printing supply chain. At the end of 2019, there was also a significant increase in newsprint imports from Canada[19]. Some of this import growth arises because of the recent closure of Norske Skog Australasia's Albury Newsprint mill, and the cessation of newsprint manufacturing on the mainland.

Publication Papers

It appears that consumption of all grades of paper is reducing[20]. Historically, a reduction in one grade of paper would be offset by an increase in a different grade; however, with the pervasive presence of online advertising and digital substitutes, Australia's publication papers market is under extreme threat.

Increase in Packaging Paper Exports

Ongoing drought in Australia was the primary driver of packaging and industrial paper exports rising to a five-year high of 946.7 kt in 2019. Drought conditions also contributed to imports of the same grades declining to 312.3 kt. Collectively, Australia's net exports of these grades rose by 15.6% in 2019, reversing five years of decline and rising to levels not seen since 2015.

While average export prices declined for the first time in seven years, the balance of trade rose to a record $414 million. Soft domestic demand is projected to endure[21].

Australian Bushfires

Bushfires in 2019-20 have wiped out huge expanses of trees that were to be used for manufacturing kraftliner, which is utilised as the outer layers of high-strength corrugated boxes. Industry stakeholders confirm that the level of destruction by bushfires is unprecedented and has left many plantation forests needing to be destroyed or salvaged[22].

[17] IndustryEdge, 2018, Pulp & Paper Strategic Review

[18] IndustryEdge, 2018, Pulp & Paper Strategic Review, Section 5

[19] IndustryEdge, 2019, Pulp & Paper Edge Intelligence Report, Edition 173

[20] IBISWorld, 2019, C1510 Pulp, Paper and Paperboard Manufacturing in Australia Industry Report

[21] IndustryEdge, 2019, Pulp & Paper Edge Intelligence Report, Edition 173

[22] Packaging News, 2020, Containerboard faces crisis as bushfires burn trees, viewed March 2020 <https://www.packagingnews.com.au/latest/containerboard-faces-crisis-as-bushfires-burn-trees>

Changes to the Industry Structure

Norske Skog's Albury Paper mill, which opened in 1983 and was Australasia's largest newsprint mill (producing 265,000 tonnes per annum), closed in late 2019. All the mill's 185 staff were made redundant[23]. Visy acquired all assets on the site, and it is hoped that they will develop operations and create local employment in the future.

In October 2019, Orora announced the sale of its Australasian Fibre Business to Nippon Paper, the owner of Australian Paper24. The sale includes Orora assets such as:

- Fibre recycling business
- Recycled fibre manufacturing (Botany mill)
- Corrugated box manufacturing and distribution business
- Folding cartons business (mainly food and FMCG related)
- Bag and sack business (consumer and industrial)
- Laminated functional paper assets.

In total, the transaction includes 25 manufacturing plants, 27 depots and implicates more than 3,300 employees.

For Nippon Paper, the acquisition of Orora has the double benefit of moving Australian Paper further up the value chain, which was a strategic priority set in 2018, and expanding its production into recycled paper. It also increases competition with Visy, which produces both kraft and recycled paper products[25].

VET Qualifications & Employment Outcomes

Businesses in the pulp and paper industry generally retain workers for long periods of time and have low staff turnover. Industry consultation suggests these employees do not usually possess relevant, if any, VET qualifications when they are hired. Training is usually conducted on-the-job and provided by in-house subject matter experts, often utilising PPM Training Package products to design activities; however, as this training is delivered in-house, rather than by an accredited registered training organisation (RTO), learners do not obtain a Statement of Attainment or a nationally recognised qualification.

The PPM workforce is ageing, with only 11% of paper and wood processing machine operators aged under 24 years old[26]. Whilst Australians are generally working longer across many industries[27], there is a concern that employers cannot access a younger next generation of workers to maintain industry skills and knowledge. Making VET qualifications more accessible to younger people, either through the VET in Schools program or RTOs, would promote the industry to potential employees, especially if training and career pathways are elucidated.

Visy is currently examining how to re-establish a traineeship program but has been stymied by the absence of an RTO with a PPM qualification on scope.

[23] IndustryEdge, 2019, Pulp & Paper Edge Intelligence Report, Edition 169

[24] Orora, 2019, Orora Limited announces the sale of its Australasian Fibre Business for A$1,720 million, viewed March 2020 <https://www.ororagroup.com/system/downloads/files/000/000/345/original/19.10.10._New_Release_Orora_announces_Sale_of_Australasian_Fibre_Business.pdf?1570659498>

[25] Financial Review, 2019, Nippon Paper brings fight to Visy with $1.7b Orora acquisition, viewed March 2020 <https://www.afr.com/companies/manufacturing/orora-sells-fibre-business-to-nippon-paper-for-1-7b-20191010-p52zcc>

[26] Australian Government, 2019, p.49, Australian Jobs 2019

[27] Australian Government, 2018, Older Australians at a Glance, Australian Institute of Health and Welfare, viewed March 2020 <https://www.aihw.gov.au/reports/older-people/older-australia-at-a-glance/contents/social-and-economic-engagement/employment-and-economic-participation>

Other Training Used by Employers

According to industry research, employers find formal training difficult to access primarily because there is no RTO with the specialised PPM units of competency on scope.

Businesses use training outside of the national system, but often rely on PPM Training Package competency standards (which describe the skills, knowledge and performance criteria for job roles and tasks) when assessing and assigning responsibilities at pulp and paper manufacturing sites.

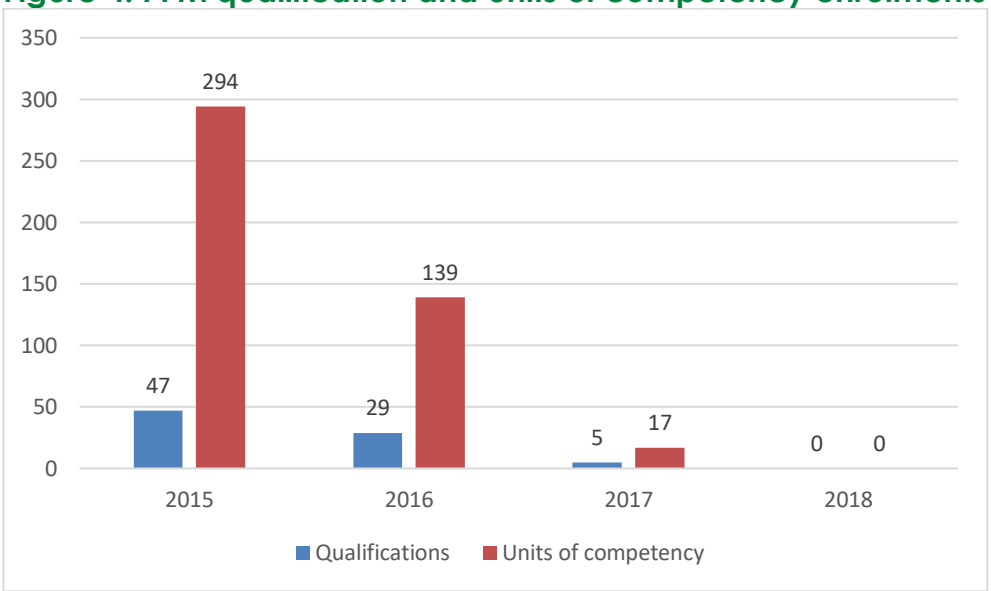
Industry recognises and continues to utilise the PPM Training Package; however, there are numerous reasons why training is conducted outside of the national system, including:

- Large businesses in this sector have sizeable human resource and training departments, with the resources to develop tailored company training materials.
- These businesses utilise workplace trainers and assessors to carry out in-house training and assessment that is outside of the purview of the national system.
- Even when RTOs have been accredited to deliver training in the past, businesses reported on finding the cost prohibitive and the modes of delivery inflexible, including too much time training off-the-job (to the detriment of productivity).
- RTOs have struggled to deliver VET on the required type and size of equipment, thus providing training not directly relevant to the workplaces to which the learners return.
- When technology is upgraded, vendor and company training is regularly the most efficient means to upskill workers to use the equipment safely and effectively.

Enrolment Levels

The Pulp and Paper Manufacturing Industry is currently without an RTO able and willing to deliver the PPM Training Package. Consequently, there were zero enrolments in PPM qualifications in 2018. **Figure 4** demonstrates that, when RTOs had the Training Package on scope, there was demand for training; however, as RTOs ceased delivering training, there was a notable – and unavoidable – drop in enrolments.

Figure 4: PPM qualification and units of competency enrolments



Source: NCVER VOCSTATS 2015-2018, a) TVA program enrolments; b) TVA subject enrolments

Nonetheless, the industry remains strongly committed to engaging with the national VET system and are working to find an RTO and a method of delivery that will allow PPM qualifications and units of competency to be delivered.

The Industry Reference Committee (IRC) maintains that the PPM industry is not *choosing* to by-pass the VET system; rather, the VET system is simply not serving the industry. Yet, even without access to VET training delivery, industry remains committed to maintaining the occupational standards reflected in the PPM Training Package.

The IRC has been developing a strategy to re-engage with the VET sector at both national and state levels. Industry engagement has identified a strong preference for strategies that create partnerships between enterprises, an RTO and workplace trainers and assessors. At present, there are both challenges and opportunities for this type of model:

Challenges/barriers	Opportunities/incentives
• Increased requirements to obtain and maintain trainer/assessor (TAE) qualifications. • Lack of industry-owned training and assessment materials that would make it easier for RTOs and enterprises to deliver PPM qualifications and units of competency. • RTOs are reluctant to service the industry as it is seen as high maintenance. • Breadth of the current Training Package discourages RTOs from having the qualifications on scope. • The Training Package has not been reviewed to reflect changes in job requirements and specialisations since it was first endorsed as the FPP Training Package in 2011.	• Changes to the TAE qualifications that support workplace trainers and assessors working in partnership with RTOs. • Funding for learning and assessment materials based on national units of competency. • Increased scope of IRC to manage and oversee projects that support the proposed model. • The nature of the industry (small number of large employers) allows for the IRC to oversee the proposed model.

Industry is working with the Office of the Victorian Skills Commissioner (OVSC) on a state-based project to develop strategies to remove some of barriers listed above. This will involve developing a functional RTO model that uses workplace trainers and assessors, as well as strategies to attract new trainers and assessors to replace those who do not wish to update their TAE (but who will provide mentorship as part of their hand-over).

It has also been proposed that a short course be developed, that will encompass existing units of competency in addition to two new units that address the following skills and knowledge that are not currently not covered by the training package:

- Knowledge of the various stages of papermaking
- Understanding of the systems and terminology involved in each stage.

This new short course is designed to support viable working relationships between businesses and an RTO.

The current PPM Training Package, consisting of seven qualifications and 80 units of competency, is overdue for review and update. Currently, due to the complexity of the training package, RTOs are reluctant to apply for permission to have PPM qualifications on scope, which, in turn, is the cause of low enrolments (which, in turn, deters other RTOs from applying for scope, thus creating somewhat of a vicious circle). A project to address this challenge is proposed in Section C.

Reasons for Non-Completion

The PPM sector needs the model, described above, of a partnership between industry enterprises and an RTO that auspices workplace trainers and assessors to deliver specific and specialised operations training on pulp and paper manufacturing sites. Until this is resolved, nationally recognised training commencements will not occur in this sector.

Cross-Sector Units

The Training Package has not been reviewed since cross-sector units were introduced and, as such, there are none in the current qualifications. However, the training package does contain 116 imported units of competency that complement the 80 specific PPM units. The project proposed in Section C would seek to incorporate appropriate cross-sector units.

The Chair of the Pulp and Paper Manufacturing IRC was a member of the Project Reference Group for the development of cross-sector units for supply chains. These units would have some utility in the PPM Training Package. In addition, units relating to environmental sustainability, teamwork and communication are most likely to be incorporated into the PPM Training Package.

Changes to Skill Requirements

Bio-manufacturing

Bio-manufacturing is undergoing rapid change and development. Current industrial practices cannot be sustained in the long term and, with increasing innovation, new bio-product markets are likely to be created. This will facilitate opportunities for new products and markets and, consequently, create new skills requirements. The impact on organisations is that they need to review their work practices, identify bio-manufacturing opportunities and upskill their workforce accordingly.

The Victorian State Government have funded the Workforce Training Innovation Fund (WTIF) Biopathways Partnership. This is an industry-led, strategic partnership between Australian Paper, TAFE Gippsland and Federation University. The partners are currently undertaking an assessment of Gippsland's bio-manufacturing training needs with the aim of developing accredited bio-manufacturing training for the local workforce.

To ensure bio-manufacturing is conducted in a standardised, safe and effective manner, the PPM Training Package must be developed to reflect such evolving industry roles.

Recovered Paper

Recent and ongoing events surrounding the recovered paper market offer opportunities for skills development. Specific skills need to be identified and appropriate training developed and delivered to ensure industry make the most of emergent opportunities. Areas of activity likely to need improvement include:

- Increased kerbside separation
- Improve sorting of recyclables
- Improve handling, including baling & QA
- Export market knowledge & skills
- Improve recovered paper handling

These tasks will lead to further industry changes as residual materials, that were previously exported, will need to be dealt with differently, giving rise to potential new industry sectors such as:

- Moulded fibre production
- Corrugated box paper production
- 'Medical' moulded fibre
- Recovered paper pulp
- Other paper grades

As stated by Ross Hampton[28], CEO of AFPA, "With the right policy settings, such as investment facilitation in new sorting technology, emission avoidance credits and government support for recycling manufacture, domestic recovery and recycling of paper and paperboard will grow, along with all of the local jobs and economic benefits that a larger industry will provide."

Industry is working with the Victorian Office of the Skills Commissioner to determine the need for two new short courses to address new opportunities associated with the waste export ban that is impacting on the recovered paper market.

The first short course would include newly developed units of competency, to address changes in skills requirements, and incorporate existing PPM units for production operators, including dispatchers, receivers and sorters who will need to upskill in:

- Knowledge of the various stages of recovered paper operations
- Understanding of the systems and terminology involved in grading recovered paper.
-

The second short course would include examination of the changes in technique and knowledge brought about by recent industry innovation. It would then encourage learners to innovate with new and alternate uses of recovered paper, and would address the following skills and knowledge not covered in current qualifications:

- Knowledge of the various ways to initiate and lead innovative practices in recovered paper operations
- Knowledge of the recovered paper export market.

To ensure recovered paper processing is conducted in a standardised, safe and effective manner, new technologies, skills and policy changes affecting the sector must be contextualised within the PPM Training Package; including:

Recovered Paper Pulp

Changes to the recovered paper pulp market, and the potential for this emerging product, means there are opportunities for industry to train new workers and to upskill existing workers to be ready to meet demand in this area.

The recovered paper pulp component of recovered paper and paperboard processing will be included in a bank of electives within the Training Package. The PPM IRC has identified that there are skills gaps and competency requirements where traditional models of paper and paperboard manufacturing have been disrupted, especially in the context of China increasing imports of recovered paper pulp imports.

De-inking

De-inking provides the opportunity to use recovered paper and boards for not only brown-grade products but also white-grade products such as newsprint, tissue and market pulp. Visy and Orora process high-, medium- and low-grade recovered paper into a wide range of recycled paper products. Australian Paper's de-inking and recycling plant in Latrobe Valley, Victoria, processes high-grade (office) recovered paper into recycled copy paper, envelope and printing paper. Until it closed the Albury mill in 2019, Norske Skog converted waste catalogues and newsprint into recycled newsprint.

[28] Australian Forest Products Association, 2020, *Local Solutions Needed For Waste Export Ban,* viewed March 2020 <https://ausfpa.com.au/media-releases/local-solutions-needed-for-waste-export-ban/>

The de-inking component of recovered paper and paperboard processing is a priority and will be included in a bank of electives within the Training Package. The PPM IRC has identified that there are skills gaps and competency requirements for de-inking recycled pulp, including knowledge of treatments to remove the ink and their function.

Apprenticeship & Traineeship Barriers

All PPM qualifications are available as traineeships. There are no recognised apprenticeships in the Pulp and Paper Manufacturing industry.

When state-based or national funding is made available for taking on new apprentices, industry employers are not eligible to apply because no RTOs deliver accredited PPM training. Major PPM employer, VISY, expressed interest in implementing a traineeship model, beginning with two traineeships per year up to a full program of six traineeships over three years. The greatest barriers to this program are the lack of an RTO to deliver training and outdated Training Package materials.

To address these barriers, employers arrange for in-house subject matter experts to conduct training, utilising the PPM Training Package where possible. Such training facilitates specific skills for operating large, expensive machinery that cannot feasibly be delivered by RTOs off-site.

Section B: Ongoing Consultation

Detailed below is the industry consultation undertaken by IRC members and Skills Impact, including with rural, regional and remote stakeholders.

Entity Name	Sector	State	Rural/ Regional/ Remote	Activity
Australian Paper	PPM Manufacturing	Victoria	Yes	• ongoing engagement and validation with industry and stakeholders • collection of industry intelligence • promotion of the VET system • cultivating and maintaining networks and partnerships with industry including engagement in rural and regional areas
Visy	PPM Manufacturing	National	Yes	• ongoing engagement and validation with industry and stakeholders • collection of industry intelligence • promotion of the VET system • cultivating and maintaining networks and partnerships with industry including engagement in rural and regional areas
Norske Skog	PPM Manufacturing	National	Yes	• ongoing engagement and validation with industry and stakeholders • collection of industry intelligence • promotion of the VET system • cultivating and maintaining networks and partnerships with industry including engagement in rural and regional areas
Orora	PPM Manufacturing	National	Yes	• ongoing engagement and validation with industry and stakeholders • collection of industry intelligence • promotion of the VET system • cultivating and maintaining networks and partnerships with industry including engagement in rural and regional areas

Kimberly-Clark	PPM Manufacturing Enterprise	National	Yes	• ongoing engagement and validation with industry and stakeholders • collection of industry intelligence • promotion of the VET system • cultivating and maintaining networks and partnerships with industry including engagement in rural and regional areas
Australasian Pulp and Paper Technical Association (APPITA)	Technical Association	National	Yes	• ongoing engagement and validation with industry and stakeholders • collection of industry intelligence • promotion of the VET system • cultivating and maintaining networks and partnerships with industry including engagement in rural and regional areas
Asaleo Care	PPM Manufacturing Enterprise	National	No	• ongoing engagement and validation with industry and stakeholders • collection of industry intelligence • promotion of the VET system
Encore Tissue	PPM Manufacturing Enterprise	Victoria	No	• ongoing engagement and validation with industry and stakeholders • collection of industry intelligence • promotion of the VET system
Huhtamaki	PPM Manufacturing Enterprise	National	No	• ongoing engagement and validation with industry and stakeholders • collection of industry intelligence • promotion of the VET system
ABC Tissue	PPM Manufacturing Enterprise	Queensland, New South Wales	No	• ongoing engagement and validation with industry and stakeholders • collection of industry intelligence • promotion of the VET system
CFMEU Manufacturing Division	Employee Association	National	No	• ongoing engagement and validation with industry and stakeholders • collection of industry intelligence • promotion of the VET system

Section C: Proposed New Work

2020–2021 Project Details

Project 1: Rationalise Pulp & Paper Manufacturing Training Package

Description

This project will review and rationalise the *PPM Pulp and Paper Manufacturing Training Package*, identifying any possibilities for the utilisation of cross-sector units and ensuring accredited qualifications exist with core competencies supported by a larger bank of electives. It is believed that such a rationalisation will assist in attracting RTOs back to the sector.

The project will review seven qualifications and 80 units of competency in the current PPM Training Package to determine whether the sector would be better supported by a reduced number of qualifications that allow greater specialisation through a larger bank of electives.

Elective options for the emerging technical streams in bioenergy, recovered paper and deinking will reflect modern job roles in the industry whilst simplifying the Training Package.

This project would be complemented by the project proposed below, which would support the development of standardised resources and materials that could be made available online.

Rationale

Current units and qualifications within the PPM Training Package have not been reviewed for many years, and there is a requirement to ensure that qualifications:

- are reflective of current industry needs,
- represent changes to industry policy, and
- include updated technology and manufacturing processes for emerging skills in areas such as biomanufacturing, paper recovery and de-inking, and the evolution of industry job roles.

Rationalising the PPM Training Package will increase the attractiveness of this sector to RTOs.

A range of electives will allow the training provider to tailor the qualification to the needs of the learner.

The priority skills identified in the 2019-2022 Skills Forecast relate to those that support the recovered paper and cardboard processing, including pulp de-inking and bleaching for high- and medium-grade paper products and the technologies being adopted in paper bag, paper stationery and sanitary paper product manufacturing. This remains a high priority due to the changing nature of the waste export ban and evolving skills needs of the recovered paper sector.

Bio-manufacturing is also an emerging trend requiring skills development. Victoria is addressing this emerging issue with the Workforce Training Innovation Fund (WTIF) Biopathways Partnership. Associated job role and skills changes need to be reflected in the PPM Training Package.

This project will support the training of both new learners and existing workers who are upskilling.

Ministers' Priorities Addressed

Obsolete and duplicate qualifications removed from the system
This project will consider seven qualifications and 80 units of competency with the intention of rationalising the qualifications and units available.

More information about industry's expectations of training delivery is available to training providers to improve their delivery and to consumers to enable more informed choices
This project will ensure that Training Package components reflect industry needs in this area. It will also assess current non-accredited training in the sector to identify gaps and so improve the nationally recognised training that businesses can access.

The training system better supports individuals to move more easily between related occupations. Improved efficiency of the training system through units that can be owned and used by multiple industry sectors
PPM qualifications offer a total of 116 imported units of competency compared with 80 critical native units. This supports individuals in moving between related occupations and maintains the efficiency of the training system. Where appropriate, the project will identify units as well as cross-sector units that support job roles in similar manufacturing operations, whilst also retaining the specialised needs of the pulp and paper sector.

Foster greater recognition of skill sets
The project's proposed elective options will be well-suited to the development of skill set specialisations.

Consultation Plan

The PPM Industry Reference Committee will oversee this project to ensure relevant businesses and job roles are included. Consultation will be with:

- PPM companies
    - Visy
    - Asaleo Care
    - Australian Paper
    - Huhtamaki
    - Norske Skog
    - Orora Group
    - Kimberley Clark
- Peak industry associations who will advise on the needs of their members and provide a consolidated response
    - APPITA
    - AFPA
    - CFMEU Manufacturing Division

Other Relevant Information

Release 1 – endorsement 2016 – update of all 80 units to align to new standards for training packages
Release 2 – endorsement 2018 – update of 40 units to reflect minor changes to workplace health and safety requirements

Scope of Project Overview

12 months

Summary of Components

This project will review the PPM Training Package, including seven qualifications, ten skill sets and 80 units.

Project 2: Training and Assessment Materials

Description

This project will develop a suite of nationally consistent training and assessment materials to support technical units of competency within the PPM Training Package.

Rationale

The *PPM Pulp and Paper Manufacturing Training Package* continues to be without RTO coverage. The industry maintains that it has specialised training needs and is strongly committed to remaining engaged and represented in the national VET system.

The PPM IRC has developed a strategy to re-engage with the VET sector through an industry-led partnership between stakeholders, enterprises and an RTO. The RTO will oversee and facilitate the use of workplace trainers and assessors to deliver units from the PPM Training Package that reflect highly specialised pulp and paper operations.

Training and assessment materials are an important part of this RTO partnership model.

There is agreement in the sector that it is the inability of an RTO to provide technical expertise on-site for these highly specialised operations that deters prospective RTOs from putting the PPM Training Package on scope. The availability of industry-owned materials will ease the potential burden on prospective RTOs.

The industry has long maintained that nationally recognised units of competency need to be coupled with consistent training and assessment materials to provide high quality and truly recognisable skills development outcomes.

This project is put forward by the Pulp and Paper Manufacturing Industry Reference Committee and is supported by pulp and paper enterprises and other key stakeholders in the industry.

Ministers' Priorities Addressed

More information about industry's expectations of training delivery is available to training providers to improve their delivery and to consumers to enable more informed choices
This project will facilitate training delivery that meets industry's expectations by supporting RTOs in delivering training to this thin market.

The training system better supports individuals to move more easily between related occupations
The absence of accredited training delivered for this industry makes it harder for individuals to move to related occupations. Conversely, by supporting the industry to access accredited training, individuals will have skills recognised that can be applied to other occupations.

Consultation Plan

The PPM Industry Reference Committee will oversee this project to ensure relevant businesses and job roles are included. Consultation will be with:

- Peak industry associations who will be able to advise on the needs of their members and provide a consolidated response
    - APPITA
    - AFPA
    - CFMEU Manufacturing
- PPM companies
    - Visy
    - Asaleo Care

- Australian Paper
- Huhtamaki
- Norske Skog
- Orora Group
- Kimberley Clark

Scope of Project Overview

12 months

Summary of Components

The units for which the training and assessment resources will be developed will be determined at the start of the project and will be dependent on the outcomes of Project 1 in this Annual Update to the Skills Forecast.