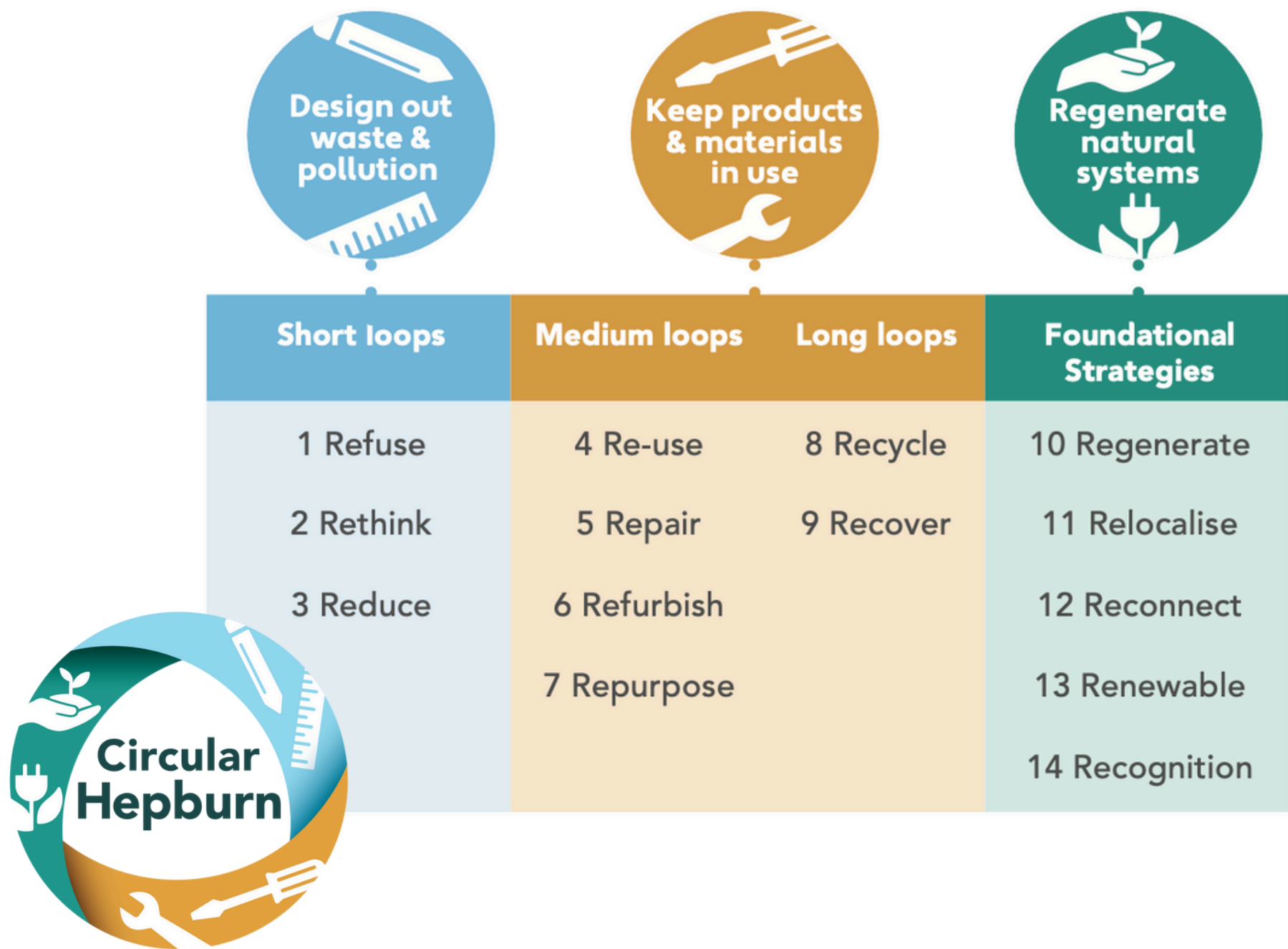


OVERVIEW

This series of 10 Circular Economy Case Studies was commissioned as a joint project by Macedon Ranges and Hepburn Shire Councils. The author, circular economy consultant Will Tait, visited and interviewed the participating businesses and organisations: 4 in each shire, and the councils themselves. The resulting case studies draw on frameworks in the Circular Hepburn Toolkit for Business and Beyond to present inspiring stories around resource stewardship and regeneration from across the two shires. For each case study 3 key circular practices are highlighted as examples of the Toolkit’s 14 Circularity Strategies:



Hepburn Shire



Hepburn Springs Brewery

Hepburn Wholefoods

Maze House

Jonai Farms

Macedon Ranges Shire



Backman Builders

Kyneton Hire

Kyneton Ridge Estate

Woodend Neighbourhood House

CIRCULAR ECONOMY CASE STUDY: Hepburn Shire

OVERVIEW

“When it comes to circularity it doesn't get much better than this: capturing the carbon and nutrients from what the community discards & using it to rehabilitate plants and soil!”

As Hepburn Shire Council's Circular Economy Officer for almost 3 years from 2023, Jodi Newcombe helped shape a number of exciting circular economy initiatives and programs, including research and development of the Circular Hepburn Business Toolkit. However, for Jodi, it is the Council's work on developing quality compost from their “Food Organics Garden Organics” (FOGO) collections that best symbolises the promise of circularity in the municipality. Rather than treat the FOGO as another waste stream to be trucked out of the Shire for processing, Hepburn Shire Council has dug deep. Over a number of years it has been working with partner, Gaia Envirotech to process FOGO locally in Creswick and to work through the practicalities required to convert this stream of organic material into functional compost that brings life to depleted soils. The Council's Sustainable Hepburn Strategy 2022-2026 has been a significant driver of circular initiatives like this, diverting increased investment of staff resources and budget into supporting the circular economy. And a successful grant from Sustainability Victoria's Circular Organics Council Fund has been instrumental in demonstrating the benefits of applying composts to parks and open spaces.

CIRCULARITY WINS

One of the key initiatives spurred by the Sustainable Hepburn Strategy has been the improvement of transfer station operations and offerings. Setting up a test-and-tag system to identify still operational electronic goods and keep them in circulation is just one successful outcome. In its 2 years of operation to date this system has diverted 700+ items such as toasters and microwaves from landfill, providing very cost-effective appliances for residents in need. A key strategy focus area has been working with the business community, as well as integrating circular economy into Council's operations. The Circular Hepburn Business Toolkit is proving to be a useful enabler in both of these areas. Drawing on the best available insights into circularity from across the globe, the toolkit provides an overview of the circular economy in action and set of 14 circular strategy cards to help businesses and organisations focus on opportunities for designing out waste and pollution; keeping products and materials in use; and regenerating natural systems. One of those strategies is Recognition & Reconciliation, and its invitation to honour custodianship of Country is embodied by an exciting new agreement between Hepburn Shire Council and the Dja Dja Wurrung Clans Aboriginal Corporation (DJAARA). Through this agreement, fallen timber resulting from storm damage, or the need to remove sick or dying trees, is diverted to a sawmill run by DJAARA Timbers. The milled timber is then repurposed into such things as art installations, signage, outdoor benches and other placemaking infrastructure. With some of these already installed into local parkland, this beneficial cycle has already completed its first loop.



KEY CIRCULAR STRATEGIES

RETHINK

Business Toolkit provides a pathway into circular thinking and practice

REGENERATE

FOGO-to-compost plan aims to regenerate depleted soils & inoculate sick trees

RECOGNITION

Circular timber initiative enables Djaara to benefit from cycling valuable resources

SUPPORTING CONNECTIONS

As an agreement that is enabling the optimal use of resources, whilst also being a key component of Hepburn Shire Council's reconciliation plan, the Resource Recovery MOU that is diverting timber to DJAARA Timbers is a great example of how circular practices can have profound beneficial impacts on many levels. The development and implementation of major circularity projects often requires resources from many partners, generating a potent network of collaboration in the process. This is also the case with Council's FOGO-to-compost scheme. It was their successful application to Sustainability Victoria's Circular Organics Fund in 2024 that allowed Council to deepen its collaboration with Gaia Envirotech, who operate an in-vessel composting system at the Creswick Transfer Station. The Council's Parks & Open Spaces Senior Arborist Matthew Daniel has added his plant and soil health expertise to the mix, working with the Resource Recovery team to ensure that the final product is fit for purpose. This means that beyond being just a soil conditioner, it becomes instead a living, biologically rich compost that not only adds life to the Shire's degraded soils, but can also serve as an inoculant for sick trees managed by the Parks and Open Spaces team. The iterations of process design that are needed to fine-tune this transformation of FOGO into genuine compost, are helping shape an increasingly robust and effective system. Given that FOGO-to-compost is still a fresh concept in the mind of the general public, the time is ripe to ensure that it develops into a genuinely circular process.

APPROACHING THE FUTURE

FOGO-to-compost is a prime example of circular economy in action. It takes a resource that has been heading to landfill (incurring costs and greenhouse gas emissions in the process), and turns it into a valuable product that can give life to the soil. Australia is riddled with degraded land from human land management impacts, urbanisation and climate change effects. Using quality compost to remediate soil health, arrest soil degradation and improve ecosystem function from the ground up, has triple bottom line benefits. Hepburn Shire Council's partnership with Gaia Envirotech is close to delivering the first such compost. Distribution of initial batches has been aimed at public parks and gardens within the Shire, many of which have been identified as having degraded soils. Bringing health to trees that are struggling in highly compacted soils means that the Parks & Open Spaces team can protect important natural assets such as memorial avenues and botanical gardens and also maintain canopy cover and shade in urban centres - very important in an increasingly heated world. New tree plantings will also be more likely to survive with improved soil health and good nutrition so the application of circular organics has the potential to reduce the expense and effort of replanting. In the hands of the Council's Parks & Open Spaces team, compost from FOGO could contribute to a whole range of climate resilient outcomes. These include improving soil's ability to absorb water - thus reducing both flooding and drought-like conditions - and improving the health of trees across the Shire.

CIRCULAR ECONOMY CASE STUDY:

Hepburn Springs Brewery

OVERVIEW

“We still can’t harness the CO₂ just yet, but that’ll be around the corner!”

When it comes to delivering the best, Nicholas Galik is always looking to the horizon to see what fresh system can be implemented. What started six years ago as home-brew batches for visitors and guests has evolved into Hepburn Springs Brewing Co, now featuring 18 taps and a proudly displayed ‘IBA - 2020 Indies Champion Lager’ award that has opened doors to local fine-dining establishments and boosted sales of their range across the region. After buying the block 40 years ago Nick teamed up with his wife Helen to build a 10-guest block of accommodation suites that is in high demand to this day. Over the years they ran a day-spa and then gift shop in the main building before rolling out their first batch of beer in 2017 through back-bar kegerators. The taproom is now a colourful haven of quality refreshment, bursting with beverage options that include the Galiks’ house-distilled vodka and gin in a rainbow of flavours, and other locally produced spirits and wines. Investment in state-of-the-art brewing infrastructure, and access to an innovative mobile canning service, allow the couple to manage every fresh batch of beer in-house, maintaining control over quality, waste, and water and energy consumption.

CIRCULARITY WINS

Hepburn Springs Brewing Co has cut single-use plastics by 75% through the use of bio-based can clips, and recycles the remainder. The appearance on the market of East Coast Canning has been a game changer. Their digitally printed, pre-labelled cans eliminate vinyl labels—avoiding thousands of discarded stickers and costly reorders when labelling regulations shift. When it comes time to batch their brew, Hepburn Springs Brewing benefits from the use of East Coast's state-of-the-art mobile canning line. Without this service their options would be to contract out their brewing and canning to other, less waste-conscious operators, or invest in, maintain and house the expensive equipment, which would sit idle for large parts of the year. Neither of those options align with the Galiks’ passion for waste-minimisation and resource stewardship. Downstairs in the brew-house, a bespoke heat-exchanger captures hot “wort” energy to pre-heat incoming liquor, saving thousands of litres of water and slashing energy use. Spent grain is stored in modified IBC bins and collected by a local cattle farmer, returning nutrients to livestock. Thanks to the small extra effort of flattening cardboard boxes, and reconstructing when needed (e.g. for plastic-bag free purchases) the Galiks have reduced new box purchases by over 50%. And with power delivered by rooftop solar, and all but a few ingredients and products sourced locally, the whole operation has been crafted to deliver wholesome and enjoyable circularity with every sip.



KEY CIRCULAR STRATEGIES

REFUSE

Digitally printed cans have eradicated label use

REDUCE

Heat-exchanger cuts water and energy use

RECOVER

Spent grain is redirected to feed local cattle



SUPPORTING CONNECTIONS

Nicholas and Helen are very aware of the beneficial material cycles that they participate in as Hepburn Springs Brewing Co: the cost and waste reductions they have achieved through their relationship with East Coast Canning, the joy of passing on the nutritional value of their spent grain to local cattle. They also partner with a local disability service provider who takes away empty cans to redeem the 10¢-a-piece refund: social impact and resource capture in one! Support for their circular practices also comes in the form of the advocacy and attitudes of others in their sphere. The Independent Brewers Association are very environmentally aware and always keen to promote and advertise sustainability best-practice. By demanding minimal and plastic-free packaging many customers, both wholesale and on-site, help fuel the Galiks’ passion for minimising waste. As a node within these flows Hepburn Springs Brewing Co is supported in their path of ever-increasing circularity, whilst providing a beacon of inspiration to all who come into contact with their products and their story.

APPROACHING THE FUTURE

Emissions from fermentation are not a good look in the brewing industry, so Nicholas is keeping his eye on evolving CO₂-capture technology. Young Henrys Brewery and University of Technology Sydney in New South Wales have partnered to create the Algae Project - reclaiming the CO₂ coming out of their fermenter by passing it through a 400 litre bioreactor vessel containing algae, which consumes the carbon and releases oxygen. His prediction, and hope, is that a low-cost, practical application of this technology will hit the market within the next 3 to 5 years. He’ll be quick to install it when it does. The Galiks have also adapted many of their recipes to use 100% Australian-grown barley for their brews, thereby enhancing relocalisation and slashing food miles. These desired next steps reflect a belief that circular economics is simply good business: stewarding resources, cutting costs and waste, and deepening community ties as the brewery grows. Hepburn Springs Brewing’s journey has demanded bold investments, resilience and adaptive problem-solving. Installing bespoke heat-exchanger, glycol cooling and greywater systems required significant capital outlay. Transitioning to plant-based barcode-free can clips meant overcoming their initial resistance of wholesale partners. Whilst there's a reassuring growth in demand for plastic-free delivery, shifting mainstream attitudes towards waste also remains a huge hurdle, highlighting the importance of hands-on education and leading by example to foster genuine behavioural change.

CIRCULAR ECONOMY CASE STUDY:

Hepburn Wholefoods

OVERVIEW

“We make sure it’s as local and free from packaging as we possibly can, and because we’re volunteer-run the prices are accessible too!”

Fiona Hamilton is giving a tour of the Hepburn Wholefoods Collective’s neatly arranged colourful aisles as the last deliveries of fresh produce arrive prior to opening time. The veggies have all travelled less than 15 km, and the impressive range of grains, flours, vinegars, oils - purchased locally in bulk and stored in reusable tubs and drums - are ready for customers to weigh and take home in their own containers. Paper and compostable fresh produce bags are the one concession to single-use packaging. Spare jars are on hand for liquid purchases. The collective charges its 220+ members \$40 a year (\$20 concession) to shop here, although that fee is waived for the volunteers who come in for cleaning, prepping and shop-floor shifts, and thanks to a generous tech build from one of the members, the payment system is comprehensive. Totting up their items via the Hepburn Wholefoods custom website, shoppers can arrive at the till with their purchases calculated, freeing up time for catch-up chats about what’s happening in the neighbourhood.

CIRCULARITY WINS

When it comes to circularity, Hepburn Wholefoods has it nailed with its local procurement and bulk purchasing. Fiona is sometimes the one to make the short trip to Harcourt to refill the collective’s drums with apple cider vinegar. A Daylesford miso producer pops in to replace her large empty containers with full ones. And the coffee beans may have incurred significant food miles since harvest, but they bring a connective story with them: the roaster from Ballarat (where the beans are collected in reusable tubs) has a personal connection with the growers in Timor Leste. An investment in collapsible crates, for use in-store and by regular suppliers, has reduced dependence on cardboard and styrofoam. Whilst all of the products in the shop are selected on the basis of their regenerative, chemical-free credentials, not all of them are food. A contraption for holding a bar of soap that facilitates plastic-bottle-free dishwashing is just one example of the collective’s expanding, planet-friendly range.



KEY CIRCULAR STRATEGIES

REDUCE

Focus on local produce and bulk purchases reduces food miles and packaging

REUSE

Collection and delivery of most goods & produce is in re-usable tubs and crates

RELOCALISE

Shop provides sales outlet for local producers and artisans



SUPPORTING CONNECTIONS

With a vibrant membership, many of whom are producers themselves, it is understandable that Hepburn Wholefoods both fosters and is nurtured by a network of entrepreneurship. Local baker Alison Wilken, of Two Fold Bakehouse, orders in all the collective’s grains and flours, and a proportion of her weekly batch of loaves is delivered to the shop fresh from the oven every Thursday. Healing creams are another member-produced stock item. And of course, the majority of suppliers - including the three main growers of fresh produce - are local small businesses themselves. Nevertheless, it is volunteer effort that birthed this venture and maintains its upkeep and growth. Sourcing products, seeking grants for equipment and infrastructure, managing premises and communications, 3 or 4 days-a-week of shop service. The gifting of all this energy not only helps keep the prices accessible to all, but generates a special spirit of belonging. With excellent systems in place that are constantly being refined, and mutually supportive relationships that are strengthened by the day, Hepburn Wholefoods serves as a model of circularity. It demonstrates what can be achieved when community comes together with shared ethos and vision.

APPROACHING THE FUTURE

The Hepburn Wholefoods Collective has come a long way since it launched in a ‘cupboard’ in the foyer of the Daylesford Neighbourhood Centre in 2012. Subsequently housed in various shared spaces, their 2020 move to the current premises at Daylesford Lawn Tennis Club finally gave them the room they needed to become the thriving community hub enjoyed by members today. Since then, the collective has been able to greatly expand its offering, and now stocks more than 300 items. Should the day come when their (currently very affordable) lease is up, the collective would love to find a more central Hepburn location to increase their presence in the community. In the meantime, they will be making the most of excellent news: with their latest grant proposal recently approved by Hepburn Shire Council, Hepburn Wholefoods can now fund a new fridge for the storeroom. A refresh is also planned for this space to add more shelving and a trolley with a hoist (also supplied by a grant from Council). Making the storage more accessible, OH&S friendly and efficient, this upgrade will be a very positive development for members and volunteers alike. With first quarter sales of fresh produce up 25% on last year, and more members joining monthly, there’s every reason to hope that Hepburn Wholefoods will deepen its beneficial presence for years to come.

Maze House

OVERVIEW

“It's really the simple things that anyone can do, so people get ideas from this place.”

30 years ago, forester-by-trade Trish and husband Chris planted a maze of cypress hedges that is now a seasoned tourist attraction in the region. However, the inspiration Trish is referring to is found in the productive country garden surroundings, and Maze House’s circular approach to hosting. Visitors are often delighted to discover that they can wander the grounds with their coffee in a real cup: no disposables here! Locally sourced cakes resonate with the old-school carnival games dotted through the garden to provide lashings of rustic charm. It’s the magic of the resplendent maze that draws the crowds. On average visitors enjoy an hour and half of fun before rolling on to other attractions in the area. Music videos and commercials have also been filmed in the maze’s lush green corridors, and with Maze House now well established on the tourist trail since their grand opening 8 years ago, local tourist associations have started centering this unique experience in their marketing campaigns.

CIRCULARITY WINS

The main building is decked with roof-top solar and has been built with recycled timber and fittings. The café is furnished with retro second-hand tables and chairs, and outdoor furniture is sourced from the local tip-shop - as is the fleet of pushers that are always on hand (because modern SUV-style strollers often won’t fit through the narrow paths of the maze!) The café, with its focus on minimal packaging and local supply, only offers morning and afternoon tea. This allows Trish and team to send visitors on to nearby venues for larger meals, thus strengthening regional connections. The constant pruning required to maintain the maze’s smooth curves generates clippings that are used as mulch throughout the garden. Food waste is minimised as food scraps are fed to the dogs, chooks or composted. The productive country garden with fruit trees, vegetable patch, flower cutting garden and firewood lot goes a long way to supplying the business’s needs. The planting of over 800 trees on a once bare sheep paddock has increased the property’s biodiversity and resilience. These are all basic sustainable gardening activities, but they still prompt queries and requests for advice from visitors.



KEY CIRCULAR STRATEGIES

REDUCE

Minimal packaging approach means landfill waste is less than 120L/fortnight

REPURPOSE

Salvaged timber and fittings used in construction of main house & terrace

RECONNECT

Vibrant network of visitor economy businesses recommending each other's services

SUPPORTING CONNECTIONS

Daylesford Macedon Tourism and Visit Ballarat are great allies for Maze House, providing advocacy, advice, and reliable, effective channels for advertising and promotion. In turn the unique experience of the maze, and its country garden full of games, has now come into its own as a unique offering that those organisations can highlight to bring visitors into the region. A strong network has also built up with other tourism and hospitality providers in the area, with each establishment able to recommend patrons onwards for a trail of enjoyable experiences and refreshments. Maze House’s wheelchair-friendly accessibility and access to natural spaces also makes it a hit with disability organisations. It’s an outdoor excursion experience in safe surroundings that can cater to a range of sensory needs. For some, a gentle time spent in the dappled shade of the trees is enough to make their day. This ethos of drawing on and enjoying what is already at hand is at the core of Maze House’s contribution to circularity in the region.

APPROACHING THE FUTURE

After years of working in sustainability and the environment, Trish is encouraged to see the tourism industry moving to increasing emphasis on sustainability and environmental improvement. With the gentle exposure Maze House offers its patrons to circular principles in action, Trish and Chris are already helping demonstrate these values. Their next plan is to install more solar panels and a solar battery, so that they can be off-grid and not beholden to regular power outages. In the meantime they will continue to maintain this magical place of wonder that celebrates the joys of being in the elements and lovingly preserves the life of secondhand materials. They will also keep up their approach to minimal packaging that ensures waste-to-landfill for the whole venture is less than one 120 litre residential-sized bin per fortnight.

CIRCULAR ECONOMY CASE STUDY:

Jonai Farms

OVERVIEW

“You can't go anywhere on this farm without seeing a piece of Stuart's ingenuity.”

When it comes to circularity Tammi and Stuart Jonas are grassroots pioneers. First up on a tour of the property is the farm’s fire trailer, crafted a decade ago from the chassis of a broken down refrigerated truck. The truck’s still functional cool-box sits outside the farm shop serving as storage for meat deliveries and pick-ups. Up on the hill sits the beautiful Belvedere, a light-filled space that has seen countless public events and family gatherings and is constructed almost entirely of reclaimed windows. As if to further prove Tammi’s point, Stuart glides past on an old Yamaha dirt-bike, now electric thanks to his mechanical know-how. But the piece-de-resistance is still under construction, and whilst Stuart is chief architect and builder, he is drawing on considerable inputs of expertise, effort and investment from beyond the farm. This collective project with 15 other local producers came together with some urgency when the abattoir in Kyneton made the recent decision to close its doors to smallholders. For now their closest option for slaughter is Wangaratta, a 500+km round trip. Fortunately it’s only a matter of months until the meat collective members can start bringing their livestock to Jonai Farms instead. Designed with careful consideration of animal welfare, whilst meeting stringent health and safety requirements, the new abattoir will be licensed to slaughter a weekly quota of cattle, pigs and sheep that will more than cater to the ongoing needs of all the farms in the partnership.

CIRCULARITY WINS

From a greenhouse made of discarded glass pool fencing to cozy dwellings made from old demountables, examples of repurposing on Jonai farms are too numerous to list. One ingenious use of salvaged materials does stand out however. Perched at the edge of each of the farm’s dams are solar-powered pumps. Fashioned from old treadmill motors attached to 80-year-old diesel pistons, and topped off with reclaimed PV panels, these pumps allow all of the water on the property to be moved using solar energy. The sun also powers “Audrey” - Jonai’s 40 foot composter - turning her huge drum once a day. The internal temperature of 55°C that this maintains will enable Audrey to safely turn abattoir waste into soil within 2 weeks, once the new facility comes online. Meanwhile the farm’s 110+ pigs are growing fat on spent brewer's grain from Holgate Brewhouse, excess whey from Wedge Hill Farmstead, and wholesale batches of food that have passed their use-by date. Over the 15 years that practices like these have been accruing incredible circularity benefits on-site, Jonai’s sustainable business model has been supporting Tammi to influence food systems way beyond the farm. Impacts of her dedicated advocacy work through the Australian Food Sovereignty Alliance include reforms to the way pastured pigs and poultry are dealt with in the planning scheme in Victoria and New South Wales, and the recent formation of an Agriculture Victoria working group on access to abattoirs. For Tammi, democratic advocacy associations like AFSA are one of our strongest social tools for removing the institutionalised barriers that hinder implementation of deep, functional circularity and regeneration across all levels of society.



KEY CIRCULAR STRATEGIES

REPURPOSE

Onsite engineering capabilities give new life to discarded materials

REGENERATE

Livestock and horticulture on same property restores beneficial fertility flows

RENEWABLE ENERGY

Solar power used to turn composting drum & move water throughout property



SUPPORTING CONNECTIONS

The collective that has come together to fund and build Jonai Farm’s new abattoir is a prime example of an ecosystem level node of circularity. What first presented itself as an economic calamity has drawn together an inspiring collective enterprise that is strengthening the regional resilience of small-scale primary production, whilst creating a shared facility that minimises transportation and other resource use. This project has also relied on horizontal knowledge sharing, drawing on expertise within the network rather than hiring it in from outside. Fortunately this network extends to include Temple Grandin, global authority on animal welfare, who tweaked the design of the abattoir to ensure minimum stress on the animals in their final moments of life. Meanwhile the Jonas family’s sharing of the land has generated a host of beneficial interrelationships within the property itself. In 2023 they invited former interns Shaun and Josh - a proud Ngarrindjeri and Narungga man – and Shaun’s partner Rex, to develop the now well established Tumpinyeri Growers market garden on their lower paddock. Livestock farming is a net fertility producer. Horticulture is a net fertility consumer. With “Audrey” facilitating the flow of fertility between the two, Tumpinyeri’s arrival has brought a deep ecological circularity to the site. The regeneration has been deepened further by the planting of biodiversity shelter belts. Cabbage moths used to be a problem, now there’s habitat for parasitic wasps that eat their caterpillars, and habitat for frogs too. And because there’s frogs, there are snakes. The whole ecosystem is finding a new vibrant equilibrium, a great reminder that the ultimate network to be in alignment with is nature herself.

APPROACHING THE FUTURE

With their flourishing regenerative circularity Jonai Farms is celebrated as a global example of agroecology best practice. Yet there are deeply entrenched systemic barriers that hinder efforts like theirs to put circular principles into practice. At a local level, increased focus on risk at the transfer station has made it harder to access many of the kinds of materials that Stuart has so successfully salvaged and repurposed over the years. In an area where 40% of the community rely on wood as a source of heating and cooking, most of the wood salvaged is currently getting mulched. Although the mulched material is provided to the public, without the required capacity and a system in place to further sort and process it, the Jonai believe more should be going to the higher value, lower cost resource to the community. Communities can come together to influence policies and practices like this at the local level, but further up the chain of governance an in-built bias against reuse gets harder to shift. For example, the National Building Code, defining construction practices across Australia, makes it really difficult to build using second hand materials. From Tammi’s perspective a step change is required across all levels of government: “Where are the policies that actually help us avoid and reduce resource use?” Despite the frustration, Tammi concentrates her energies on fighting for things rather than against them. Things like every locality having its own accessible abattoir. Deep systemic transformation will require coordinated advocacy for similar change across all sectors, and trust will be the essential fuel of that coordination. How do we encourage such trust? “We role model it, by both being trustworthy and trusting others.”

CIRCULAR ECONOMY CASE STUDY: Macedon Ranges Shire Council

OVERVIEW

“It comes down to this: where can we find the opportunity for one person’s waste to become another’s resource?”

As Macedon Ranges Shire Council’s Resource Recovery Coordinator, Bill Pemberton helps find answers to this question on a daily basis. Home to 43 wineries and the popular, award-winning Autumn Festival, the Macedon Ranges region is also host to spectacular and environmentally significant nature and bushland reserves. With nature-based tourism and horticulture both significant economic drivers for the region, the opportunity to draw the public imagination towards regenerative and circular values is strong. The Council is both active and supportive in developing awareness of circularity and implementing circular practices. Resale shops at resource recovery facilities play a huge role in diverting usable items away from landfill. In 2024 the Council undertook the construction of one such shop in Romsey, and the refurbishment of another in Kyneton. Meanwhile the connections that Bill and his team have with a multitude of resource-minded community groups help facilitate a flow of information and resources, and council grants are a life-line for many of their circular activities.

CIRCULARITY WINS

In the first 12 months following construction in Romsey and refurbishment in Kyneton, the 2 resale shops diverted over 25 tonnes of material including: 64 lawn mowers, 118 pieces of furniture, 150 electrical items, 167 bicycles, over 1,800 miscellaneous items and 18 tonnes of steel. In the 12 months from June 2023, 46,048kgs of textiles were diverted from the waste stream to be re-used, re-purposed or even pulled apart and made back into fibres for new garments. In that time Macedon Ranges Shire Council’s 3 resource recovery facilities (including one at Woodend) also salvaged 1,300 m³ of polystyrene, allowing this material to be remade into things like picture frames and skirting boards. At the Romsey depot a recent circular economy addition that is tightening the resource loop is the testing of old Solar PV. Functioning panels are now diverted for re-use, and only those that are unsalvageable are dismantled for recycling. Since 2020 the Council has partnered with Macedon Ranges Sustainability Group to operate the ‘Wash against Waste’ trailer. Events that book the trailer get to supply food and drinks with reusable crockery, cutlery and drinkware that gets washed and returned to circulation on-site. With 39 bookings in 2024 alone this service delivers a significant and ongoing reduction in discarded disposables.



KEY CIRCULAR STRATEGIES

REFUSE

“Wash against waste” service allows event programmers to ban disposables

REUSE

Significant amounts of discarded goods & materials resold at transfer station shops

REPURPOSE

Salvaged polystyrene & fabric become raw materials for other products



SUPPORTING CONNECTIONS

The ‘Wash against Waste’ program is both a productive partnership and an inspirational model. The Macedon Ranges Sustainability Group staffs and deals with bookings, whilst Council stores the trailer and provides maintenance and insurance. Many other local councils from Victoria and other states have been inspired by the partnership, approaching Macedon Ranges Sustainability Group for insights into setting up their own ‘Wash against Waste’ trailer service. Garage-sale towns and community markets such as the Woodend Farmers Market are examples of other community-led efforts to cycle resources and promote regeneration that are supported by Macedon Ranges Shire Council. Bill and his team also keep a constant eye out for new initiatives that champion circular opportunities for the region. Partnerships beyond the Shire include the development of 10 Circular Economy Case Studies (of which this is one) in collaboration with Hepburn Shire Council. Meanwhile support from Sustainability Victoria (SV) has given circularity within the Macedon Ranges a welcome boost. It was funding from SV’s Circular Economy Council grant program that turned the Romsey Re-sale Shop from an aspiration in the Council’s Resource Recovery Strategy into the successful circular service it is now.

APPROACHING THE FUTURE

In its ongoing dedication to improve circularity within the Macedon Ranges, the Council’s Resource Recovery team will continue to play both active and supportive roles. Further plans for developing the Shire’s 3 Resource Recovery Centres as hubs of community circularity include the improved diversion of building materials from landfill. Bricks, timber and fittings can often be reused with minimal processing, whilst plasterboard, rubble and other construction detritus can in most cases be repurposed or recycled. Meanwhile, Bill is keen to help develop the capacity of community groups like the Woodend Repair Café whose dedication to extending the life of household goods reduces the flow of items heading for the tip. Raising the profile of circularity across other council teams also has an important role to play. Penny Gronset is the Council’s Economic Development Business Liaison Officer. Her team is working with Resource Recovery to stimulate internal dialogue and collaboration around sustainability, circularity and regeneration - and reinforce the beneficial relationship these practices can have with business development and tourism. “Together we can boost the capacity of Macedon Ranges Shire Council as a whole to promote circular opportunities in the region.” And with this series of Circular Economy Case Studies just one outcome of this collaboration, that boost is already pulsing out beyond the Shire.

CIRCULAR ECONOMY CASE STUDY:

Backman Builders

OVERVIEW

“We don’t demolish, we dismantle.”

Whether it's bricks or timber or kitchen units, Dean Backman aims to find a new life for everything when he’s clearing a site to build a new home. Ideally most of it remains on site to be incorporated into the new build. Whatever materials can’t be used wait in neat piles awaiting transport to sorting facilities that will keep them in the loop. Any new resources arriving on site have been carefully selected to deliver the best blend of longevity, energy efficiency and resource stewardship. For Dean this is all part and parcel of his simple desire to build the best possible product for each of his clients. That this approach is way above industry standard explains the triple recognition Backman Builders received in the 2024 Macedon Ranges Business Excellence Awards, including Business of the Year. But what if taking the care to build circularity into construction was the norm? That’s the question that drives Dean’s cheery tips and insights on social media and the podcast he hosts exploring and celebrating the people and practices that are making buildings better for our planet.

CIRCULARITY WINS

When it comes to finding a resource-smart solution that is affordable and attractive for clients, there’s often a fine calculation to be made. Take a current Backman Builders project in Woodend: dismantling the existing property released 8,000 bricks for use in the new build, but what about cleaning and prepping? How would that compare cost-wise to shipping in new bricks? Turns out with an efficient process the labour costs for cleaning can meet or even beat the price per unit of new bricks. An obvious win for resource use becomes a win on the balance sheet, and another new client jumps on board the circularity train. Some choices are less clear cut: taking the dive with higher upfront costs can result in huge savings in energy bills over the long term; choosing new or imported materials might be the key to that energy efficiency despite the extra impacts of their transport and production. Where the decision lands often depends on how far along the journey clients are prepared to walk with Dean. When vision and budget align the result can be a 10-star home that barely needs any heating and cooling. However, even when clients show up with designs and expectations that leave little in the way of wriggle room, Dean can often improve the energy efficiency of a build by 25% just through his regular habits of sourcing and stewarding materials.



KEY CIRCULAR STRATEGIES

RETHINK

Framing demolition as dismantling invites clients into circular thinking

REUSE

Dismantled materials either used in re-build or channelled to other uses

RECYCLE

Masonry and concrete detritus salvaged to become road-base and construction fill



SUPPORTING CONNECTIONS

Dedicated local sorting facilities are essential to Dean’s mission to keep materials in the loop. Tiger Bins in Bendigo send out a range of skips for different materials and even have a system for layering different items - plaster, tiles, etc. - that streamlines their onward journey to different uses. A Digger’s Rest facility takes even the most broken masonry and concrete, crushing it for a range of construction uses. Backman trucks do the round trip, dumping detritus and returning with fill for the worksite that is cheaper than buying it first hand. Back at the site, efficient sorting of materials relies on the collaboration of Dean’s regular team and visiting tradies. Gentle and consistent onboarding over time has seen mindsets change and a growing pride in being part of the story-flip from rubbish to resources. When it comes to sourcing materials, hardware chain Bowens are a godsend. Their procurement team works closely with builders to identify products that sit in the sweet spot of low-impact production and high performance for energy-efficient builds. Meanwhile the raising of the National Construction Code to a minimum 7-star energy rating is helping lift the bar across the industry, and the Australia-wide Future Builder network (Backman Builders is one of the 100+ members) is helping explore where the envelope can be pushed to incorporate maximum circularity in construction. In the year since launching his podcast Dean has also been building an important home for this pioneering conversation.

APPROACHING THE FUTURE

Despite the dynamic growing network of practitioners and advocates that are advancing and consolidating circularity in the construction industry, it is still too easy for builders to demolish and dump, and most consumers remain unaware that another way is possible. Budget and convenience also still tend to trump sustainable procurement and energy-efficiency. All the more reason to bring the conversation to where it will have the most impact. For Dean, shifting the mindset of designers would play a huge role. Given they’re often the first port of call for people wanting a new home, imagine the effect of every first design consultation opening with a discussion of minimising resources and keeping them in the loop. Meanwhile some waste issues feel like they are baked into the system, at least for now. For example, whilst doing his part to help shift the paradigm upstream, Dean is working with the reality that every new product, from weatherboards to bathroom fittings, currently comes wrapped in layers of soft plastic. Fortunately, those plastics can at least be kept out of landfill with a free drop-off service available at the Council’s three resource recovery centres. Top of mind as Dean considers all of these challenges is the kind of world his 4 daughters and their children will inhabit in 50 years, and what he can do each day to make that future the best it can possibly be.

CIRCULAR ECONOMY CASE STUDY:

Kyneton Hire

OVERVIEW

“Sometimes you think it's not much, but if you always say ‘it's not much’, then it doesn't go anywhere!”

Tracy Pannell is talking about the small but consistent and impactful changes she and her team have made at Kyneton Hire over the years. One of those changes was replacing Halogen lighting with LEDs. Despite their \$1,000-a-piece outlay the new lights paid for themselves within six months thanks to reduced electricity costs. 10 years later Kyneton Hire’s power bill is still less than it was before the switch. Kyneton Hire operates on a culturally well established model of circularity: getting as many people as possible to use the same equipment for as long as possible, by centralising the costs and burdens of purchase, maintenance and storage. In the early 1990’s construction took a dip and Kyneton Hire decided to branch out into marquees and party supplies. Now that side of the business is equally strong, and with fluctuating economics affecting demand differently in each industry, the diversity is a boon. Whilst Kyneton Hire offers valued access to equipment for trades, farmers and other businesses, 75% of their rentals are actually to householders. In their party-hire line this can be as simple as an extra 5 sets of everything at Christmas time. Yet even that small selection of glasses, plates and cutlery represents another bin-liner of disposables diverted from landfill.

CIRCULARITY WINS

When Kyneton Hire moved to its current location 18 years ago, it was an opportunity to build for the future. One major decision at the outset was to invest in 5 huge water tanks. The result: Kyneton Hire’s monthly water bill rarely rises above the baseline service fee. They have 150 marquees now in constant circulation, each one needs a wash when it returns to base. Add that water usage to all of their other equipment cleaning needs, and it’s clear how well that one bold decision has paid off, both economically and environmentally. The installation of solar panels and LED lighting, with its similar reductions in resource use and long-term expenditure, is another example of Tracy’s willingness to take the risk and the initiative to make demanding choices with future benefits in mind. This applies to equipment purchases too. Standing proud in the showroom is a battery-powered cutter that is becoming popular with tradies because its fume-free operation makes it much nicer - and safer - to use in confined spaces. Despite it costing significantly more than its standard petrol-powered counterpart, Tracy hires it out at the same rate. “We just want it out there. Once people get a sense of how much better it is, demand will grow.” With battery-technology now delivering hours of usage with minimal recharge time, more and more electric tools and equipment are coming online. Kyneton Hire’s next step towards emission-free equipment hire will be adding Makita’s new rechargeable mower to its stable.



KEY CIRCULAR STRATEGIES

REFUSE

Hireable crockery, cutlery & glassware avoids the need for disposables

REDUCE

Reduced consumption as hirers do not need to purchase their own equipment

RECONNECT

Sub-hiring between Kyneton & Bendigo Hire increases use of existing resources



SUPPORTING CONNECTIONS

Kyneton Hire’s membership of the Hire & Rental Association of Australia offers excellent support that includes regular meetings and a very useful stream of news on technological and market developments in the world of equipment and machinery. European markets often access tech advances (e.g. battery-powered generators) a year or more before they’re available in Australia. However, seeing them coming allows Tracy to plan for their introduction at Kyneton Hire. This allows the team to maintain their role as a community resource - procuring the range of equipment that’s in demand - whilst steadily making the shift towards more planet-friendly stock. And availability of equipment can have a huge beneficial impact, especially when partnered with education. Following the major storm damage of 2021, and given the number of residents that were newly arrived from Melbourne with little rural experience, Macedon Ranges Shire Council saw the need to run community chainsaw and log-splitting courses. Kyneton Hire supplied the equipment for the workshops, and many of the upskilled participants were enabled to clean up their properties safely and stock up on years worth of firewood in the process. Kyneton Hire also finds itself in networks of mutual support with other businesses, a relationship with Bendigo Hire being one small example. Each establishment stocks large quantities of the items that are in high demand in their particular locality, and less of those that are less regularly requested. When Kyneton gets a booking that requires more than what’s in stock, they often sub-hire the shortfall from Bendigo - and vice versa. Another great circular win-win, with less expenditure on inventory, and more use of existing resources.

APPROACHING THE FUTURE

Kyneton Hire is well set up for the future thanks to the bold, thoughtful decision-making that has been its consistent hallmark since Tracy’s father took ownership in 1983. Major investments in water and energy self-sufficiency have had the biggest impact on its ongoing circularity as a business. The decision to branch into event supplies significantly expanded the range of resources accessible to the local community, and given the proliferation of disposable cutlery, plates etc., every hire of these items represents less extraction, less waste. Keeping a healthy balance sheet is how Kyneton Hire maintains its presence and its service, so upgrades to stock have to be able to pay for themselves. That said, Tracy keeps a constant eye on equipment that performs with minimal environmental impact, and where the risk looks set to pay off, she'll jump on a new purchase. Battery-powered generators and ‘plant’ (fork-lifts etc) are game-changers that Kyneton Hire will introduce as soon as availability and economics align. And because each piece of equipment is put to use so many times by so many people, these upgrades to ‘greener’ stock will continue to have a huge circular impact into the future.

CIRCULAR ECONOMY CASE STUDY:

Kyneton Ridge Estate

OVERVIEW

“To me it became blindingly obvious...why wouldn’t you take an approach that builds—and keeps building—the soil you rely on?”

Andrew Wood’s enthusiasm rings out over the 360-million-year-old outcrop that is Kyneton Ridge as he recounts his first encounter with the principles of regenerative agriculture. He and wife Angela had been looking to set up a café and art space when the lightbulb lit: “Well, you can’t have food and art without wine!” Kyneton Ridge Estate didn’t take long to appear on their radar. When they took over in 2019 there were five acres of Pinot Noir and Chardonnay vines. Their son Patrick - a winemaker and permaculture enthusiast - soon joined the venture, building a new winery on-site and helping them expand the vineyard, with Riesling, Nebbiolo and Cabernet Sauvignon added to the mix. To date there are now 13 acres of vines, and all of it nurtured by synthetic-free improvement of soil health across the property. As we take in the resplendent view across the valley from the restaurant terrace, Andrew’s thoughts turn to circularity: the joy of saving tons of glass with a simple choice of bottle; the frustrating puzzle of how to transport wine without wasting cardboard; all this clearly driven by the family’s desire to honour their much cherished role as the latest in a long line of stewards on this very ancient land.

CIRCULARITY WINS

At Kyneton Ridge, the Woods have been building soil health year-on-year following regenerative agricultural principles. Sheep and alpacas enter the vineyards when the first leaves fall, mowing the grass and fertilising between the vines until just before the first buds appear in spring. Prunings and leaves are mulched to return their nutrients to the ground, and even the residue grape skins and stems left behind after pressing find a welcome home as fodder for neighbouring cattle. 2.5 tons of glass a year are being saved after a move to lighter-weight bottles, and that’s with the winery’s relatively small output of under 30,000 bottles annually. No mains supply means run off accounts for all water usage on the property, with water tanks supplying the winery and restaurant and two dams collecting water for the vines. And with zero food miles incurred in the production of its wine, and 90% of it sold in the Macedon Ranges, the business is hyper-local. In December 2024 the estate was certified sustainable, the first vineyard in the Macedon Ranges to receive this certification. The accompanying sustainability action plan, committing the Woods to minimal inputs and waste and continued improvement of the property, gives structure to the practices that Andrew, Angela and Patrick are already driving with their passion for producing a circular and singular drop!



KEY CIRCULAR STRATEGIES

REDUCE

Lightweight bottle choice saves 2.5 tons in glass usage annually

REGENERATE

Constant improvement of soil health & water resilience via regenerative approaches

RELOCALISE

Zero food miles incurred in production. 90% of product sold within the region



SUPPORTING CONNECTIONS

Macedon Ranges is the coldest wine growing region in mainland Australia, so yields are low and that makes it an expensive region to make wine in. Fortunately the Macedon Ranges Vignerons Association is very active with their support, helping develop, promote and improve the local industry. There’s also a strong sense of community amongst the winemakers in the region, with everyone supporting each other to operate at a premium level. “We’re not on our own,” Andrew reports, as he praises local producers Hunter-Gatherer, Red Poppy and Cobalt Ridge for their regenerative approaches to making premium wine, “we’re part of a local industry that is absolutely aligned, and understands that this is how we make great wines into the future.” Connections that help maintain material circularity are important too. The fact that discarded grape skins and stalks can move such a short distance to provide their nutrients to the cows next door is a great win-win. And moving to light-weight glass was a risk in a market that signals “premium” with a hefty bottle, but also a choice that resonates increasing consumer appreciation for minimising resource use.

APPROACHING THE FUTURE

Often one circular decision will open up possibilities for further refinement. Prior to the shift to lightweight bottles the Woods had to restrict carton-sizes to six bottles - lugging full cases of 12 was too much for the small team to manage. With the reduced weight they are looking to revert to boxes of 12 to reduce cardboard usage. A small change perhaps, but one that will add up. Even better would be re-usable crates, ideally as a system adopted by the market, but even an in-house solution like this could make a big difference. Given the Wood’s productive dedication to implementing circularity, and the like-minded enthusiasm of fellow winemakers in the region, it seems certain they will resolve this particular puzzle into practical solutions before too long. In the meantime, water security is top of mind, when it comes to future planning. There’s a pipeline from Kyneton Recycled Water that runs near the estate, but the water is currently all allocated so Kyneton Ridge is on the waiting list. While this hangs in the balance, Andrew confirms that he’ll continue applying the regenerative approaches that have seen the winery through recent years of minimal rain: “It’s a testament to the work that we’ve done over the last five years in improving soil and vine health that we’ve come through as well as we have.”

CIRCULAR ECONOMY CASE STUDY:

Woodend Neighbourhood House

OVERVIEW

Nestled on Forest St, and backing onto parkland, Woodend Neighbourhood House is a haven of circularity that has been serving the local community for over 40 years. One of its activities that is dedicated to keeping valuable materials in the loop is the Woodend Repair Café. “The labour cost of a professional repair is so high that most items get junked and replaced from Kmart, unless someone will do it for free. So that's where we come in!” explains David White, who opens up shop with his fellow volunteers on the first Saturday of the month - market day in Woodend. Their motto is: “If you can push it or carry it we’ll take a look”, so vacuum cleaners are welcome, but white goods are not. Market shoppers often get to drop off items in the morning and pick them up repaired by closing time at 1pm. Goods requiring closer attention or special tools might be taken home to a volunteer’s workshop and returned for pick up at the Woodend Neighbourhood House at a later date. Inevitably some things defy resuscitation but these are picked apart for recyclable and reusable components. Very little ends up in landfill. Goods that don’t make it back into circulation are more than balanced out by those that do - especially the many items of sentimental value that come in for repair, and are greeted with emotional smiles as they return to their owners in working order.

CIRCULARITY WINS

From handbags to hand mixers, baby monitors to binoculars, the range of dilapidated goods brought into the Repair Café is remarkable, as is the team’s success rate. Of the 345 items brought in to be looked at in 2024, an impressive 93% were successfully repaired. King of the stats is Mark Horner, but then he does offer the relatively straightforward service of sharpening blades, accounting for 44% of items repaired in 2024 (with a 100% success rate!) With a bike shop career behind him, Mark also lends his repair skills to another of the Woodend Neighbourhood House's activities with impressive circularity credentials: the Woodend Community Bike Shed. Operating fortnightly on a Thursday afternoon, the Bike Shed takes donated bikes - in a reasonable, but not necessarily rideable condition - and refurbishes them before gifting them to families in need and organisations that support them. The particular skills of the Bike Shed and Repair Café volunteers are diverse - sewing, electrics, mechanics - as are their reasons for being there - rescuing resources, upping skills, or simply passing time in good company. The camaraderie that brings them together provides a social connection that is one of the project's key circular values. Freed from transactional and economic restraints, all of this gifted time and talent not only breathes new life into the ‘un-repair-worthy’, but also plays a special role in strengthening social bonds and community connections.



SUPPORTING CONNECTIONS

The Repair Café and Bike Shed are just two of the many activities facilitated by the Woodend Neighbourhood House. Many of the users of the Repair Café and Bike Shed give a cash donation as a thank you for the service provided and these funds are used to purchase tools and supplies, as needed. Surplus funds support the Woodend Neighbourhood House's other impactful programs, such as the Woodend Food Bank. Woodend Neighbourhood House activities emanate benefits outwards into the community, one example being the bikes refurbished by the Bike Shed that will soon be on their way to Very Special Kids, a respite centre for children with cancer. Both the Woodend Repair Café and Bike Shed also satisfy the House’s objective of connecting community - with other examples, such as the newly formed gardening group, or well-established activities such as the regular Community Lunch, Chatty Café or Social Craft Group all providing additional ways for locals to connect. Further still, the Woodend Neighbourhood House provides a meeting space for other aligned groups such as the Macedon Ranges Sustainability Group's 'Woodend Community Bags'. This ongoing project of turning discarded fabric into quality bags is another excellent example of circularity in action.

APPROACHING THE FUTURE

Looking ahead David’s main concern is attracting fresh volunteers, including those with skills in repairing electronics. More and more consumer goods rely on microchips and circuit boards, and when these show up broken at the Repair Café it's often hard to figure out what's gone wrong. Access to testing equipment would also be a great help in this regard. For Mark, space is the big dilemma. The Woodend Bike Shed currently has room to offer basic bike maintenance, but Mark would love to see the operation expand. His ideal would be a full repair and refurbishment service, modelled off large community organisations in the US and the UK that provide low cost bikes to people who can't afford other transport. That's a dream for the future, one that would require ongoing access to a bigger space for expansion. In the meantime Mark and David and their fellow repairers will continue to appreciate the enabling support and access to space that allows them to effectively volunteer their time and their expertise. And driven by their passion for circularity they'll keep steering household goods and treasures away from the slippery slope that leads to landfill.

KEY CIRCULAR STRATEGIES

REPAIR

Dedicated volunteers fix items whose professional repair would be unviable

REFURBISH

Donated bikes refurbished and passed on to families in need & support orgs

RELOCALISE

Neighbourhood House activities facilitate a thriving local support & resource network