

CONNECTING
HEPBURN SHIRE'S
CIRCULAR ECONOMY

Circular Economy Stage 1 Project Report and Recommendations - Section 2

20 February 2023



Djaara Acknowledgement

This project took place on Djaara Country and the authors acknowledge the Dja Dja Wurrung People as the traditional owners and custodians of this land. We acknowledge and respect the ancient wisdom and stewardship of Djaara of the lands and waters for millenia. We acknowledge this Country was never ceded and pay respect to the Djaara Elders, past, present and future.

Hepburn Shire Council is on Dja Dja Wurrung Country.

Hepburn Shire Council acknowledges the Dja Dja Wurrung as the Traditional Owners of the lands and waters on which we live and work. On these lands, Djaara have performed age-old ceremonies of celebration, initiation and renewal. We recognise their resilience through dispossession and it is a testament to their continuing culture and tradition, which is strong and thriving. We also acknowledge the neighbouring Traditional Owners, the Wurundjeri to our South East and the Wadawurrung to our South West and pay our respect to all Aboriginal peoples, their culture, and lore. We acknowledge their living culture and the unique role they play in the life of this region.

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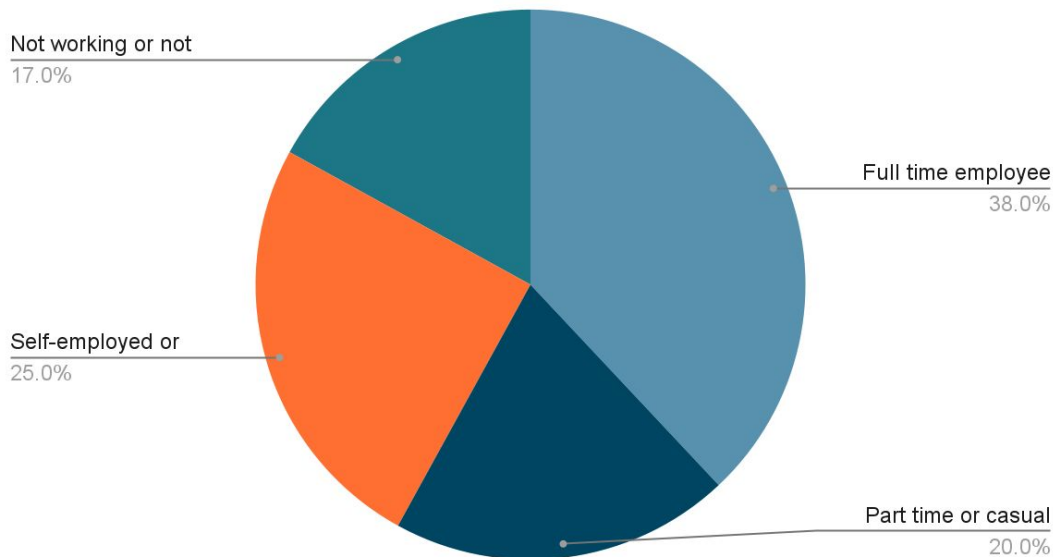
Circular Economy Readiness 'Snapshot' Survey

A Circular Economy Readiness 'Snapshot' Survey was ran over September and October, 2022. The 89 survey participants came from a wide range of employment and sector backgrounds. Below employment status.

Employment status

38% Full time employee
20% Part time or casual employee
25% Self-employed or business owner or part owner.
17% Not working or not currently working (could include stay at home parents or retirees).
0% Receiving a government pension/payment.

Employee status



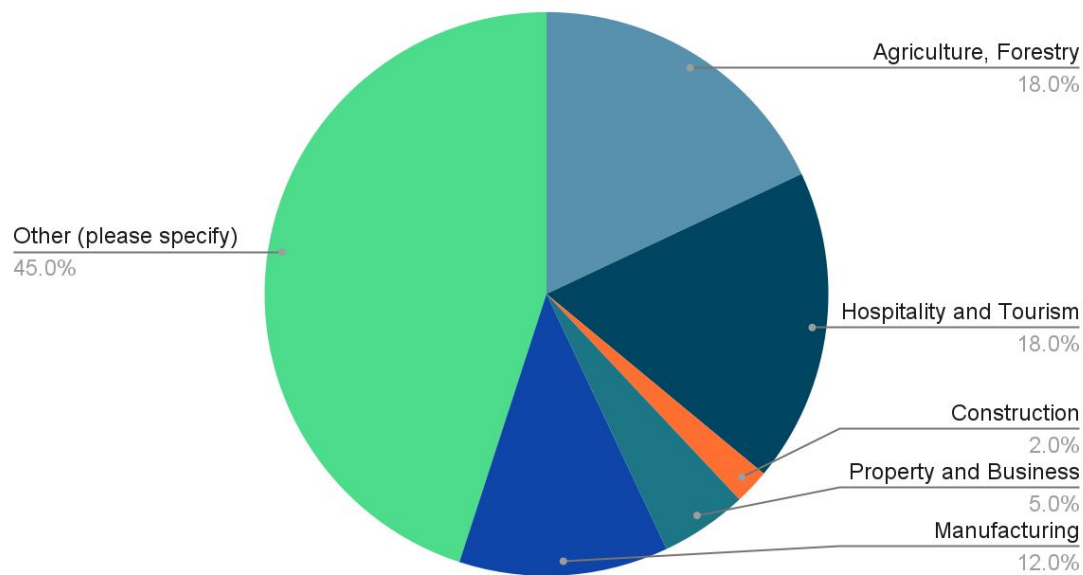
Circular Economy Readiness 'Snapshot' Survey

The 89 survey participants came from a wide range of employment and sector backgrounds. Below sector type.

Participant sector representation

15% Agriculture, Forestry and Fishing
17.5% Hospitality and Tourism
2.5% Construction
5% Property and Business Services
12.5% Manufacturing
42.5% Other (Please specify).

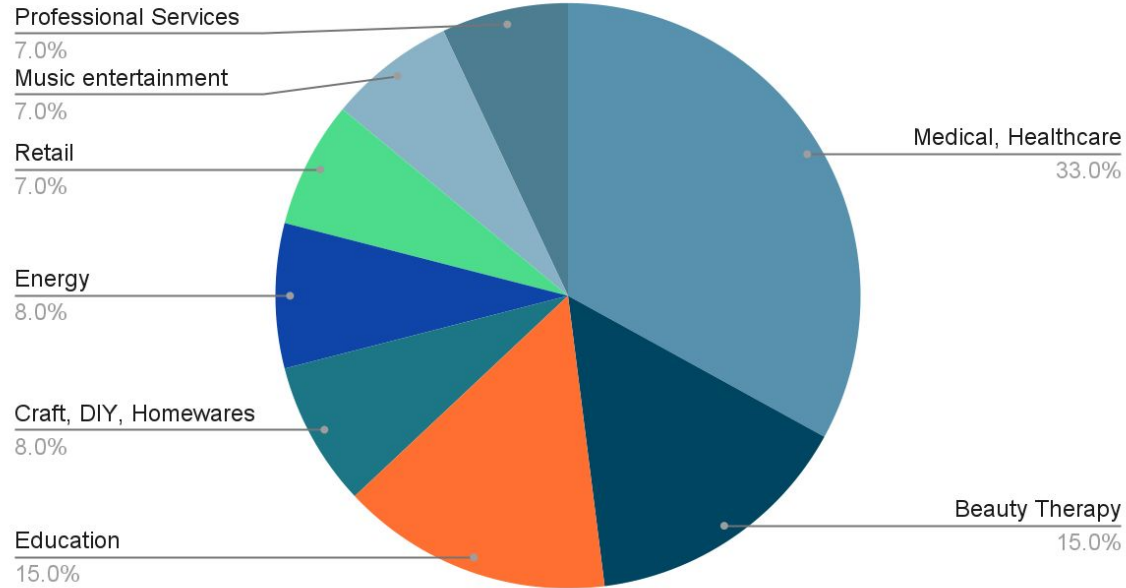
Sector



Circular Economy Readiness 'Snapshot' Survey

Participant professional representation 'Other (please specify)'.

Other (Please specify).

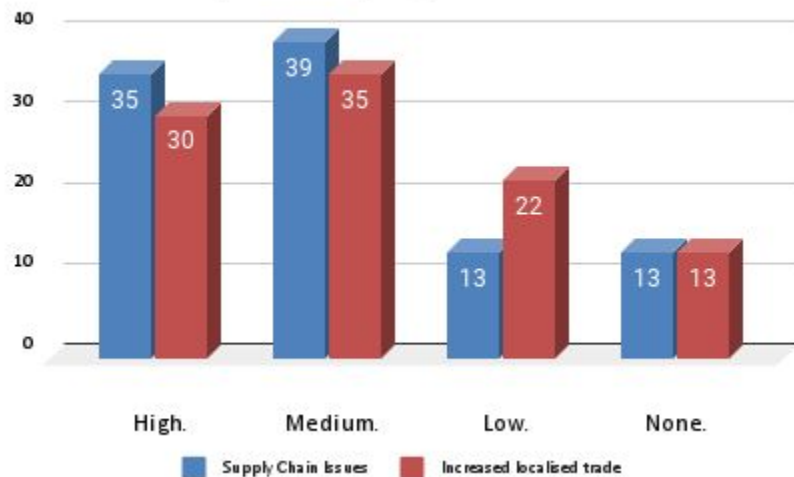


Circular Economy Readiness 'Snapshot' Survey

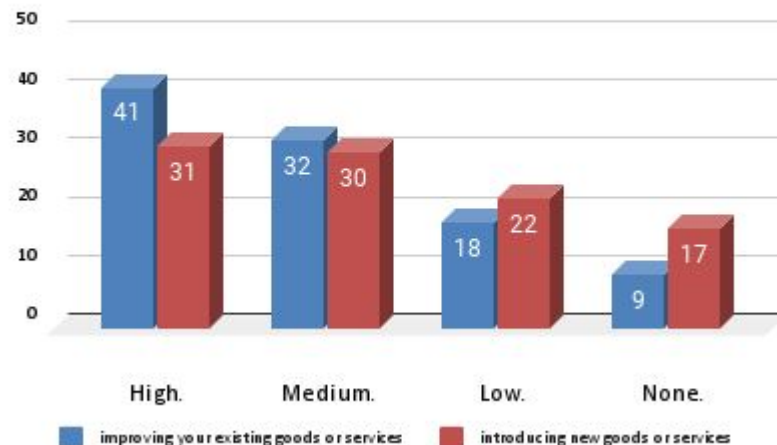
A key aspect of CE readiness involves the capacity to adapt and reroute supply chains and trade mechanisms. The Covid 19 pandemic resulted in disruption to supply chains and increased localised trade - as was illustrated in the survey results below. Local businesses proved that they were also able to improve existing good & services and introduce new goods and services to adapt to the disruption to supply chains and their operating environment. Although a stressful time for many businesses, this unique window in time provided an opportunity for the community to demonstrate a high level of innovation capability.

Community innovation potential = High.

During the three years June 2019 to June 2022, how much did the Covid 19 pandemic impact your business?



During the three years June 2019 to June 2022, how important were the following strategies to the economic performance of your business? To what extent did you focus on:

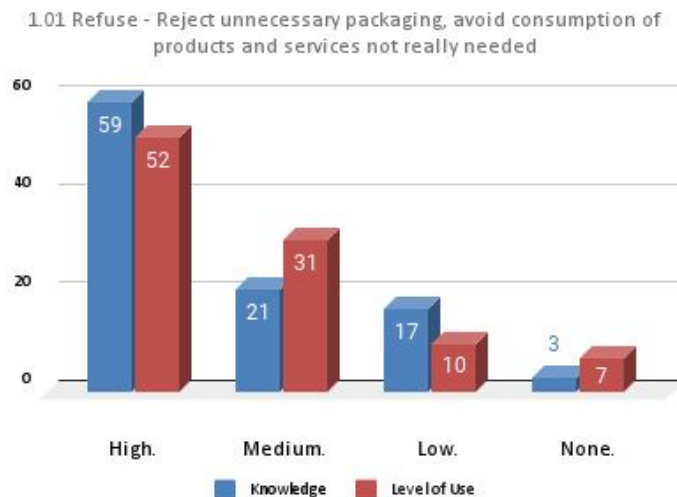


Circular Economy Readiness ‘Snapshot’ Survey

The results of the survey for the Short Loop strategies are depicted in the chart below. Individual Circular Strategy utilisation results are depicted in the Column graphs with Knowledge results in blue and Use results in Red.

Short Loops - Eliminate waste at the design stage.

Short Loops - Eliminate waste at the design stage.			
Strategy	Know	Use	Gap
1.01 Refuse	333	321	-22
1.02 Rethink	304	311	7
1.03 Reduce	332	308	-24

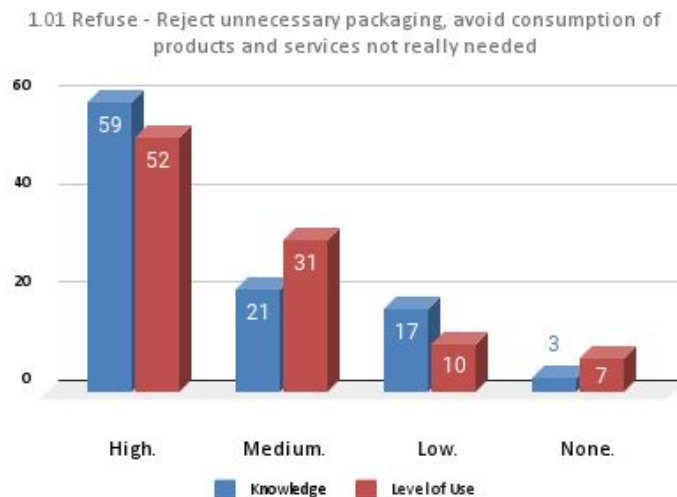


Circular Economy Readiness ‘Snapshot’ Survey

The results of the survey for the Short Loop strategies are depicted in the chart below. Individual Circular Strategy utilisation results are depicted in the Column graphs with Knowledge results in blue and Use results in Red.

Short Loops - Eliminate waste at the design stage = High.

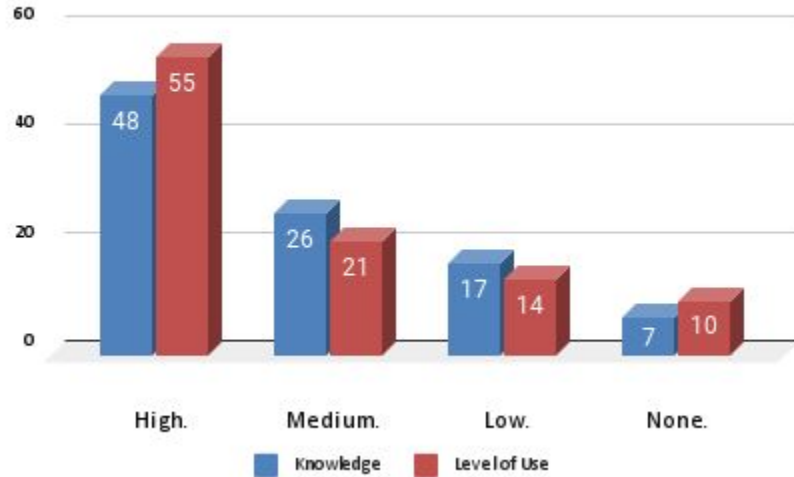
Short Loops - Eliminate waste at the design stage.			
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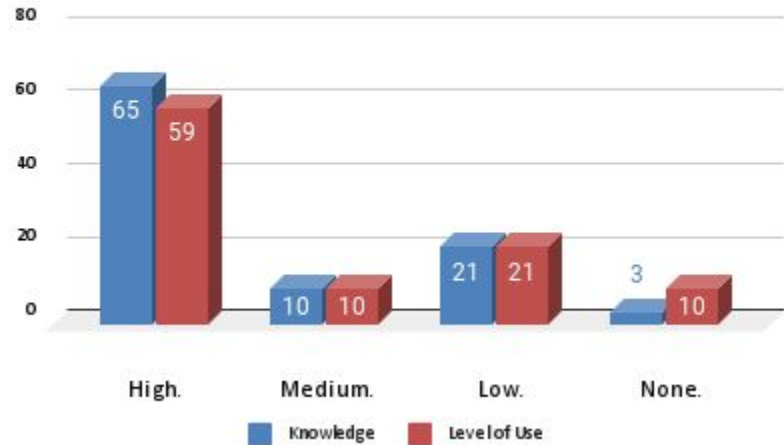
Circular Economy Readiness 'Snapshot' Survey

Short Loops - Eliminate waste at the design stage.

1.02 Rethink - Redesign products and services to improve their longevity, reusability or ability to be repaired



1.03 Reduce - Increase material efficiency when producing an item, questioning whether a material or product is needed and if it could be returned after use



Research - Circular Economy Readiness 'Snapshot' Survey

Medium Loops - Extend the lifespan of materials = High

There was a high level of use of the Medium loop Circular strategies and a small gap between the knowledge of these strategies and their use.

Re-use, Repair, Refurbish and Repurpose are great Circular strategies to employ and expand upon given the large amount of imported goods into the Shire. The 'right to repair' movement, policy development and regulation is increasing globally and products will have to be designed and manufactured to be repairable. Technology like on-demand 3D printing of parts will also accelerate accessibility and speed of repair.

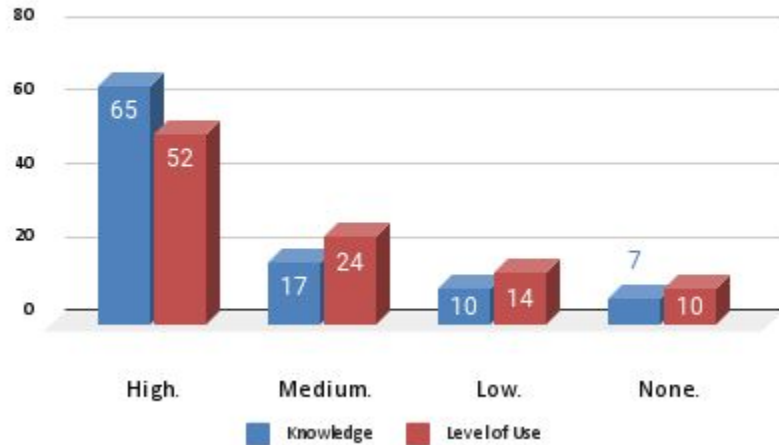
Hepburn Shire is fortunate to have a growing Repair capability. The Repair cafe has a good potential to be expanded and there is a discussion about potentially hosting it at the Transfer station where electric product testing and tagging will take place.

Medium Loops - Extend the lifespan of materials			
Strategy	Know	Use	Gap
1.04 Re-use	331	308	-23
1.05 Repair	334	324	-10
1.06 Refurbish	326	314	-12
1.08 Repurpose	339	305	-34

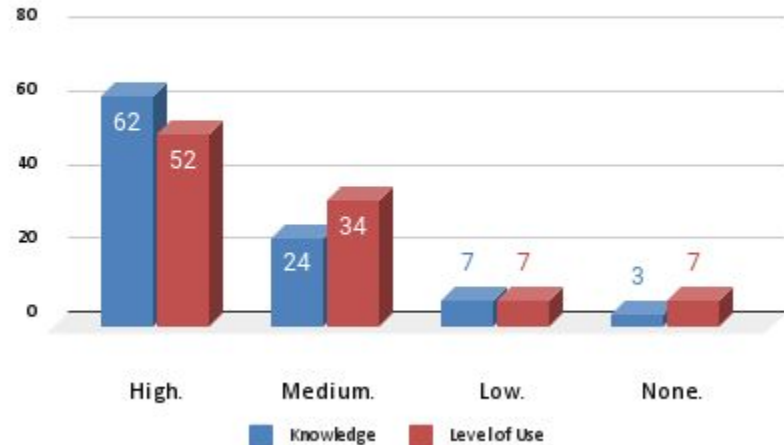
Research - Circular Economy Readiness Survey

Medium Loops - Extend the lifespan of materials.

1.04 Re-use - Often buy second-hand products, reuse packaging, bottles, and bags, or share goods, such as tools, cars, and other products with my community



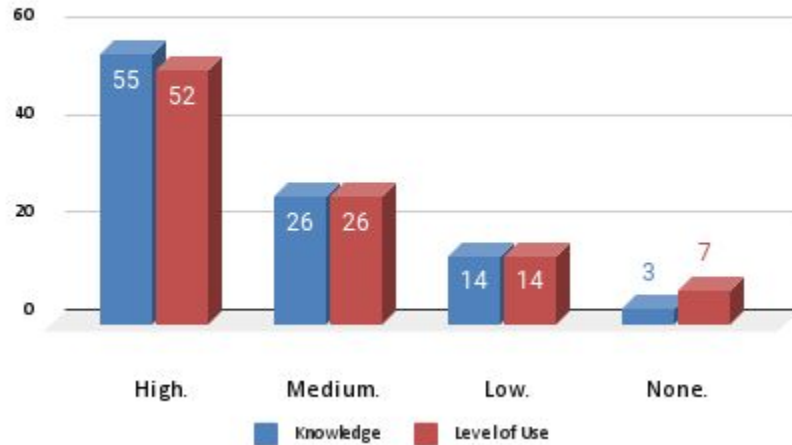
1.05 Repair - Bring items back into working order by repairing them after (minor) defects. This may be through the producer, a qualified repairer, myself, or with the help of a network or "repair café"



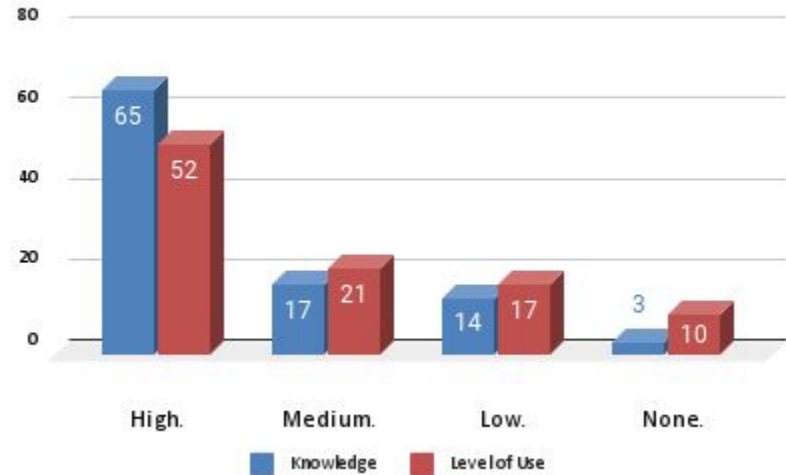
Research - Circular Economy Readiness Survey

Medium Loops - Extend the lifespan of materials.

1.06 Refurbish - Improve and upgrade certain components of a product or building, to enhance its quality, sustainability, and value. Eg reconditioning or retrofitting



1.08 Repurpose - Utilise discarded products or their parts in a new product with a different function



Research - Circular Economy Readiness Survey

Long Loop Circular strategies - Requires inputs to create new value.

Recycle = High. Recover = Low

Whilst the Long Loop Circular strategies like Recycling are common knowledge to many households, in many cases it is not being carried out correctly and there are issues with contamination and 'wish-cycling' which is where objects are placed in recycling bins that cannot be recycled.

Given pressures regarding Covid recovery and staffing issues on Hospitality and Tourism businesses, it was observed that in many instances recyclable waste was co-mingled with landfill type waste and not recycled. Many organics that could be composted or fed into FOGO facilities was also being sent to landfill.

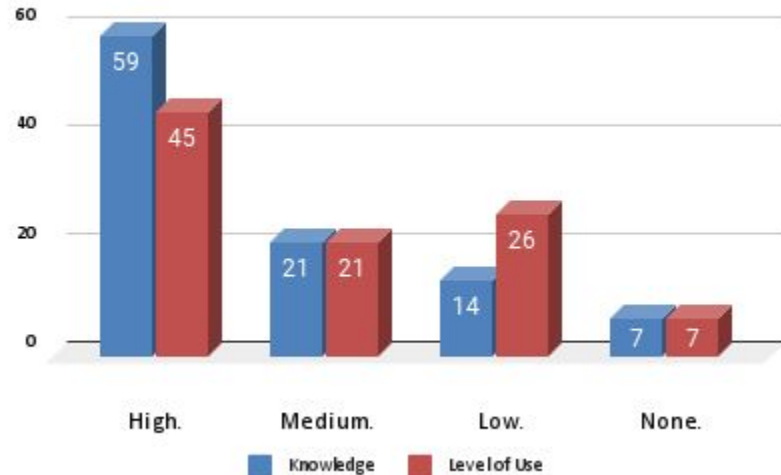
The 'recover' circular strategy was the lowest performing strategy overall. There is a need for education and the provision of infrastructure to better enable resource recovery.

Long Loops - Requires inputs to create new value			
Strategy	Know	Use	Gap
1.09 Recycle	327	295	-32
1.10 Recover	237	172	-65

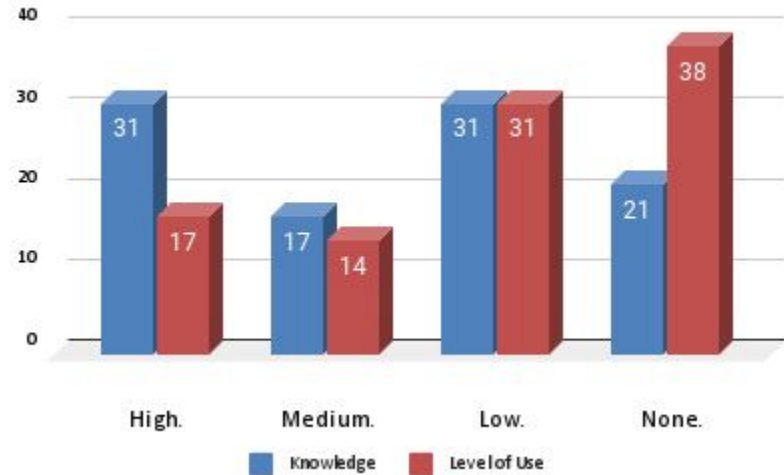
Research - Circular Economy Readiness Survey

Long Loop Circular strategies - Requires inputs to create new value

1.09 Recycle - Process waste products to obtain high grade or lower grade "secondary raw materials". Eg. compost



1.10 Recover - Capture energy embodied in waste through incineration or bio-digestion



Research - Circular Economy Readiness ‘Snapshot’ Survey

Foundation Loop Circular strategies - Activate participation and collaboration in the community. Building economic and bioregional resilience.

Foundation Loop Circular strategies provide the foundation for the circular economy - these are also widely referred to as regenerative economy strategies as they have the potential to place more into a system than extract from it - thus potentially play a restorative role.

A key foundation of a circular economy is Renewable energy. Hepburn Shire is fortunate enough to have Hepburn Energy, a thriving community driven organisation that provides leadership in Renewable Energy generation in the region. Hepburn is also fortunate enough to have a leading Traditional Owner Corporation in Djaara which also provides leadership in Victoria.

Research into the artisan agriculture sector also revealed a thriving regenerative agriculture sector that produces a large variety of produce for the region and also exports to other markets.

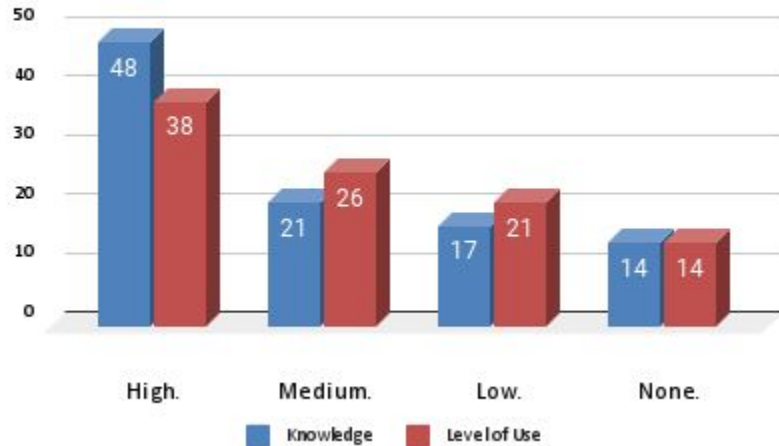
The existence and strength of these foundation strategies provides a solid platform for a circular economy to thrive in Hepburn Shire. The table on the right depicts the knowledge and use of these strategies.

Strategy	Know	Use	Gap
1.11 Regenerate	297	248	-49
1.12 Relocalise	289	272	-17
1.13 Reconnect	334	290	-44
1.14 Renewable	361	346	-15
1.15 Recognition	338	295	-43

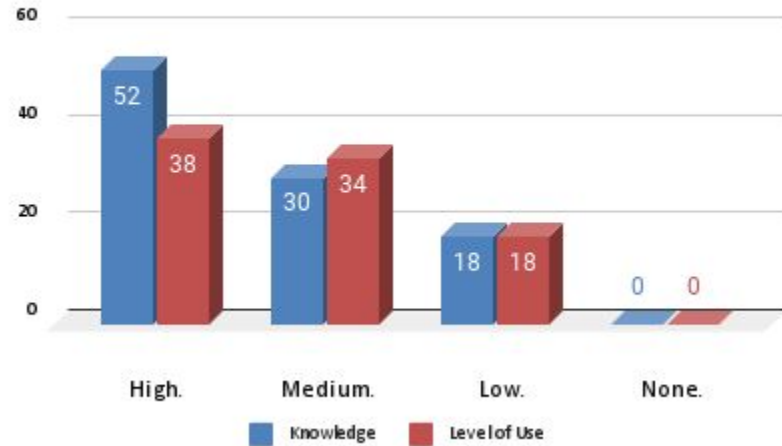
Research - Circular Economy Readiness 'Snapshot' Survey

Foundation Loop Circular strategies - Activate participation and collaboration in the community. Building economic and bioregional resilience.

1.12 Relocalise - Work to "re-localise" industrial and agricultural production processes, through wholesale purchasing of locally produced sustainable raw materials



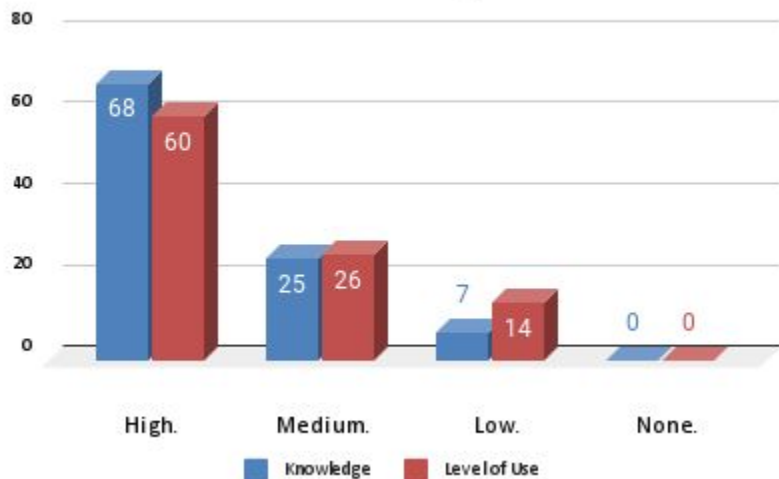
1.13 Reconnect - Connect with community values such as sharing, altruism, cooperation, local trade and supply chains, as well as to natural cycles. Eg. seasonal produce or activities



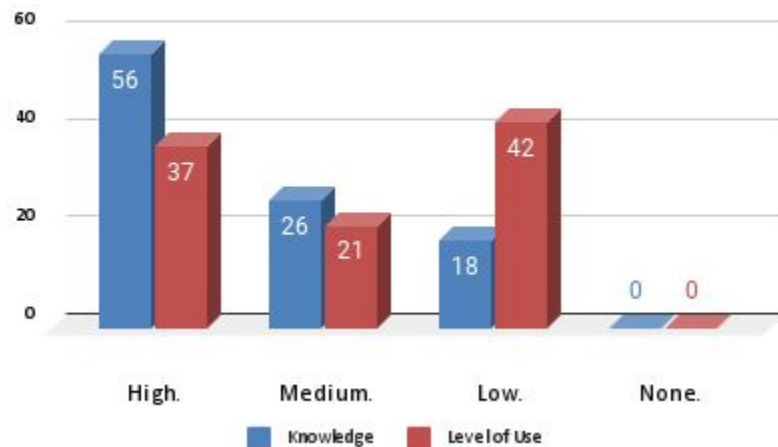
Research - Circular Economy Readiness 'Snapshot' Survey

Foundation Loop Circular strategies - Activate participation and collaboration in the community. Building economic and bioregional resilience.

1.14 Renewable energy - Utilise wind, solar or other sources of renewable energy?



1.15 Recognition/ Reconciliation - I recognise, support and respect Traditional Owner rights, their knowledge of Country and culture. I seek to embed Traditional Owners into decision making structures relating to climate change, sustainability



CE Readiness ‘Snapshot’

Survey - Ranking

The survey results were categorised into 3 sections. Knowledge of Circular Strategies. Use of Circular strategies and the Gap between Knowledge of a strategy and the use the strategy.

The Circular strategies participants had the most knowledge about were: Repurpose and Repair. The knowledge of the Regenerative foundation strategies ‘Renewable and Recognition’ also ranked highly. Given the proactive work of Hepburn Energy in the community it is not surprising that there was a high level of awareness and use of Renewable energy. Renewable energy is the foundation of any Circular Economy.

The most used Circular strategies were; Repair, Refuse, Refurbish and Rethink. Again Repair and Refurbish from the medium loops ranked highly which is encouraging. The Short loop circular strategies of Refuse and Rethink ranked highly which is excellent as they have the most impact. Rethink is about considering how resources are recyclable at the design stage, before a product or Product Service System (PSS) is developed.

Knowledge of strategy		Use of Strategy		Gap	
Renewable	361	Renewable	346	Recover	65
Repurpose	339	Repair	324	Regenerate	49
Recognition	338	Refuse	321	Reconnect	44
Repair	334	Refurbish	314	Recognition	43
Reconnect	334	Rethink	311	Repurpose	34
Refuse	333	Re-use	308	Recycle	32
Reduce	332	Reduce	308	Reduce	24
Re-use	331	Repurpose	305	Re-use	23
Recycle	327	Recognition	295	Refuse	22
Refurbish	326	Recycle	295	Relocalise	17
Rethink	304	Reconnect	290	Renewable	15
Regenerate	297	Relocalise	272	Refurbish	12
Relocalise	289	Regenerate	248	Repair	10
Recover	237	Recover	172	Rethink	-7

CE Readiness ‘Snapshot’ Survey - Gap analysis

The gap between knowledge of a strategy and the use of a strategy is a good indicator of potential or ‘readiness’. A large gap indicates a good level of knowledge but a lacking of motivation or infrastructure to deliver it. To activate a circular economy we now need to understand how to increase motivation, change mindset, provide incentives and infrastructure to enable those circular strategies to be activated.

The largest gap was Recover - this was the least understood and least used strategy.

The smallest gap was Repair which indicates those who know how to do this are often doing it. It could mean that people interested in repairing goods seek the knowledge they require to complete the task.

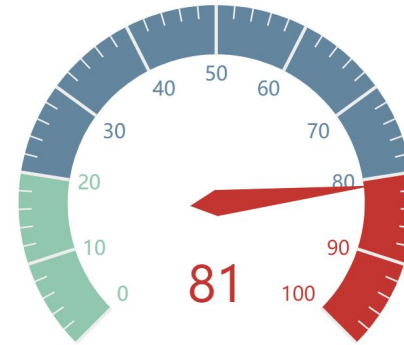
The exception to the Gap analysis was the Rethink strategy which where it was used more than understood - this illustrates that more knowledge and education is required on how to design out waste, this input is required at the early stage of product development and this is an interesting opportunity for local producers.

Knowledge of strategy		Use of Strategy		Gap	
Renewable	361	Renewable	346	Recover	65
Repurpose	339	Repair	324	Regenerate	49
Recognition	338	Refuse	321	Reconnect	44
Repair	334	Refurbish	314	Recognition	43
Reconnect	334	Rethink	311	Repurpose	34
Refuse	333	Re-use	308	Recycle	32
Reduce	332	Reduce	308	Reduce	24
Re-use	331	Repurpose	305	Re-use	23
Recycle	327	Recognition	295	Refuse	22
Refurbish	326	Recycle	295	Relocalise	17
Rethink	304	Reconnect	290	Renewable	15
Regenerate	297	Relocalise	272	Refurbish	12
Relocalise	289	Regenerate	248	Repair	10
Recover	237	Recover	172	Rethink	-7

CE Readiness Snapshot Survey - Score

Whilst limited in scope, the combined research and survey results demonstrate a high level Circular Economy readiness across the Circular Strategies with an average score of 81% - the highest concentration of current potential 'readiness' being in the Medium loops, **Re-use, Repair, Refurbish and Repurpose**.

Whilst climate change and increasing risks to business, (finite resources and further disruption to supply chains), should provide incentive enough to adopt circular strategies. The challenge now is to demonstrate the value proposition of the circular economy to the wider community and to determine what infrastructure and enablers are required to activate the circular economy across all sectors.



*This report acknowledges a potential bias towards a positive score due to those who participated in the research may already have interest in or developed knowledge of sustainability and circular economy principles.