

Collaborate to Thrive

City of Casey

Strategic
Opportunities
Paper

Acknowledgements

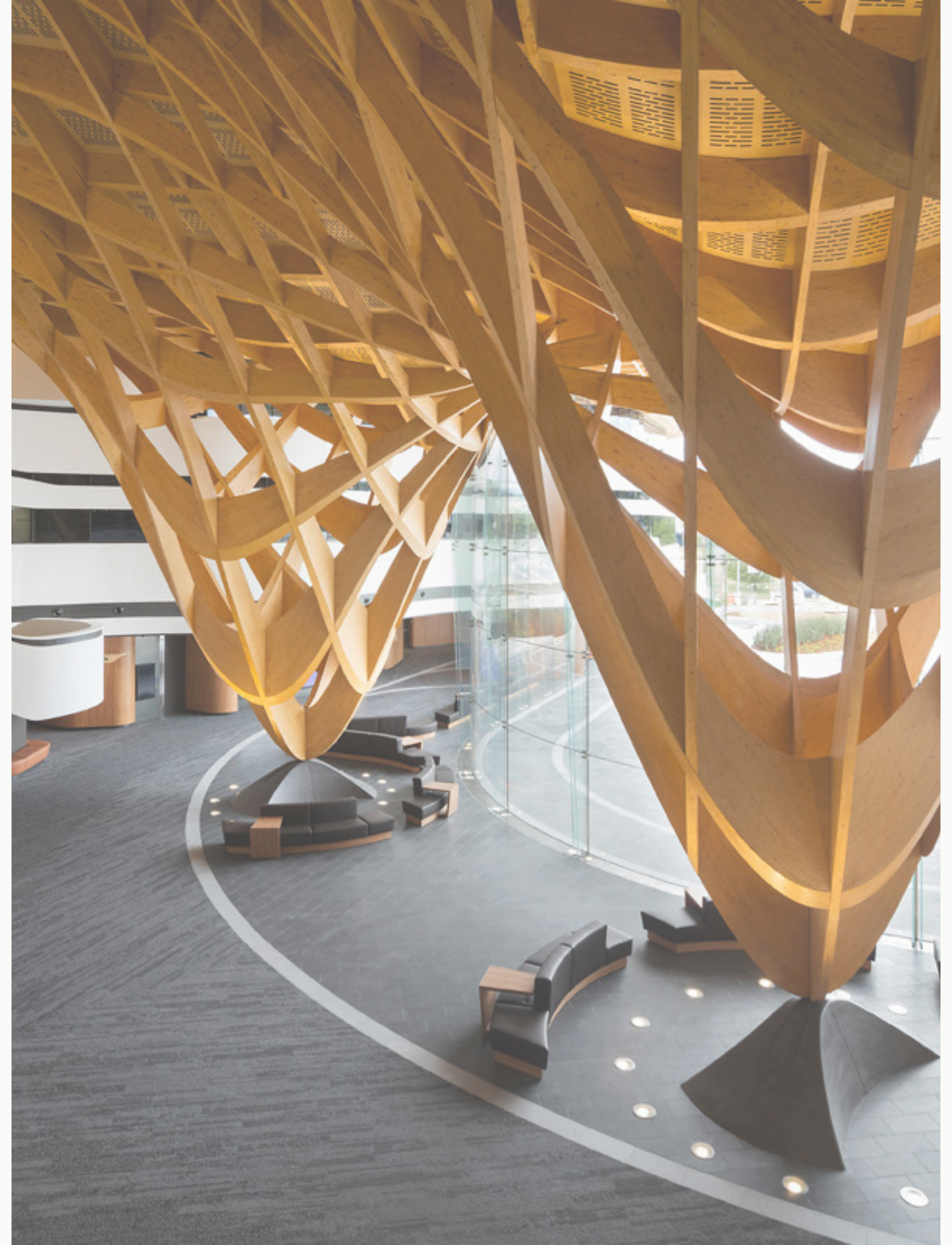
This report was compiled by Circular Economy Victoria (CEV) as part of the Victorian Circular Activator in partnership with the City of Casey. This program is supported by the Victorian Government's Recycling Victoria Innovation Fund as part of the Circular Economy Business Innovation Centre (CEBIC).

Circular Economy Victoria acknowledges the living connections of the Bunurong Boon Wurrung and Wurundjeri Woi Wurrung peoples to the lands and waters of the Eastern Kulin Nation. We pay our respect to their Elders past, present and emerging.

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Executive Summary

As one of Australia's most diverse and fast growing communities, the City of Casey has a need to understand how the circular economy can support sustainable growth. The City of Casey is in a very strong position to deliver strong circular economy outcomes for its community, as well as serve as a leader in Melbourne South East's transition towards a more circular economy. Casey has a strong culture of innovation that is supported by an outcomes based work ethic and supportive management. Councils Integrated Strategic Planning Framework provides a strong holistic foundation for a local circular economy ecosystem to thrive.

Becoming a circular city aligns with Casey's vision of becoming a more connected, bold and resilient. city. The circular economy principles offers both environmental benefits through the **elimination** of waste and pollution and the **regeneration** of natural systems, as well as significant economic benefits obtained through the retained **circulation** of products and materials within the economy for longer. KPMG identified a \$26 billion dollar opportunity and job creation for Australia through the circular economy.

Collaborate to Thrive is a social innovation program designed to help catalyse the conditions needed for a local circular innovation ecosystem to thrive. The program delivers a selection of engagements in close collaboration with a Local Government Area (LGA) and local industry and community partners. The program works to catalyse new circular economy initiatives and compound the impact of existing initiatives, in order to strengthen and support the local transition towards a more circular economy.

The City of Casey worked with Circular Economy Victoria to create a strategic opportunities paper through the Collaborate to Thrive program. With strong engagement across a range of sectors and community groups, a set of recommendations were developed to support the continued collaborative exploration of circular initiatives within the City. Further, mapping of strategies within Casey uncovered strong alignment in the Economy Development, Infrastructure, and Environment Domain Strategies. Circular economy is also a key objective in the Smart Casey Launchpad which has provided a cross departmental platform for the circular economy to be practically explored by both internal team members and external partners.

These strategic documents have a range of threads that weave together a circular economy roadmap for the City of Casey. The purpose of this report is to identify the key opportunities and to develop a pathway for Casey to activate key opportunities in the circular economy space. It explores applications of circular economy principles through pathways and partnerships to ensure positive social, environmental and economic outcomes in Casey and beyond.

CE Principles



ELIMINATE
Waste & Pollution



CIRCULATE
Products & Materials
(at their highest value)



REGENERATE
Natural Systems

CE Pathways



Deliver CE Innovation Projects



Build CE Networks



Develop a CE Framework



Activate CE Spaces

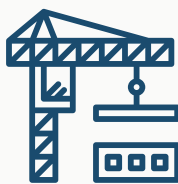


Create CE Tools & Resources

CE Partners



Government



Industry



Non-Profits & Academia



Community Members

Background

The Case For Change

Cities, being the centres of human activity, are in a prime position to capitalise on the transition towards a circular economy. The circular economy principles provide a practical framework for cities to trial and validate systemic innovations to address complex problems. It aims to find solutions at the intersection of societal needs, economic growth, and environmental regeneration imperatives such as primary resource shortages, food security, water scarcity, biodiversity loss, energy transitions and greenhouse gas emissions.

As one of the fastest-growing and diverse communities in Australia, The City of Casey recognises the need for circularity across the city. The City of Casey has a population of 380,531 residents (2021), and prior to the COVID-19 pandemic, this was forecast to grow to approximately 550,000 residents by 2041. The Casey region covers an area of 400 square kilometres which includes culturally and environmentally significant land, as well as resident, farming, industrial, and commercial land.

Casey's vision is to become a more connected, bold and resilient community. In 2020, during the Shape your City engagement program, The City of Casey surveyed over 6,600 residents and collaborated with local community groups to understand emerging economic, social and environmental challenges. The engagement outcomes informed the Council Plan 2021-2025, a strategic document with clear objectives for sustainable economic development, social innovation and environmental restoration. Supporting this document are 4 Domain Strategies which highlight the areas of Economic Development, Infrastructure, Health and Wellbeing, and Environment that will accelerate actions towards Council's vision.

Recognising the importance of innovation, collaboration and sustainability to meet these long-term strategic goals, Casey's council strengthened its approach with the Smart Casey Launchpad, a strategic program for community members, partners and businesses to drive collaborative innovation to solve long-standing challenges. The importance of Circular Economy in Casey's pathway to becoming a Smart City was identified both by the council and the community as a way to ensure sustainable growth and provide new economic opportunities,

Activating the Circular Economy in Victoria

The Victorian Circular Activator (VCA) was established through funding from the Recycling Victoria Innovation Fund as part of the Circular Economy Business Innovation Centre (CEBIC). This physical innovation hub aims to help activate the transition towards a more circular economy through a combination of applied research, activation programs, and annual circular economy innovation showcases.

The VCA is a collaboration between RMIT University, RMIT Activator, Circular Economy Victoria, Swinburne University, the Australian Circular Economy Hub, and CEBIC. The first two years of the collaboration will see the VCA deliver a suite of innovative initiatives that work to strengthen the foundation of the circular economy innovation ecosystem within Victoria.

The City of Casey's Collaborate to Thrive program is the first of seven activation programs that will be delivered between July 2021 and June 2023.



Introduction

Circular Economy (CE)

The circular economy is a systems solution framework that tackles global challenges like climate change, biodiversity loss, waste, and pollution. It aims to transform the current linear economic model of take, make, and waste into a circular economic model where systems are designed to:

- eliminate waste and pollution
- circulate products and materials within the economy at their highest value and utility for as long as possible
- regenerate nature at end-of-life

In short, the circular economy provides a regenerative model for us to meet societal needs within planetary boundaries.

The Ellen MacArthur Foundation put forward the following three key principles that are driven by design and are what underpin the transition towards a more circular economy:



ELIMINATE
Waste & Pollution



CIRCULATE
Products & Materials
(at their highest value)



REGENERATE
Natural Systems

Recycling Victoria: A New Economy

The Victorian Government made a commitment to accelerate the transition towards a more circular economy, by fundamentally overhauling the recycling system. Published in 2021, Recycling Victoria: A new economy is a sweeping plan of reform to establish a recycling system that Victorians can rely on. It aims to transform how the economy uses materials and how our state reuses, repairs and recycles.

Recycling Victoria puts forward four goals spanning the life cycle of materials (make, use, recycle and manage). Each goal is designed to maximise value and minimise waste.

- GOAL #1**

Design to last, repair and recycle.

Generate less waste in businesses through innovation and design; use recycled materials in products and consider impacts across product life cycles; and support business to explore new circular economy business models.
- GOAL #2**

Use products to create more value.

Help people make smart purchasing decisions and extend the life of products and support the reuse economy, repair goods where possible.
- GOAL #3**

Recycle more resources.

Reform kerbside collections to generate more value from waste; improve the separation of recyclable materials; develop markets for recovered materials; plan for and boost investment in recycling infrastructure; embed the waste hierarchy in the management of materials; support the development of appropriate waste to energy facilities.
- GOAL #4**

Reduce harm from waste and pollution.

Protect communities and the environment from high-risk and hazardous wastes.

This work provides the mandate and structure that will support the creation and adoption of circular solutions in all aspects of our economy. This project is an example of the action that is resulting from this work.

Circular Economy in Numbers

A Victorian Circular Economy

Estimates from Recycling Victoria and the National Waste Action Plan



Environment

-80%

Waste sent to landfill



Economy

\$6.7 Billion

Dollars generated by improving material efficiency and recycling



Employment

3,900

Jobs to be generated by 2030 around waste valorisation



Energy

20-27%

Reduction in GHG emissions and energy use

An Australian Circular Model

\$1,860 billion

Direct economic benefit in 20 years

-165 mm tonnes

CO2 per year by 2040

Source: PwC

A Global Circular Model

\$1.4 trillion

Global material cost savings per year by 2025

\$4.5 trillion

Global economic benefits to 2030

Source: KPMG

Collaborate to Thrive

Program Overview

Collaborate to Thrive is a social innovation program designed to help catalyse the conditions needed for a local circular innovation ecosystem to thrive. The program delivers a selection of engagements in close collaboration with a Local Government Area (LGA). Engagements are selected and scoped together with the LGA to ensure that the program is building on ongoing work and compounding existing impact, in order to strengthen and support the local transition towards a more circular economy.

The program takes a systemic approach to catalysing a local circular ecosystem by working through four integrated phases:

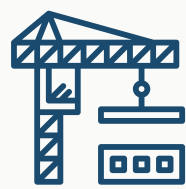
- #1 System Phase
- #2 Awareness Phase
- #3 Education Phase
- #4 Innovation Phase

The program engages four broad stakeholder categories across the integrated program phases, working to understand, map, and strengthen local collaborative ecosystems, thus increasing the potential to activate circular economy initiatives within the local economy.

The four broad stakeholder groups are:



Government



Industry



Non-Profits &
Academia



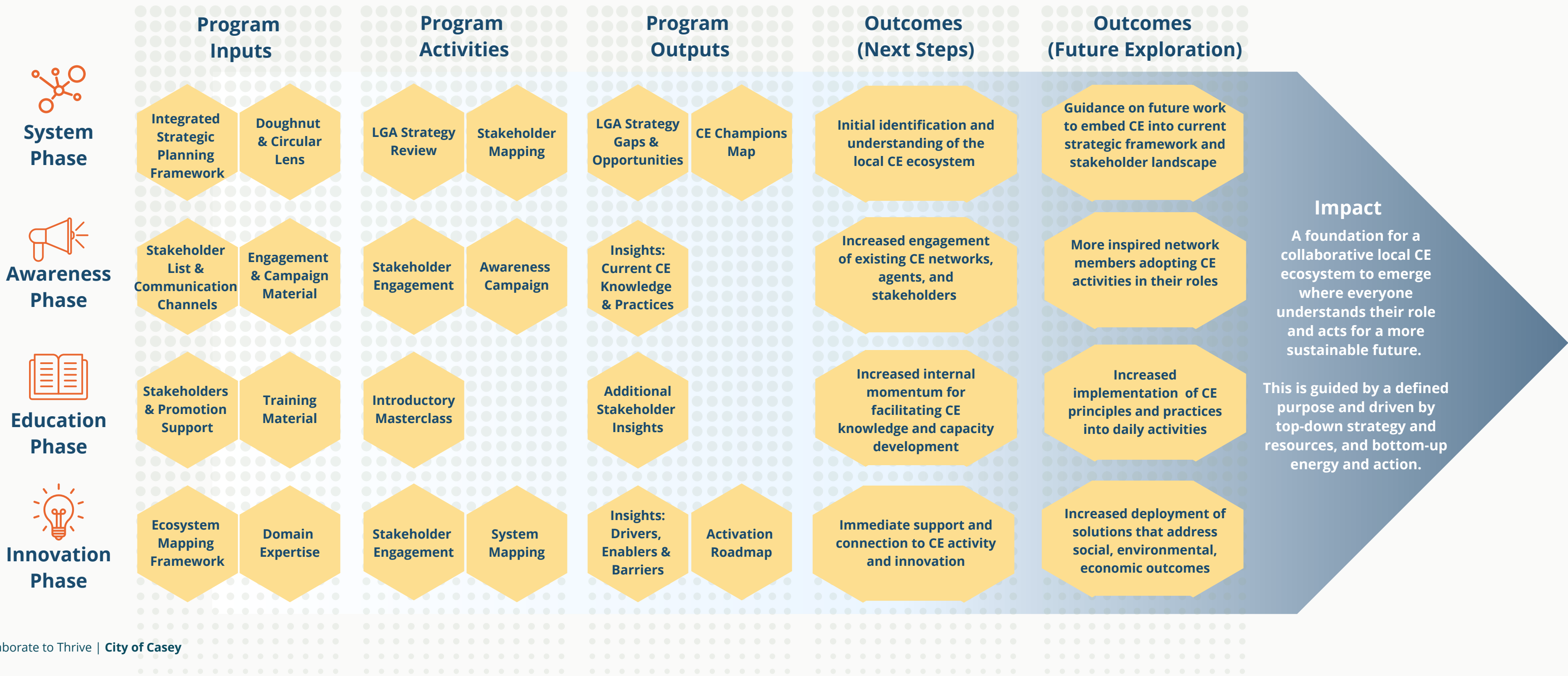
Community
Members



Theory of Change

A Theory of Change is a powerful tool for solving complex problems, as it provides a structure to help bridge the gap between the current state of a system (City of Casey and its predominantly linear economy) and an ideal future condition to achieve (a broad adoption of circular economy by all actors in Casey). By identifying how a program can help achieve the desired outcome, a theory of change supports the development of a pathway, defining how a program is supposed to work (modules and activities), who has to be involved and who will benefit (stakeholders), what are the timeline and the conditions needed to succeed.

Following this process, a theory of change was developed for Collaborate to Thrive. It is important to note that the objectives set by the program are reached through the combination of activities that cross Awareness, Education, Innovation and System levels to promote an all-encompassing process of social, economical and technical change.

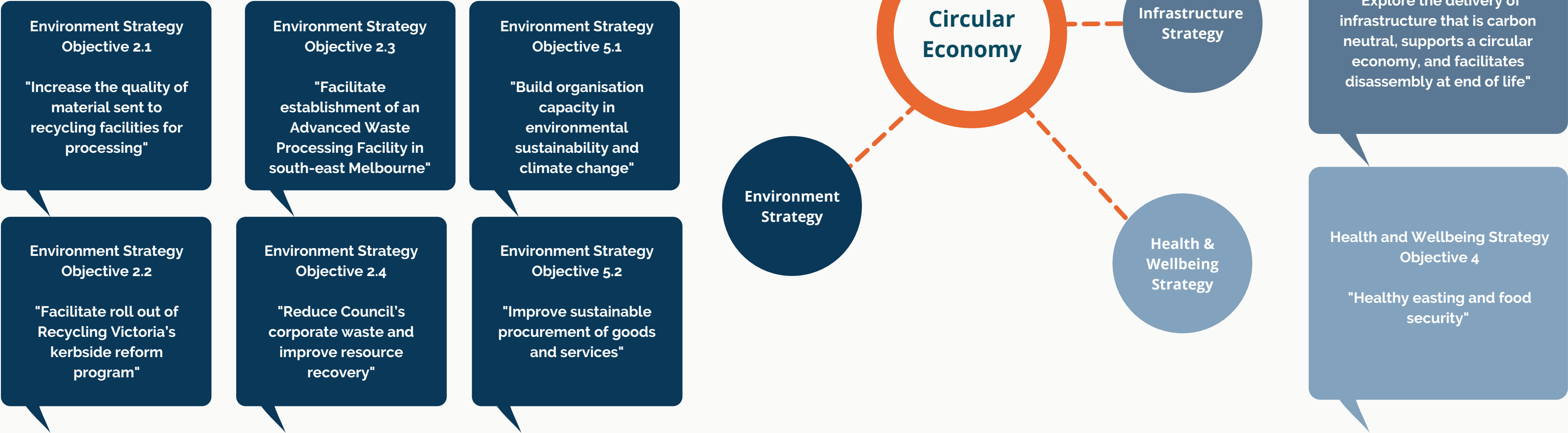


Circular Economy Strategic Alignment

The City of Casey makes direct reference to circular economy in three of their domain strategies and indirect reference in one of them. The Environment Strategy addresses the transition holistically from waste management, environmental restoration, and climate change perspective. Objectives focused on circular economy innovation are supported in the Economic Development Strategy and in the Infrastructure Strategy, particularly in the domain of sustainable infrastructure development. Although not directly referenced, the Health and Wellbeing Strategy does acknowledge the importance of sustainability in the context of food security.

Overall, the Collaborate to Thrive program found that the City of Casey has embedded circular economy into its Integrated Strategic Planning Framework, providing a long-term strategic direction to accelerate the local transition towards a more circular economy. A few gaps that should be considered in forthcoming iterations of these strategies include:

- The relationship between nature and health and wellbeing
- The economic opportunity in material already circulating within the local economy
- The social-economical-environmental tradeoffs associated with a growth corridor council
- Green field opportunities in sustainable urban planning



Engagement Overview

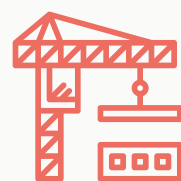


Council Engagement



"There's a need for granular reporting around delivery and maintenance of buildings, improvement around analysing current practices and trials to identify and reinforce innovation."

"The Circular Economy industry is in its infancy, so inevitably there are "start-up" costs not taking advantage of scale, but Council has opportunity to help drive scale."



Industry Engagement



"We need reports that inform government, so we can turn innovation into standards through progressive research and innovations documented in guidelines."

"We try to create locally functional communities. Coming out of a pandemic people will likely live more locally, so we hope this will contribute positively to create an inclusive suburban model."



Community Engagement



"There's a need for hope, for circularity champions that lead by example, as well as a clear pathway to help overcome the fear of change."

"Circular economy innovation has a long incubation process and requires entrepreneurs to adopt along-term mindset. We need to give sense of empowerment to innovators, though ensuring they are aware that adoption takes time."

See Appendix, Page 21-24 for detailed engagement insights



Council Engagement

The City of Casey has a forward-thinking internal team that is dedicated to creating positive outcomes for both the people and natural environment of Casey. The engagement showed a strong willingness to explore circular economy opportunities both from a social perspective in terms of drivers, enablers, and barriers, as well as a technical perspective in terms of knowledge, tools, and resources. Internal teams also showed a well-established collaboration structure, however the pressure to deliver and a slow rate of interdepartmental knowledge sharing were identified as key limiting factors to realising the full potential of these structures.

The below outcomes were derived from insights drawn from the internal focus groups, masterclasses, and internal working group meetings.



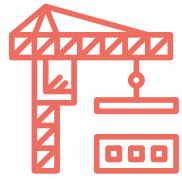
See Appendix, Page 21-22 for detailed engagement insights

Key Enablers



What is a Living Lab?

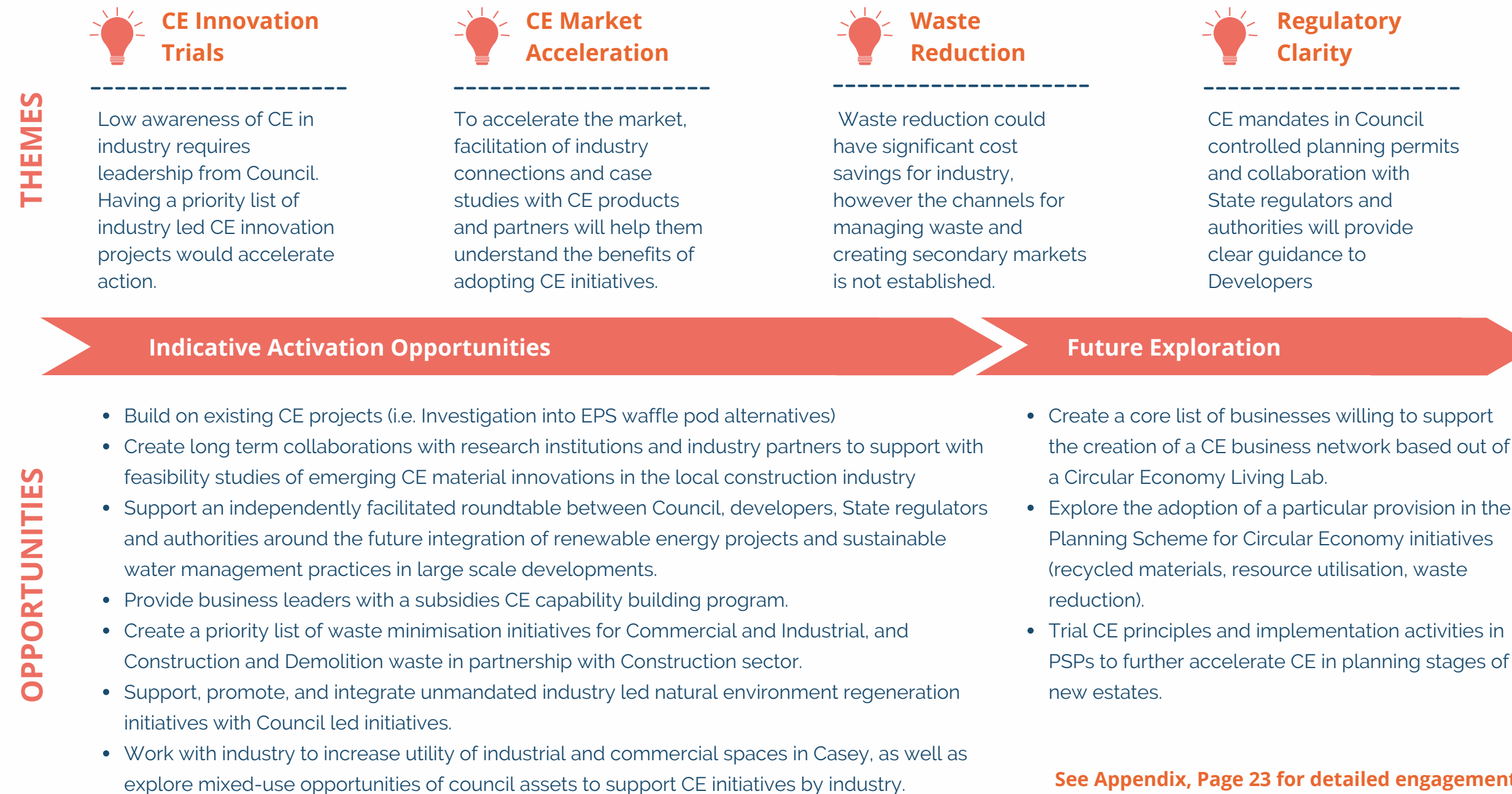
A physical space to test and trial new concepts, that enables community, Council, and businesses to understand benefits and risks in a controlled environment before scaling up.



Construction Industry Engagement

Developers that took part in the Collaborate to Thrive program showed a keen interest in exploring the potential benefits of a circular economy within their operations, as well as within the broader Casey community. Participants recognised the long-term impact their work has on shaping the future of the municipality, and because of this they demonstrated a strong sense of pride in the legacy of their work, especially in connection with civil works infrastructure that was passed on to Council or State management. Downstream supply chain partners within the construction industry were less willing to engage due to project time pressures and a shorter time horizon. Based on the engagement it is understood that top-down regulation and planning permit mandates can play a significant role in accelerating CE outcomes within Casey's built environment.

The below outcomes were derived from insights drawn from the developer and supply chain partner interviews.



See Appendix, Page 23 for detailed engagement insights

Key Enablers

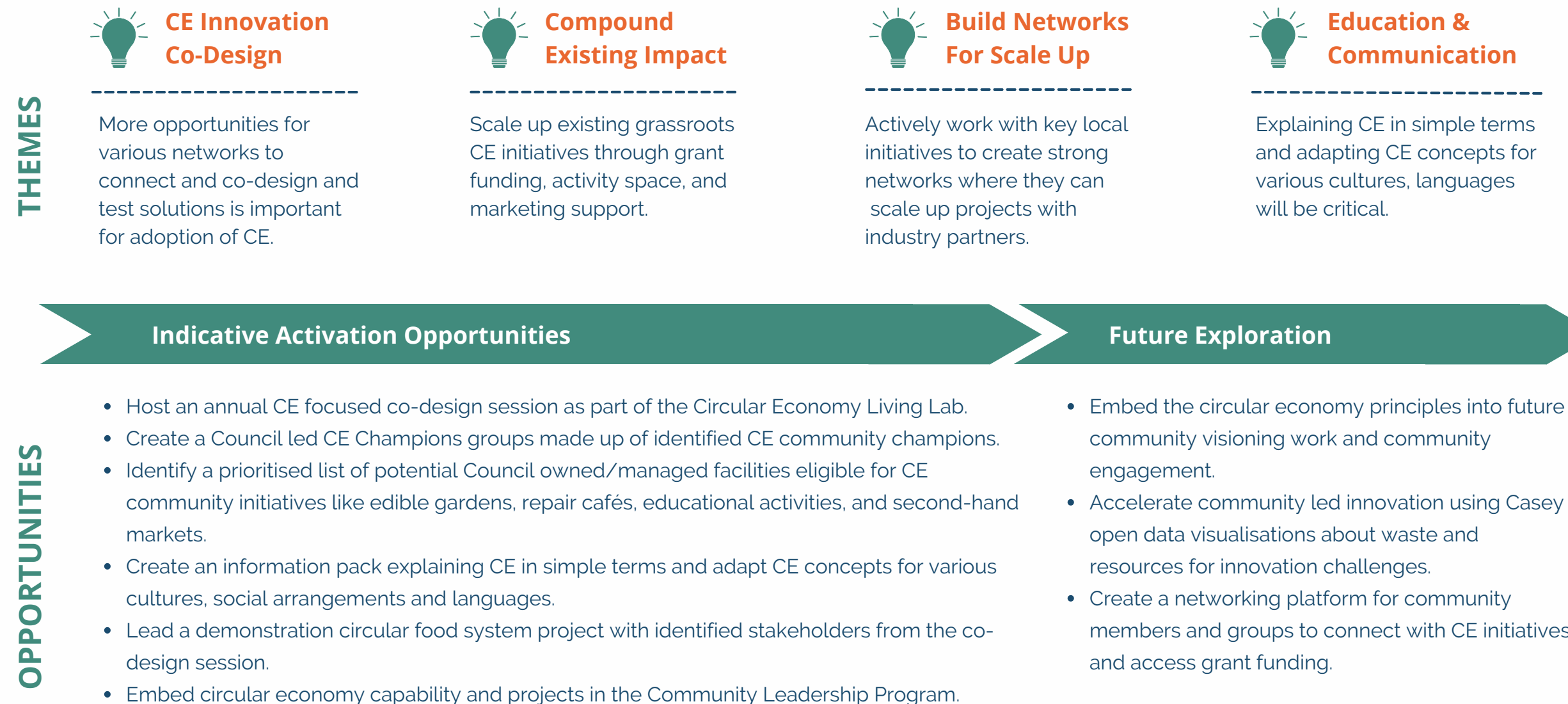




Community Engagement

The City of Casey has an engaged and motivated community that are eager to help create a sustainable city for current and future generations. The community engagement activities of the Collaborate to Thrive program have uncovered a growing network of community-led CE initiatives, as well as a raft of creative solutions that could be embraced by Council to support new grass root activations. The engagement also highlighted a fear or ongoing disconnect between top-down and bottom-up action, with specific reference to the differing values of industry verse that of the community. As Casey grows and develops into a thriving new city within the Greater Melbourne Metropolitan Area, Council has the opportunity to take a systemic approach to build a resilient local network of citizen-led action that will provide the support for ambitious long term sustainability objectives.

The below outcomes were derived from insights drawn from the community co-design session and stakeholder mapping exercise.



See Appendix, Page 24 for detailed engagement insights



Activation Roadmap - Journey to Circularity

Building on the stakeholder engagement and strong strategic foundation provided Council's strategies, as well as the activation platform provided through the Smart Casey Launchpad, a set of pathways are recommended to continue to activate the City of Casey in the CE space. Over the next 3 years, a roadmap with CE activation pathways is recommended to continue to accelerate the local transition towards a more circular economy from a inclusive systemic perspective.

This roadmap is intended to promote immediate action and guide further exploration into a formal roadmap that will support Casey's long term transition towards a more circular economy.

Casey CE Pathways



Deliver CE Innovation Projects

Develop and deliver a pipeline of innovation projects through Casey's Innovation Program or as part of the Victorian Circular Activator Innovation Programs.



Build CE Networks

Formalise and support three working groups to continue to foster constructive dialogue and bottom-up innovation focused on the CE.

- 1. Internal Council working group
- 2. Industry led CE business network
- 3. Community led CE champions group



Develop a CE Framework

Deliver a CE Framework to support a long term goal of transition to a more CE and empower innovations developed through the CE Living Lab and CE Working Groups to scale.

Engage external CE professionals support to assist with systems thinking, technical assessments and inclusive engagement.



Activate CE Spaces

Drive continuous CE innovation and validation through the Smart Casey Launchpad by establishing a Circular Economy Living Lab at an existing community hub within the next 6 to 12 months



Create Tools and Resources

Through the CE Working Groups, develop a set of practical guidelines, tools, and learning resources to support ever-day decision making towards a more CE in Council, business, and community activities.

The CE Living Lab can be used to help validate tools and resources.

Next Steps

01 Sign Off

- Align opportunities to business plan actions
- Gain endorsement from Steering Committee

02 Continue Scoping

- Conduct workshops with key stakeholders on the opportunities
- Start developing the Circular Innovation Living Lab
- Start planning the OCF Activations and apply for grants





Appendix

Detailed Engagement Activities



Council Engagement activities

Focus Groups

To better understand the barriers, enablers and drivers to a circular economy in Casey built environment it was essential to understand the council perspective, as the construction sector is a heavily regulated industry requiring alignment between innovative businesses and regulatory bodies. Three focus groups were carried out with Council employees, creating teams from different departments to gather a diversity of perspectives in each session.

Emerging Themes

Procurement

- Need for a clear, shared internal direction, and better standards (guidelines, sustainable outcomes in contracts)
- CE procurement database with market-ready materials
- Less material to landfill through improved procurement, resulting in reduced costs downstream

Planning

- Need to analyse whole life of assets and costs associated with CE changes
- Opportunity to implement CE in planning via Capital Works Policy (next review in 2023) and incorporate Environmental, Social and Governance (ESG) criteria in planning schemes

Maintenance

- A high risk is seen in incorporating new products, and there's an inability to enforce use of specific materials upon contractors
- Opportunity to use data and inform decisions on asset utilisation
- Plan more multi-use assets and hubs to prevent current maintenance issues

Water and energy

- Need for a broader conversation with industry and regulatory bodies to coordinate actions around sustainability opportunities
- New guidelines are in the process of being developed with Environment Protection Authority (EPA) around water utilisation and transportation



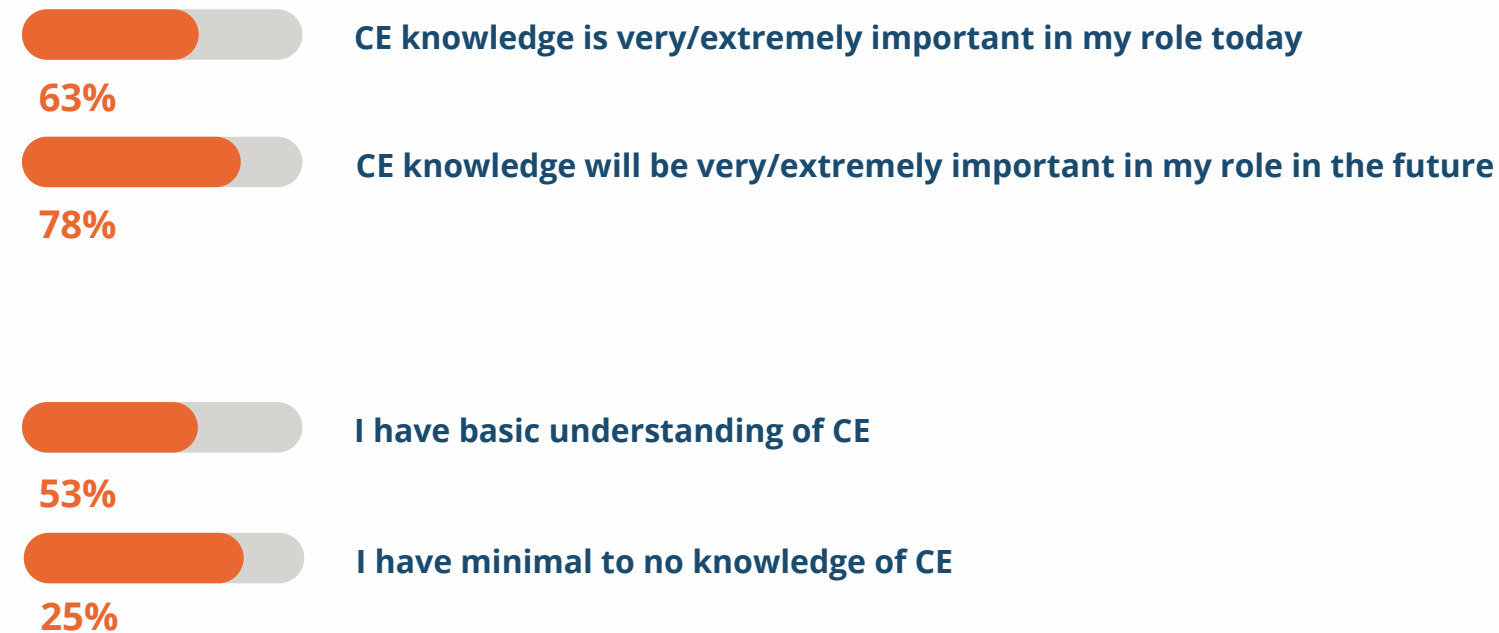


Council Engagement activities (cont.)

Masterclass Sessions

The masterclass sessions were part of the Education stream of activities and aimed to empower team members in council through an understanding of CE, providing them with tools to better serve their role in Casey's transition towards a CE, regardless of previous knowledge and area of expertise. Both training sessions and a workshop were included in the two sessions offered by the CEV team in November.

51 employees were surveyed prior to the masterclass to assess level of knowledge and perceived relevance of CE in their professional role within council.



I haven't engaged in any CE learning in the past 12 months

Case Studies Discussed

Group 1 - Build Casey's Built Environment

The City of Casey is growing and new roads, houses, community centres, parks, hospitals and other infrastructure projects need to be built. How can Council catalyse more circular economy action in this space?

Group 2 - Using Casey's Built Environment

As the City of Casey grows higher demand is put on council assets and more resources flow through council managed infrastructure. How can Council catalyse more circular economy practices around product/material and water flows?

Emerging Themes

Procurement

- implementation of a framework with CE requirements for contractors
- creation of a centralised smart system to manage local procurement, buying in bulk and facilitating the introduction of repurposed materials

Monitoring and technology

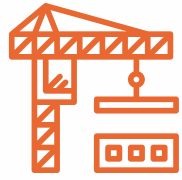
- data analysis and ongoing measurements of predefined CE metrics
- sensors to provide information on building maintenance
- digital database in council inventory to access materials (See procurement)

Micro hubs and multi-use buildings

- transitional buildings to adapt as demographics and social needs change
- decommissioned spaces to activate CE innovation by local start-ups and community groups

Education and communication

- Need for CE toolkits and education activities to build council employees capabilities
- Need to involve and educate the community with clear messages and localised pilot initiatives



Industry Engagement Activities

Business Interviews

The engagement phases included a series of interviews with developers and supply chain partners carried out between September and November 2021 by the CEV team, with the support of dedicated account managers from council. The qualitative data gathered were analysed to identify recurring themes and inform recommendations for the development of innovation pathways.

Emerging Themes

- **Recycled-content materials** are still adopted on a project-to-project basis, with regulations in the industry often hindering innovation. Supply chain disruption is affecting procurement, with limited choices available on the market to meet sustainability standards as well as project deadlines
- In the city of Casey, **illegal dumping and the use of waffle pods** by contractors are the most significant issues causing financial and environmental damages
- There is a **demand for solar power** among homeowners, however, adoption is still isolated due to the lack of an embedded network; this innovation requires power companies and infrastructure authorities in the conversation.
- **Water recovery innovation** is needed to improve efficiency and enable environment restoration; better alignment with authorities is needed to tackle the issue through a coordinated effort.
- Most businesses are implementing voluntary activities to ensure soil health, green growth, and flora & fauna regeneration within their projects. Although City of Casey has been engaged in the development of a “Green Street” program, some regulatory gaps appear to hold back **environment restoration activities**.
- In the community, **multi-purpose activation of industrial buildings and public spaces** will be crucial to create locally functional, connected communities, while making the most of shared assets.





Community Engagement Activities

Community co-design session

An informal approach was chosen for community engagement, with an online co-design session that included basic CE training, followed by an open conversation facilitated by the CEV team.

The previously identified organisations were invited personally, while Casey citizens and informal Facebook group users were invited via social media to register for the event. Team members from council who are actively involved in community initiatives were also invited to participate.

Emerging themes

- **The community fears employment loss**, as the transition towards CE can create new jobs, but make others redundant. The perception of the private sector is that greed and economic interests are still dominating the choices of most companies, which often don't seem to have the drivers to move away from the business as usual.
- **Circular economy is poorly understood**, with some particular difficulties highlighted around explaining in simple terms and adapting CE concepts for various cultures, social arrangements and languages.
- There's a need for better **connection among grassroots initiatives**, as well as the development of relationships with leading private partners to promote social and technical innovation (this was discussed particularly in reference to food programs).
- **Coordination and communication between Casey City Council and local groups** could facilitate the activation of communal spaces through edible gardens, repair cafés, educational activities, and second-hand markets; some of these projects are already in the process of being developed.



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