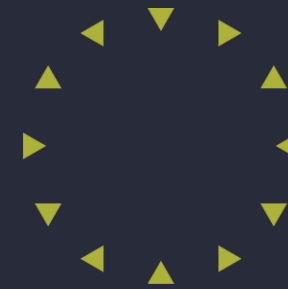


Building the future with circular solutions: Challenges and opportunities for business

22 August 2023




Acknowledgement of Country

We acknowledge that Aboriginal and Torres Strait Islander peoples are the First Peoples and Traditional Custodians of Australia and the oldest continuing culture in human history.

We pay respect to Elders past and present and commit to respecting the lands we walk on and the communities we walk with.

Artwork:
'Regeneration', by Josie Rose



A close-up photograph of a hand holding a set of keys. The keys are silver and attached to a metal ring. The background is blurred, showing another hand reaching up towards the keys. The lighting is soft and natural, suggesting an indoor setting.

**Circular economy
is key to achieving
net zero.**

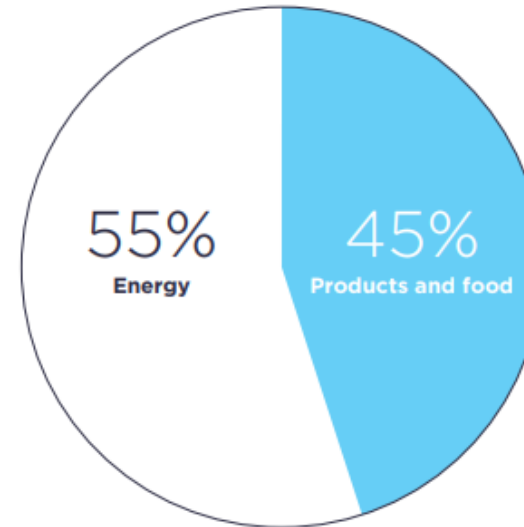
Key findings

Today's efforts to combat climate change have focused mainly on the critical role of renewable energy and energy-efficiency measures. However, meeting climate targets will also require tackling the remaining 45% of emissions associated with making products. A circular economy offers a systemic and cost effective approach to tackling this challenge. This paper shows that when applied to four key industrial materials (cement, steel, plastic and aluminium) circular economy strategies could help reduce emissions by 40% in 2050. When applied to the food system the reduction could amount to 49% in the same year. Overall such reductions could bring emissions from these areas 45% closer to their net-zero emission targets.

ellenmacarthurfoundation.org

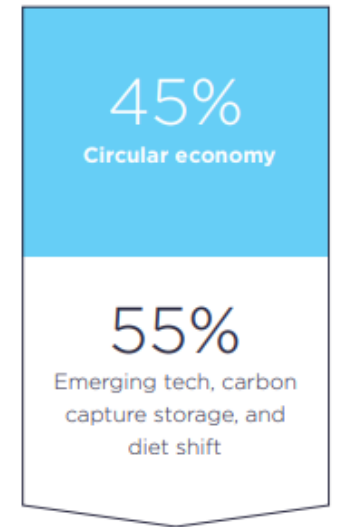
Completing the picture: tackling the overlooked emissions

Total current emissions



Examples covered in paper. (Food, steel, cement, plastic, and aluminium)

Emission reductions in 2050



ZERO EMISSIONS

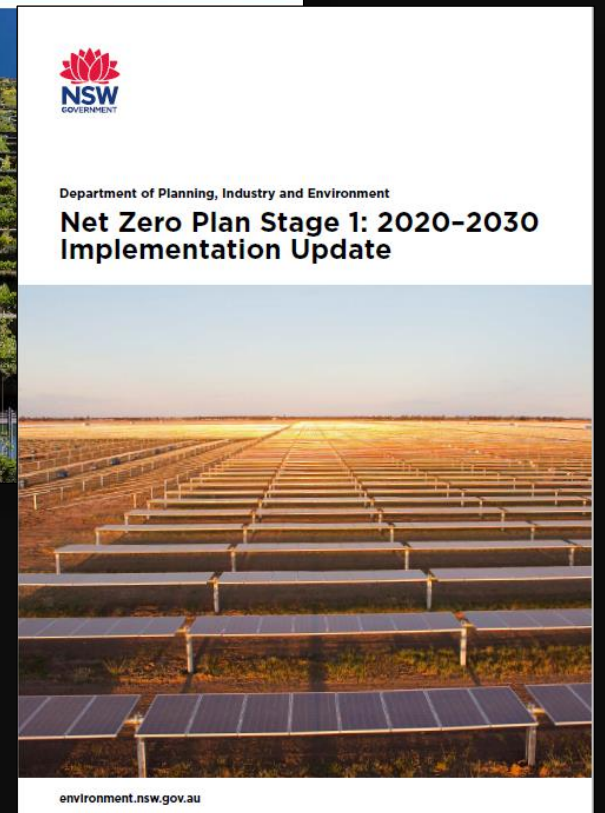


Our aim

- Net Zero Emissions by 2050
- 50% reduction in emissions by 2030

“Business and industry deserve certainty on climate targets. Legislating our targets provides that certainty.”

The Hon. Chris Minns MP



NSW Government action to reduce climate change

Key policies and strategies



- Net Zero Plan Stage 1: 2020-2030
- Net Zero Plan Stage 1 Implementation Update
- Electricity Strategy
- Electricity Infrastructure Roadmap
- Waste and Sustainable Materials Strategy
- Electric Vehicle Strategy
- Hydrogen Strategy
- Climate Change Adaptation Strategy
- Net Zero Cities Action Plan

Waste and Sustainable Materials Strategy 2041

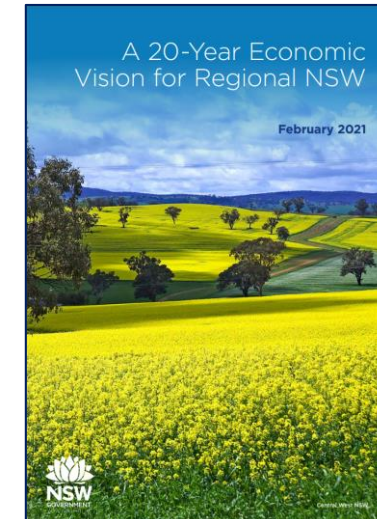
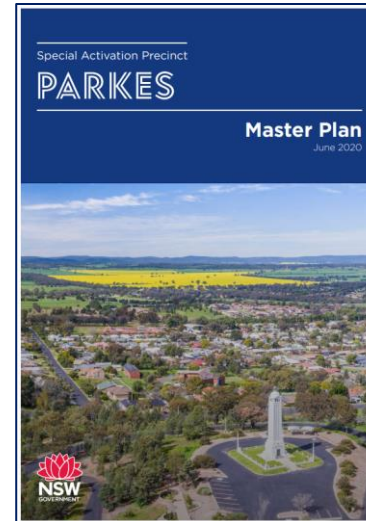
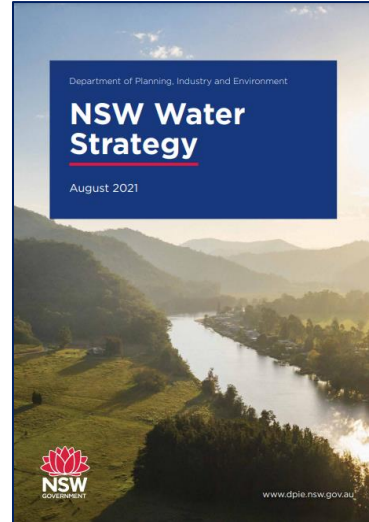
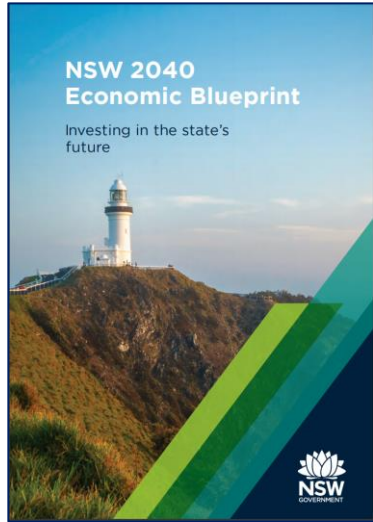
- The NSW Government's plan to transition to a circular economy over the next 20 years
- \$356 million will be invested by the NSW Government over 5 years, from 1 July 2022
- The Strategy and the Plastics Action Plan outline the first steps we will take over the next six years to:
 - Improve infrastructure
 - Transition to circular design
 - Create new market demand for recycled material
 - Divert organics from landfill
 - Create a legislative power to address recycling issues

NSW Waste and Sustainable Materials Strategy 2041

Stage 1: 2021-2027

Adoption of circular economy practices in Government strategies

Key policies and strategies



Circular design guidelines for the built environment



Whole-of-life principles for
transitioning buildings, precincts and
infrastructure to a circular economy

February 2023



About these guidelines

These *Circular design guidelines for the built environment* (the guidelines) present a comprehensive, whole-of-system approach to implementing circular economy principles throughout all phases of NSW built environment projects.

The guidelines are for built environment professionals and stakeholders in government and industry, including policymakers, industry groups, planners, designers, developers, consultants and facility managers.

The guidelines complement and support the NSW commitment to reducing embodied carbon in construction under the NSW Net Zero Plan Stage 1: 2020-2030. They also set a standard for the new \$37 million Carbon Recycling and Abatement Fund to support innovative circular economy approaches that manage waste and materials more efficiently and reduce emissions.



The circular design strategies presented in this guide can benefit all buildings, precincts and infrastructure.

The strategies apply throughout the life cycle of a building, precinct or infrastructure asset, including briefing and design, planning assessment and approval, procurement and delivery, ongoing operation and maintenance, and end-of-life re-use and repurposing.

They are relevant to projects of all types, sizes and locations, and can be tailored in response to the specifics of each project.

Guideline objectives

The guidelines aim to encourage and enable government agencies and industry to take a leading role in adopting smart, innovative, and sustainable approaches to:

- reduce embodied carbon
- minimise the generation of waste
- improve materials efficiency
- increase the circularity of materials.

“
Integrating circularity into the built environment will create new industries, enable new ventures within the repair, re-use and recycle economy, and provide protection from the rising cost of materials and disposal of waste.

Sustainability Advantage

Creates and nurtures leaders to secure a sustainable transition to a low carbon and circular economy for NSW

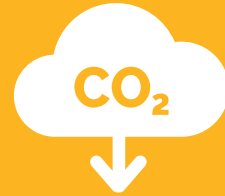


Circular Economy

Commit to decoupling economic activity from resource consumption, and designing out waste

Reimagine resources and find ways to keep products and materials in circulation

Encourage, support and showcase regenerative business models



Net Zero

Commit to setting a Net Zero Target aligned to the Paris Agreement

Implement a science-based pathway to decarbonise operations at pace and scale

Extend Net Zero Targets to value chain and others



Nature Positive

Commit to valuing, protecting, restoring and regenerating natural ecosystems

Embed positive and co-beneficial impacts for nature into decision making

Advocate for the preservation of our natural environment

SUSTAINABILITY ADVANTAGE

Active project partners

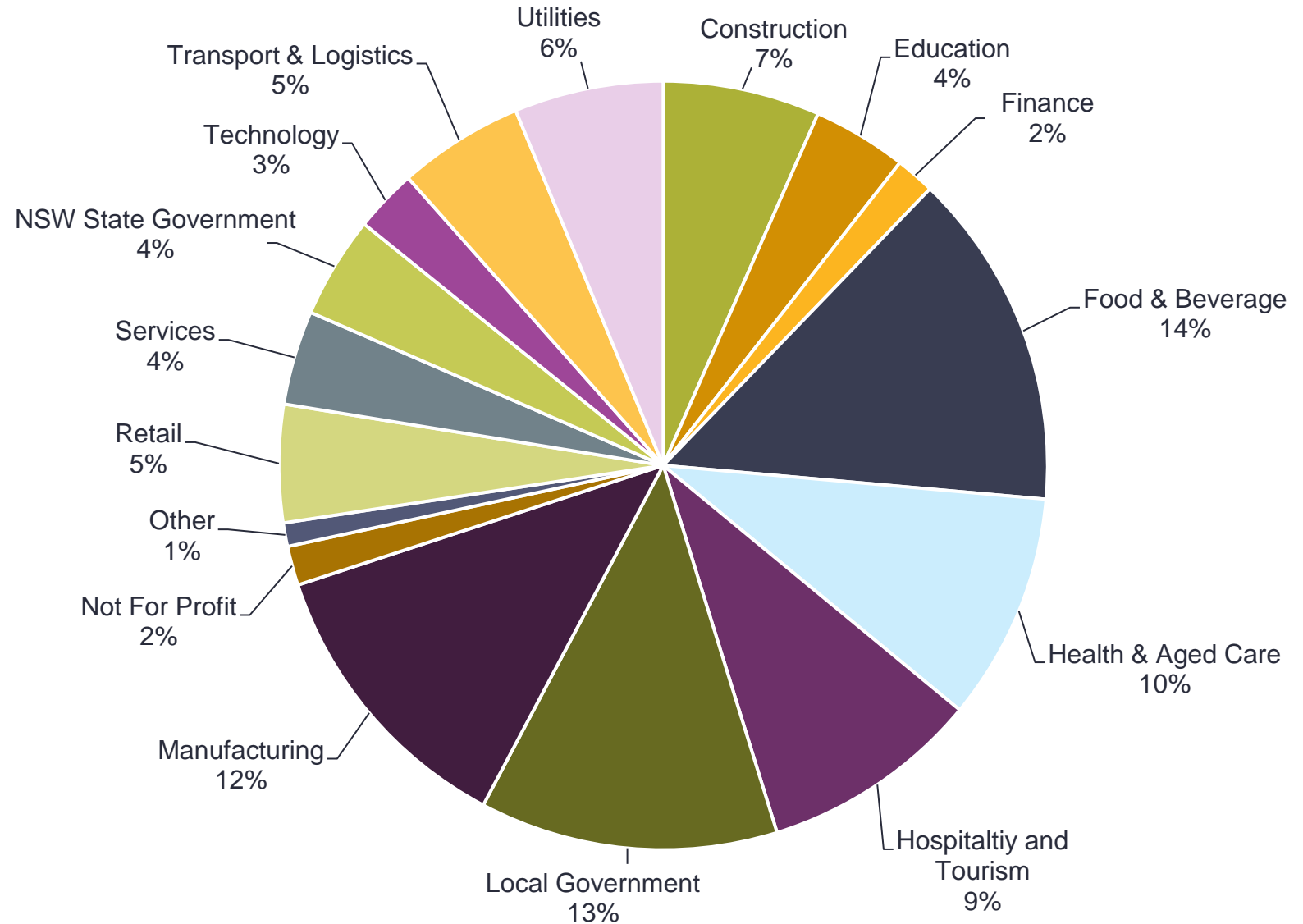




Member Snapshot

Summary by Industry

38% of members are located in regional NSW



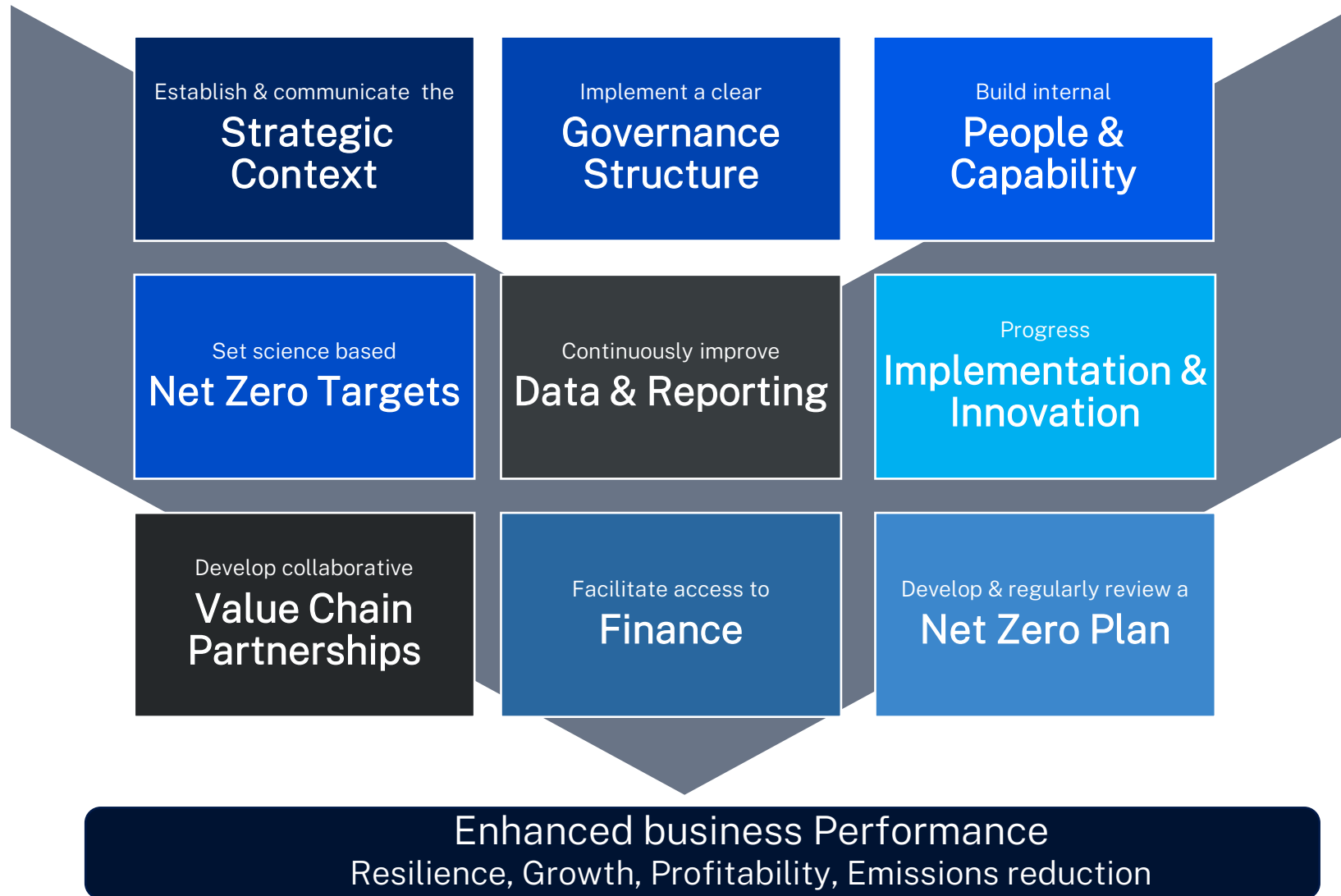


Net Zero Emissions Pathways Pilots 2021 & 2022

Over two years Sustainability Advantage has partnered to deliver 56 Net Zero Emissions Pathways for Sustainability Advantage Member organisations.



Pathways elements of good practice





Net Zero Emissions Leadership Accelerator 2021 & 2022 Pilots

Sustainability Advantage supported 45 organisations to increase their ambition and action towards achieving carbon neutrality.



EVALUATION OF SUSTAINABILITY ADVANTAGE NET ZERO EMISSIONS SUPPORT (2021)

Net Zero Pathways
Net Zero Emissions Leadership Accelerator



KEY OUTCOMES ONE YEAR AFTER THE INITIATIVES

Participants interviewed are investing more than \$27 million in net zero emissions. Sustainability Advantage invested \$26K per participant to do both initiatives. One year later, 56% of participants were investing more than \$1 million each in net zero emissions reductions.

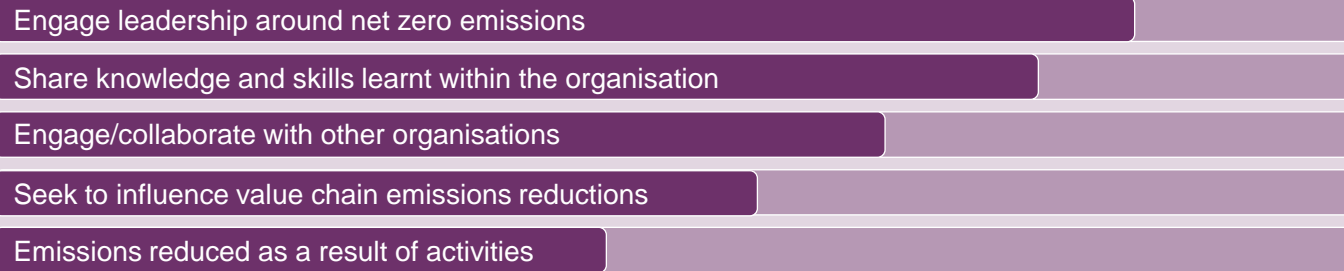
Investment in net zero opportunities

Investment Range	Number of Participants	Participating Organisations
\$5M+	5	PARTICIPATING ORGANISATIONS
\$1M – \$5M	5	
\$501K – \$1M	1	
\$101K – \$500K	5	
\$30K – \$60K	1	

Organisational outcomes

- Accelerated net zero emissions ambition and action
- Used and refined net zero emissions pathways
- Endorsed net zero commitments, pathways and strategies
- Recruited more sustainability staff and increased sustainability responsibilities in job roles
- Implemented and progressed scope 1, 2 and 3 projects
- Engaged leadership, internal and external stakeholders
- Reduced emissions
- Built on knowledge and increased skills

Extent to which participants achieved outcomes



NOT AT ALL

SIGNIFICANTLY

CONTRIBUTION OUTCOMES

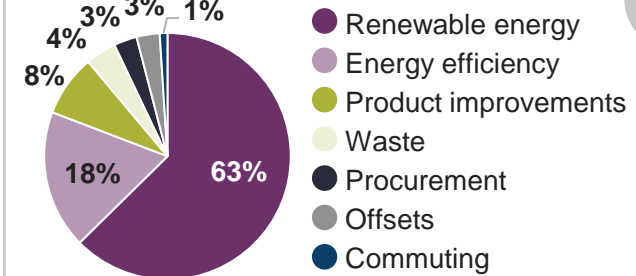


Each initiative element was useful and contributed to an extent, depending on the organisations' needs, context, and maturity.

What contributed most:

- Targeted Sustainability Advantage Advisor support
- Provision of knowledge and skills specific to needs, especially stakeholder engagement skills
- Consultant, peer and guest speaker relationships
- Engagement of stakeholders in the pathway-building process

PROJECTS BEING IMPLEMENTED



FUTURE OPPORTUNITIES



As organisations mature in their efforts, they may require different types of support relating to **new technologies**, **scope 3 emissions** and forms of **finance** beyond capital investment.

Why is circularity not BAU?

What business told us...

- Most organisations do not have any targets or KPIs around circular but do have small pilot initiatives underway
- Most organisations outsource their material and circularity issues to waste contractors – not seen as core business.
- Biggest challenges included buy-in from internal and external stakeholders and defining what a circular economy looks like for their business
- Other challenges listed:
 - Understanding data and material flows
 - Lack of technical skills internally
 - Limited local solutions.

“Energy and carbon, those are probably our most mature but materials is still a bit of an evolving area, but I think we're all in that kind of position at this point in time”

- Sustainability Advantage member

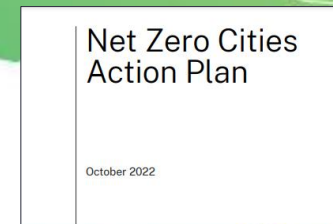


Circular Economy Leadership Accelerator

Sustainability Advantage has launched a 6-month capacity building accelerator that will provide unique access to international and local expertise and examples of leading practice, at the same time as supporting practical problem solving by organisations.

The Sustainability Advantage Circular Economy Leadership Accelerator (CircELA) is designed to:

- increase circular economy knowledge, skills and confidence
- develop and implement actions to embed circular economy principles within your organisation
- accelerate commitments, targets and ambitions
- identify a pipeline of projects for participating organisations and the Western Sydney region.





Circular Economy Leadership Accelerator - Western Sydney





It's complicated...

The way we produce and process materials and products is responsible for [45% of global greenhouse gas emissions \(GHG\)](#) and [90% of biodiversity loss](#). To meet our climate objectives, [halt and reverse biodiversity loss](#) and provide access to a dignified life to all while staying within the limits of our planet, we need a fundamental transformation in how we produce, design, use and recover materials and products. This can only be achieved through the widespread adoption of circular economy solutions. Despite the strong economic case - a study from Accenture estimates that the circular economy can bring a [USD \\$4.5 trillion opportunity](#) - a transition from linear to circular has been lagging. Even the most motivated companies struggle to show the value-creation potential in embracing circularity and [investments in circular solutions remain marginal across all sectors](#).

Thank you

Celia Tesoriero

Manager, Sustainability Advantage
celia.tesoriero@environment.nsw.gov.au

For general information about Sustainability Advantage visit
www.environment.nsw.gov.au/topics/sustainability/sustainability-advantage

