



Regions leading Australia's Circular Economy



CIRCULAR AUSTRALIA

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Circular Australia



We acknowledge the Traditional Custodians of the land on which we stand today.

We recognise their continuing connection to land, water and community and pay respects to Elders past, present and emerging.



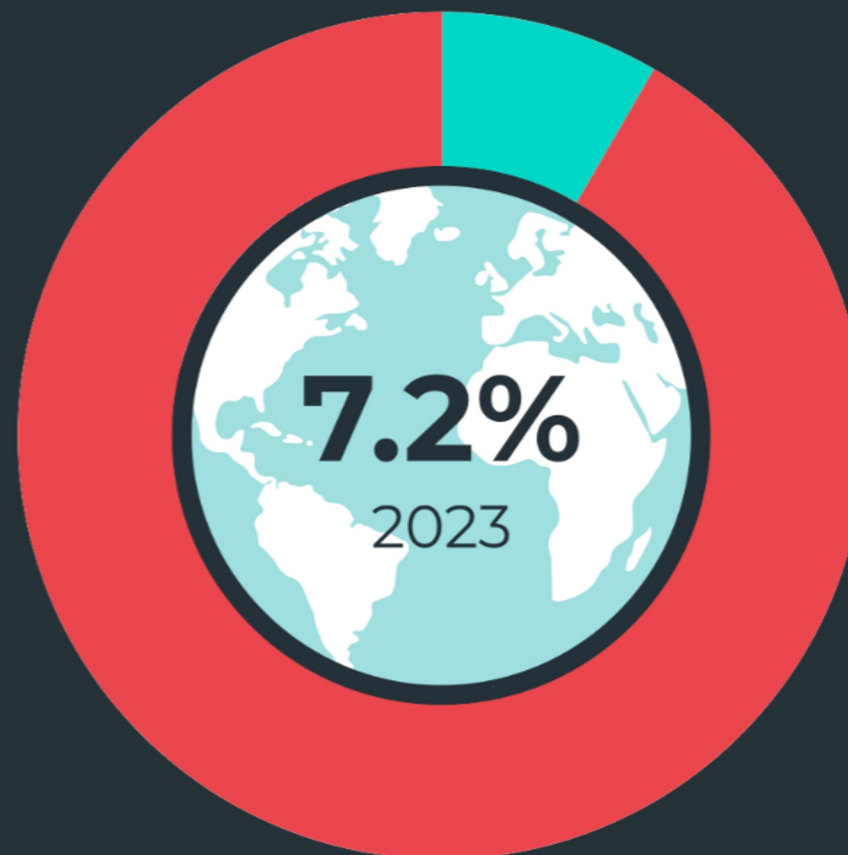
THE GLOBAL ECONOMY IS NOW ONLY 7.2% CIRCULAR

The global situation is getting worse year on year—driven by rising material extraction and use.

Rising material extraction has shrunk global circularity: from 9.1% in 2018, to 8.6% 2020, and now 7.2% in 2023. This leaves a huge Circularity Gap: the globe almost exclusively relies on new (virgin) materials.

This means that more than 90% of materials are either wasted, lost or remain unavailable for reuse for years as they are locked into long-lasting stock such as buildings and machinery.

[How do we measure circularity? ↗](#)



Materials that are cycled back into the global economy after the end of their useful life, otherwise known as secondary materials, account for 7.2% of all material inputs into the economy—this is the Circularity Metric.

Images attributed to Circular Gap Report

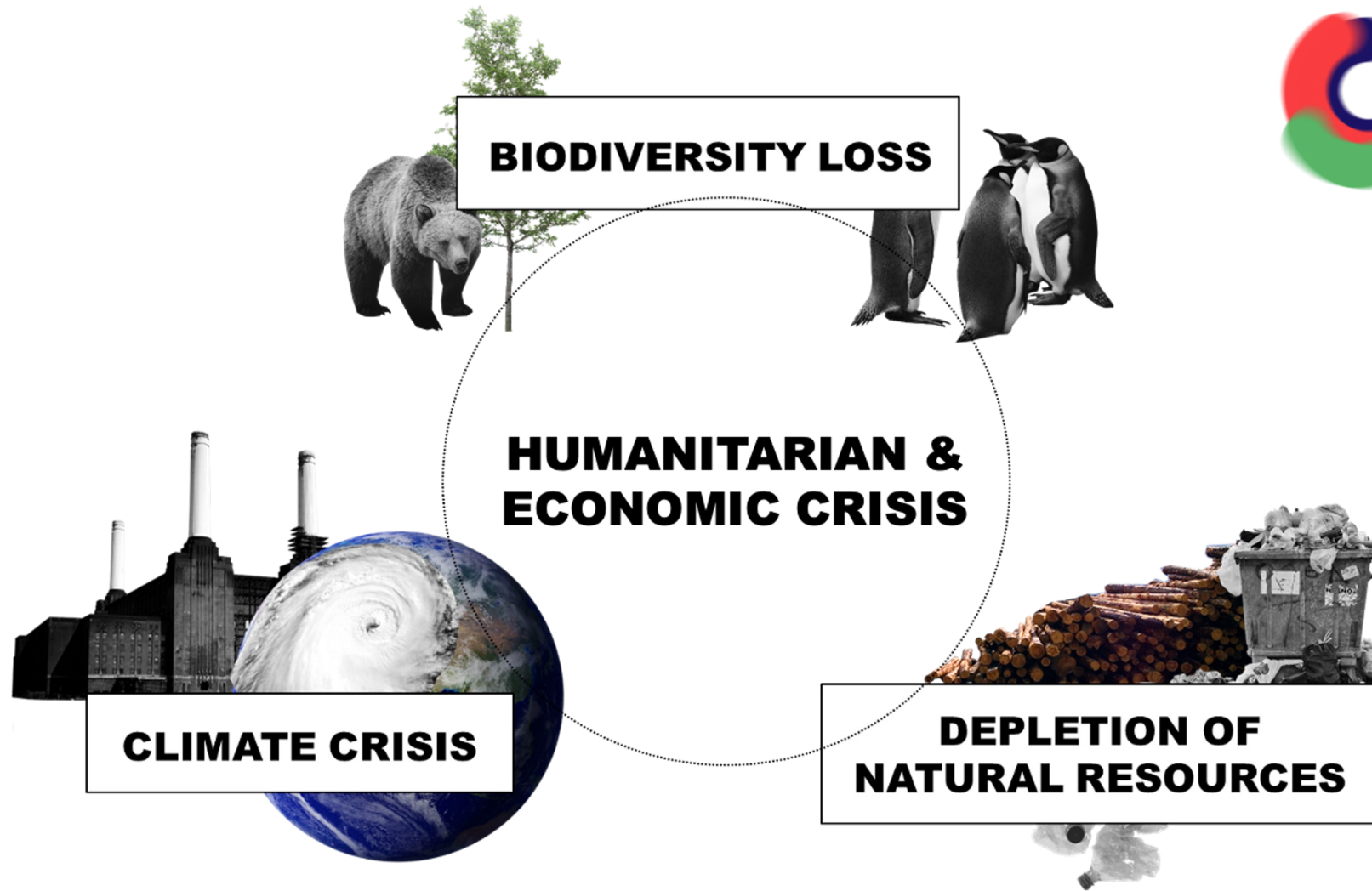
Australia's Circularity rate



Australia's circularity rate is between 3.5% and 8.6%

A CSIRO Report to the Commonwealth Department of
Environment and Energy in 2019





What is the Circular Economy?



The circular economy decouples economic growth from the consumption of finite resources, designing waste out of the system.

What is the Circular Economy?

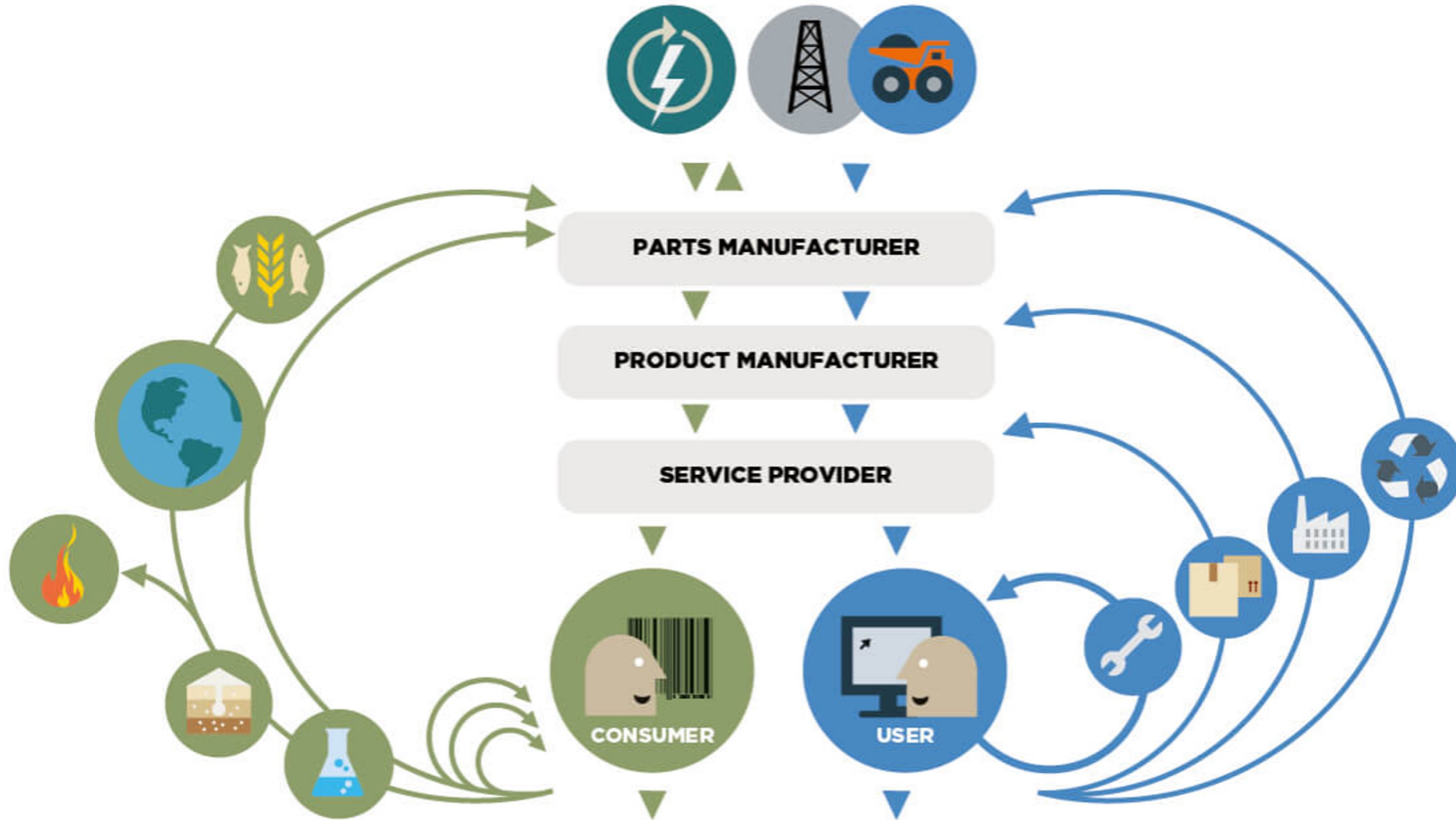


Circular Economy is based on three principles:

1. Design out waste and pollution at every stage of production, use and end-of-life..
2. Keep products and materials in use at their highest possible value.
3. Regenerate natural systems for example through water, food, organics recycling, the removal of toxic waste, tree planting.

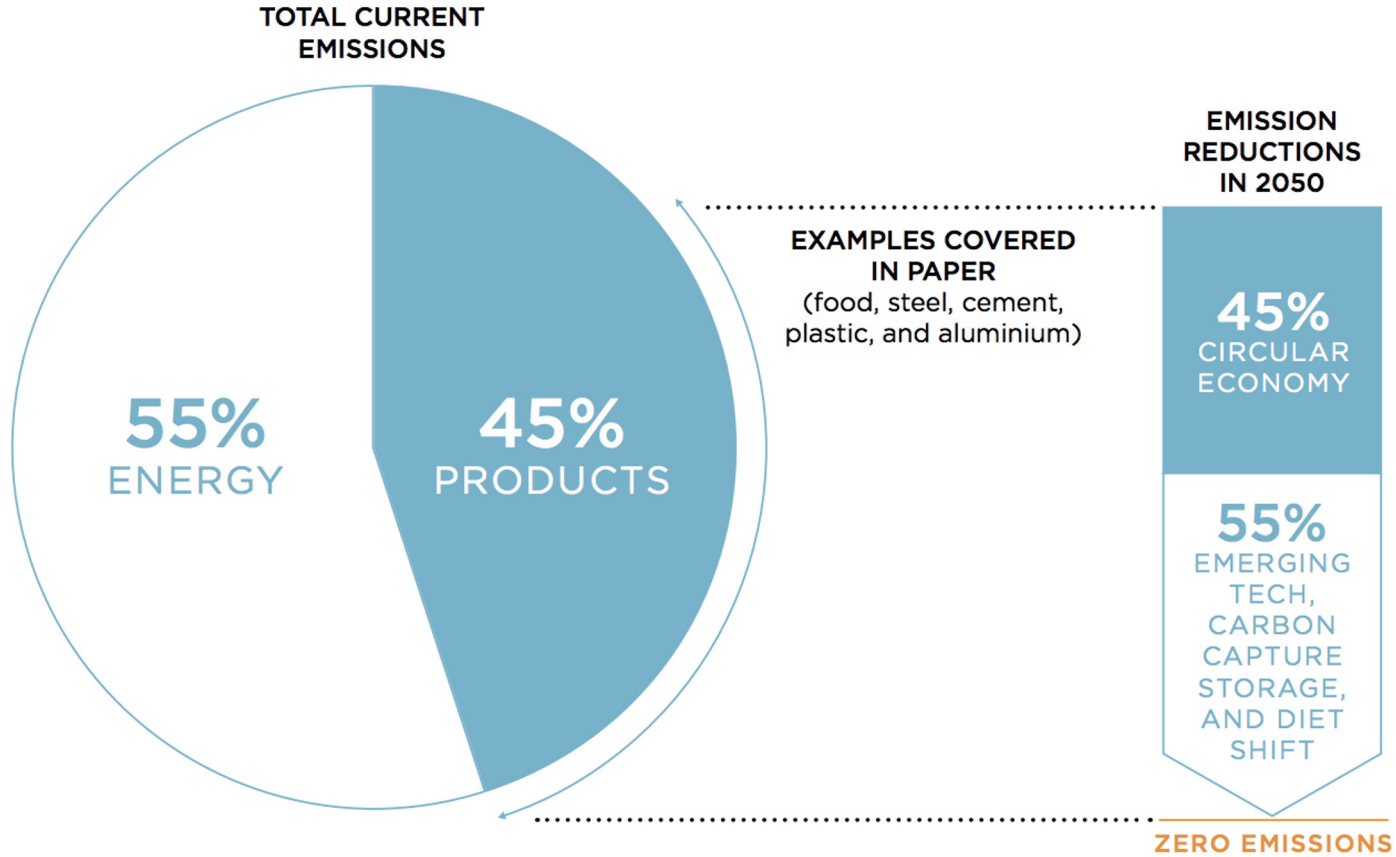
Circular Australia support an Australian circular economy that matches environmental goals with social ambitions.

From “Take Make Waste” to Circular



Circular Economy
Systems Diagram,
Ellen MacArthur
Foundation

Tackling 45% of overlooked emissions





**Australia has a target to develop a
Circular Economy by 2030**



Australian Governments' Communique



Oct 21, 2022

In recognition of the scale and urgency of environmental challenges, Ministers agreed to:

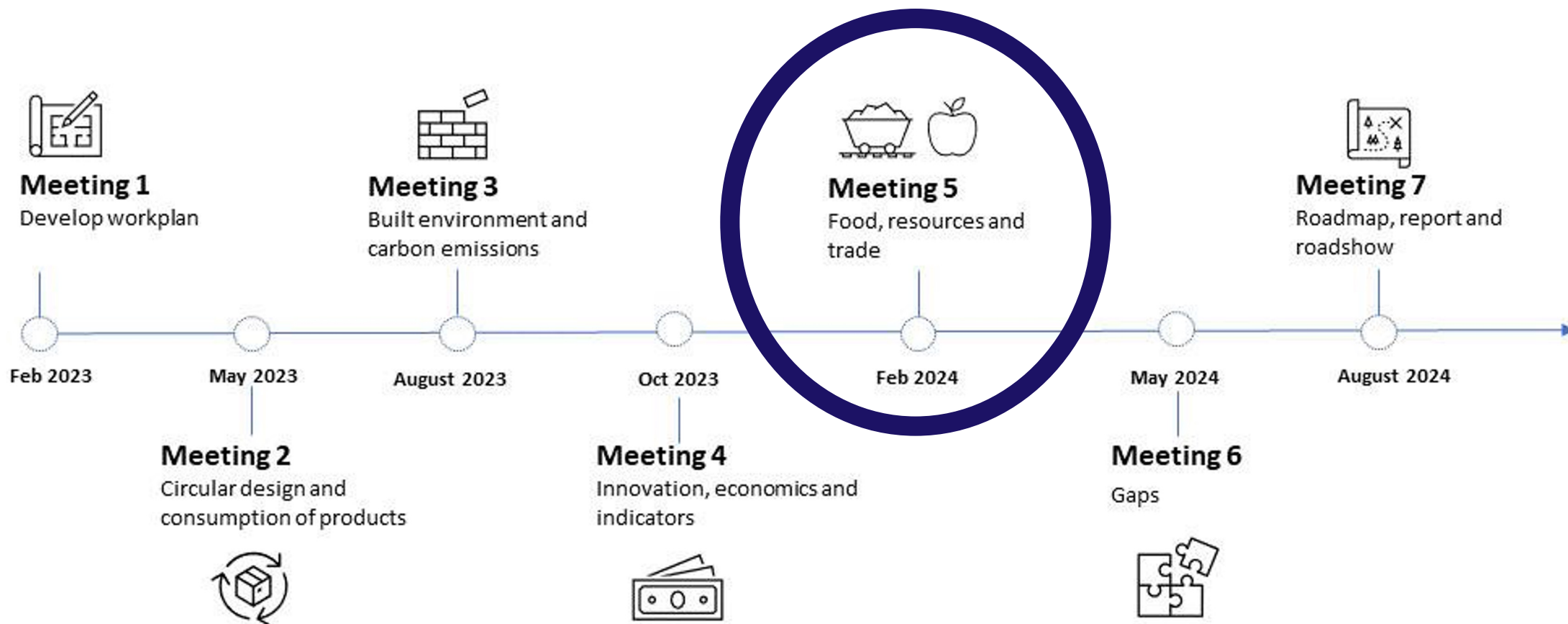
work with the private sector to design out waste and pollution, keep materials in use and foster markets to achieve a circular economy by 2030.



Australia is now developing a roadmap to the Circular Economy



CE Ministerial Advisory Group



A \$2 trillion economic opportunity



\$1.9 trillion

Australian estimated economic boost over the next 20 years from circular solutions



100,000s

number of new full time jobs the circular economy can generate in Australia

\$15B National Reconstruction Fund

Made in Australia
Re-Made in Australia
Buy Australian



**Key sectors
catalysing
the \$2T
Australian
Circular
Economy**

What are some of the key sectors that will catalyse the CE in Aust?

Infrastructure

Infrastructure development presents a significant opportunity to deploy recovered materials. This delivers multiple benefits: from reduced waste transport costs and landfill fees, environmental benefits of reusing low-impact materials, to harvesting the commercial value and demand for sustainability certifications such as Green Star ratings

Regional precincts

Special Activation Precincts such as Parkes (which will be Australia's first UNIDO Eco-Industrial Precinct embedding the principles of circular economy and sustainability) are ideal for embedding circular economy in precinct planning.

Households

Households can not only reduce their carbon footprints and household expenditure by reducing their waste. They also play an important role in driving consumer demand for circular markets through consumer demand, community expectations and behaviour change.

Manufacturing

The circular economy can be the key to not only at building up Australia's manufacturing self-sufficiency, but our materials sufficiency. Thriving local recycling industries in critical materials can potentially offer more secure and sustainable access to input materials. This can mitigate the economic and environmental costs of mining virgin materials, and also increase the productive lifecycles of materials already in circulation.

Hierarchy to Circular Economy

High

Low

Refuse	Prevent raw materials use (Remove toxic materials/chemicals)
Reduce	Decrease raw materials use
Redesign	Reshape product with circular principles
Reuse	Use product again
Repair	Maintain & repair product
Refurbish	Revive product
Remanufacture	Make new from second hand product
Re-purpose	Reuse product but with other functions
Recycle	Salvage material streams with highest possible value
Recover	Incinerate waste with energy recovery



**Circular
Australia**

Regional Australia's role in the circular transition



Circularity solves problems



Circular economic approaches are addressing regional issues

- Unsustainable land practices - land clearing, landfill, burning waste
- Fossil fuel use
- Production and use of iron and steel and construction materials
- Metals extraction and use
- Waste management
- Water management
- Biodiversity loss

Regional circular opportunities & Agrifoods

Energy



Farms are major users of energy, and account for a significant proportion of production costs

Improved energy security and efficiency can lead to cost savings and reduced emissions

Waste



2/3 of all organics waste in Australia come directly from agriculture and fisheries sectors

Reducing waste and increasing diversion can generate savings/revenue, reduce emissions, rejuvenate soil and improve land productivity
Improved crop yields

Transport



Over 80m tonnes of output is transported between farms, storage and processors to markets each year, generating 2Mt CO₂e p.a.

Smart logistics and greater reliance on low-carbon freight can lead to long term savings and reduced emissions

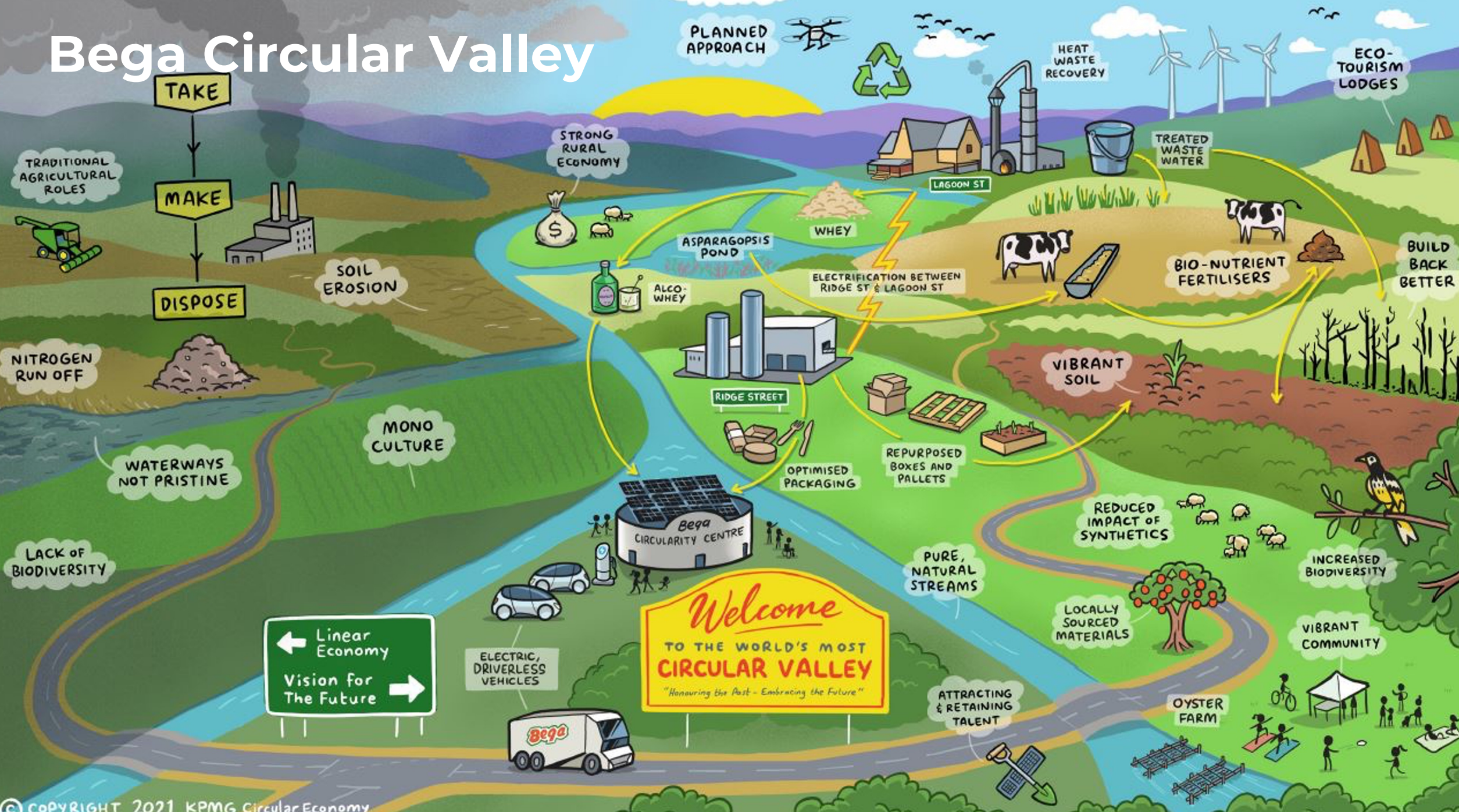
Water



60% (8,558 GL) of water extracted in 2018-19 was for agriculture, with a record \$334m spend on water purchased on a temporary basis

More circular water systems can mitigate supply risks and help stabilize production overheads

Bega Circular Valley



UNIDO - World leading circularity



Parkes Special Activation Precinct

Will build on already planned private and government investments, creating up to 3,000 jobs across a range of industries.

As Australia's first UNIDO Eco-Industrial Park, the precinct offers sustainability solutions, including waste and water reuse and energy use and generation.



'As a service' business models



Retaining the residual value of the asset

Caterpillar keeps resources in the Caterpillar value chain through a circular flow of materials, energy, water.

Systems approaches optimizes use of resources, maximizes the total life cycle value of products and minimizes the cost of ownership for customers.

A manufacturing and rebuild program

- Ensuring maximum productivity
- Increasing reliability and equipment uptime
- Ensuring cost-effective performance
- **Receiving a like-new warranty**
- Increasing the customer's return on their investment
- **Providing the customer with a variety of repair options**
- Providing the customer with a higher resale value
- Providing the lowest total owning and operating life cycle costs
- **Preserving energy & materials required to make original component**



CircularAg

Food waste accounts for approximately 3% of Australia's annual greenhouse gas emissions.

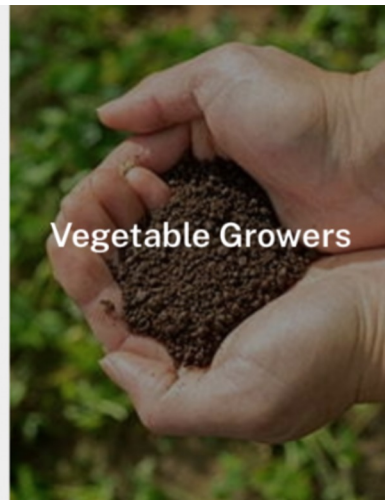


Cool Compost

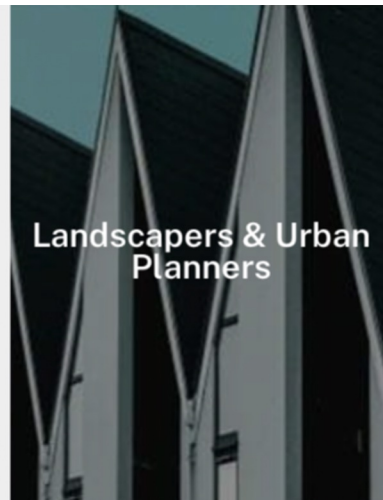
Transforming industries across Australia with the power of compost



Graziers



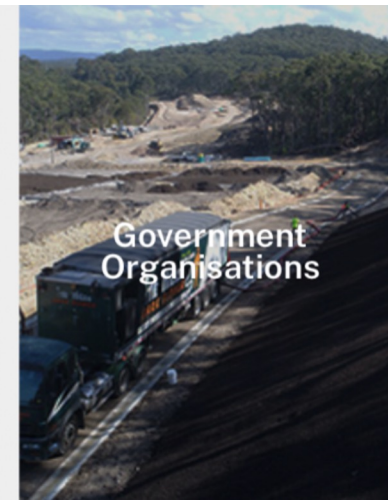
Vegetable Growers



Landscapers & Urban Planners

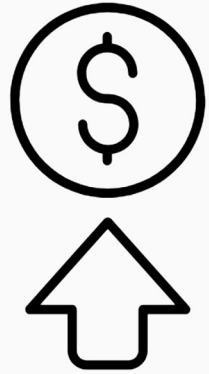


Councils

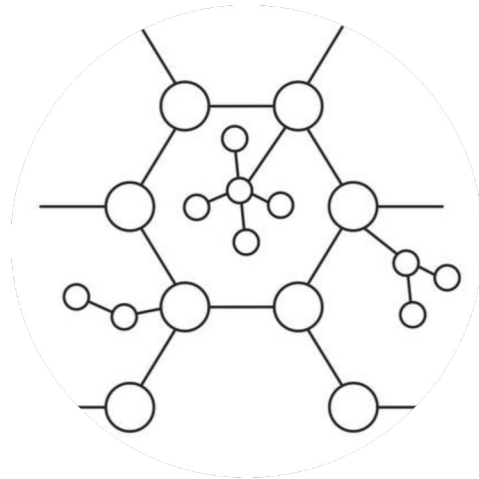


Government Organisations

New Circular Supply Chain Alliances



Potential to
scale



Consistent with
public policy
settings and
expert advice

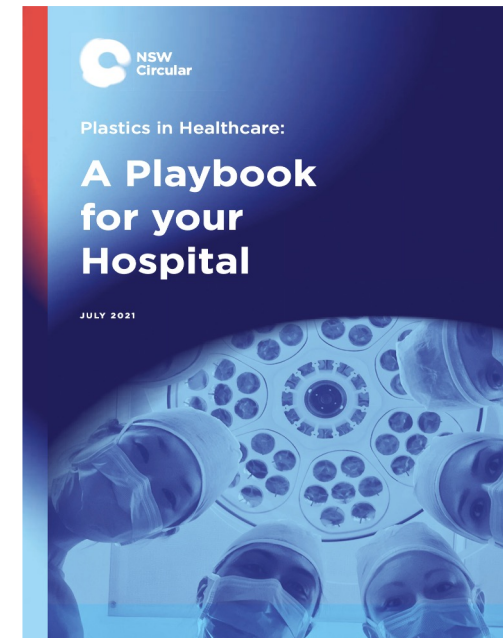
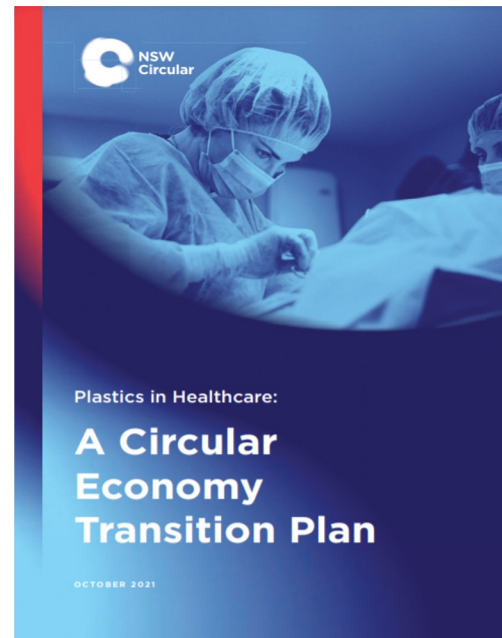


A problematic
waste stream
containing a
potentially
valuable
resource



Opportunity for
new
collaborations

Circular Plastics in Healthcare



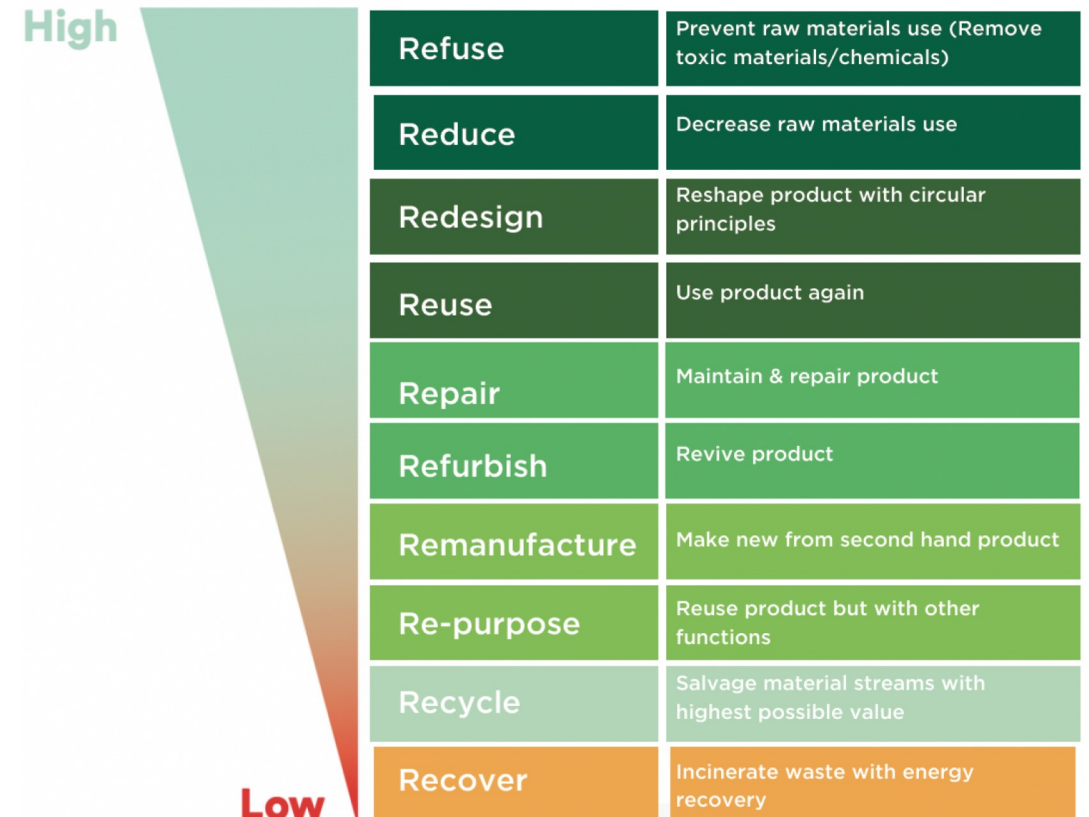
Activating the Circular Economy



Applying the Circular Economy to your region requires education & collaboration:

- Tourism
- Agriculture
- Energy
- Transport
- Housing

Apply the hierarchy of circularity



Activating the Circular Economy



Refuse, Reduce, Redesign

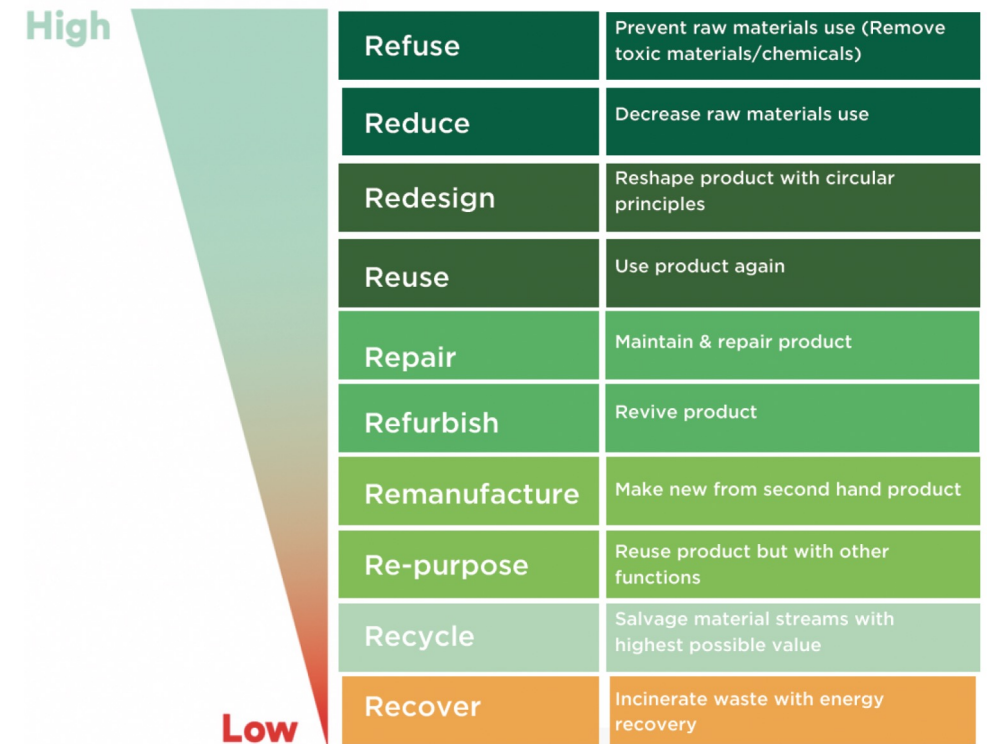
- Remove and decrease toxins and pollution
- Reduce raw materials
- Reduce water consumption
- Redesign new systems
- Improve efficiency & productivity

Reuse, Repair, Refurbish, Remanufacture, Re-purpose

- Replace raw materials
- Access secondary resource markets
- Build supply chains with secondary resources
- Build local manufacturing

Regeneration, Recycle & Recover

- Recycled Water, FOGO to soil
- Local food production
- Packaging (paper and plastics)



Measuring Regional Circularity



Agriculture: Number of agri-ecological initiatives (Mitigating climate change/ Reducing emissions/ Recycling resources and prioritising local supply chains.)

Waste: FOGO separation, waste avoided by material recovery

Water: Implementation of water recycling schemes

Land use: New districts incorporating circular principles

Industry: Working-group for better regulatory alignment on circularity

Mobility: Car and vehicle sharing

Repair & reuse: Viability of repair, reuse, and share areas (repair cafes)

Tourism: Number of eco-facilities related to the tourist sector

Council: Savings from the reuse of furniture/ equipment & staff trained and working on circularity

Driving circular action



- **Develop more case-studies and data**
 - De-risk going circular by getting more case-studies and data in the precincts and infrastructure space – this includes cost benefit analysis data
- **Place-based innovation**
 - Focussing on a place-based approach to Circular Economy innovation, with concentrated projects using micro-manufacturing and place-based innovation
- **Empowering the coordinators**
 - Focussing on the ‘human role’ of individuals who are empowered to coordinate businesses, community and government in particular locations



Mission

Our mission is to fast track the circular economy in Australia to 2030.



Vision

An Australian circular economy driving job creation and economic prosperity, reducing emissions and improving the environment.

Circular Australia Strategic Priorities



Circular Metrics & Economics

The case for circular economy

We will provide transparent and open circular economy evidence to the market, with metrics.



Circular supply chains

How we create it

We will help deliver new circular economy markets, infrastructure and services.



Collaboration

Making it happen

We will work collaboratively to remove barriers and scale the circular economy.



Training & Accreditation

Building capability

We will help organisations get up-to-date circular economy knowledge, skills and verification.

Collaboration: Circular Australia Taskforces



National Circular Economy Council

Australian State and Territory Government Council





What will your circular economy strategy be to get us to 2030?



Questions