



Medical Waste: Challenges and Missed Opportunities

Ending Plastic Waste Symposium

6 August 2024

The Big Picture

- Less than 10% of plastic has ever been recycled with over 70% going to landfill. Australia is slightly higher at 13% of plastic recycled.
- Global plastic outlook projects plastics use to double in the next 20 years with packaging driving a large share of the increase.
- It is estimated that plastics account for up to a third of hospital generated waste streams
- All of the waste hierarchy levers will be required to combat this challenge
- Many of the waste hierarchy options require further development.

Medical Waste challenges & Opportunities

- Information on medical waste use and recycling is hard to find.
- Medical waste focus lagging behind other waste sectors
- Different forms of collection and treatment
- Lack of standards to support the sector
- Fragmented solutions diluting the scale of recovery
- + Rich source of potential recyclate - Scale and consistency
- + Increasing actions in place – Behaviour and technology lead
- + Global focus on net zero healthcare
- + Standards under development.

Examples of medical waste initiatives

- Start-ups - Disposable to re-usable e.g masks
- Extended Producer Responsibility –
 - Baxter – PVC recycling for hospitals
 - Cardinal Health – Medical device reprocessing
 - Dentalife – Next generation of wipes
- Government
 - Gold coast city council energy and recycling precinct
 - National packaging Design Standard
- Manufacturing approaches
 - Licella advanced recycling
 - AI and Machine learning for waste supporting
- Medical Associations
 - MTAA – Medical Technology Association of Australia member programs

Solving Plastic Waste CRC

- RP1 Materials and design – to reduce products environmental impact

➡ Less plastic waste going to landfill

➡ Production plant to convert biomass into compostable plastics



Recycled plastics
Compostable plastics

User-centric co-design frameworks to eliminate or reduce plastic waste
Traceable recycled plastics
Compostable plastics from renewable resources
Compostable plastics for single use

Solving Plastic Waste CRC

- RP2 Maximising the recovery and value of end-of-life plastics

➡ Less plastic waste going to landfill

➡ Enhancing Australian developed mechanical and chemical recycling technologies

Behaviour change
Enhanced sorting



Improved recovery



Robotic sorting



Improved properties



Higher-value products

Solving Plastic Waste CRC

- RP3 Implementing a plastics circular economy in Australia

➡ Less plastic waste going to landfill

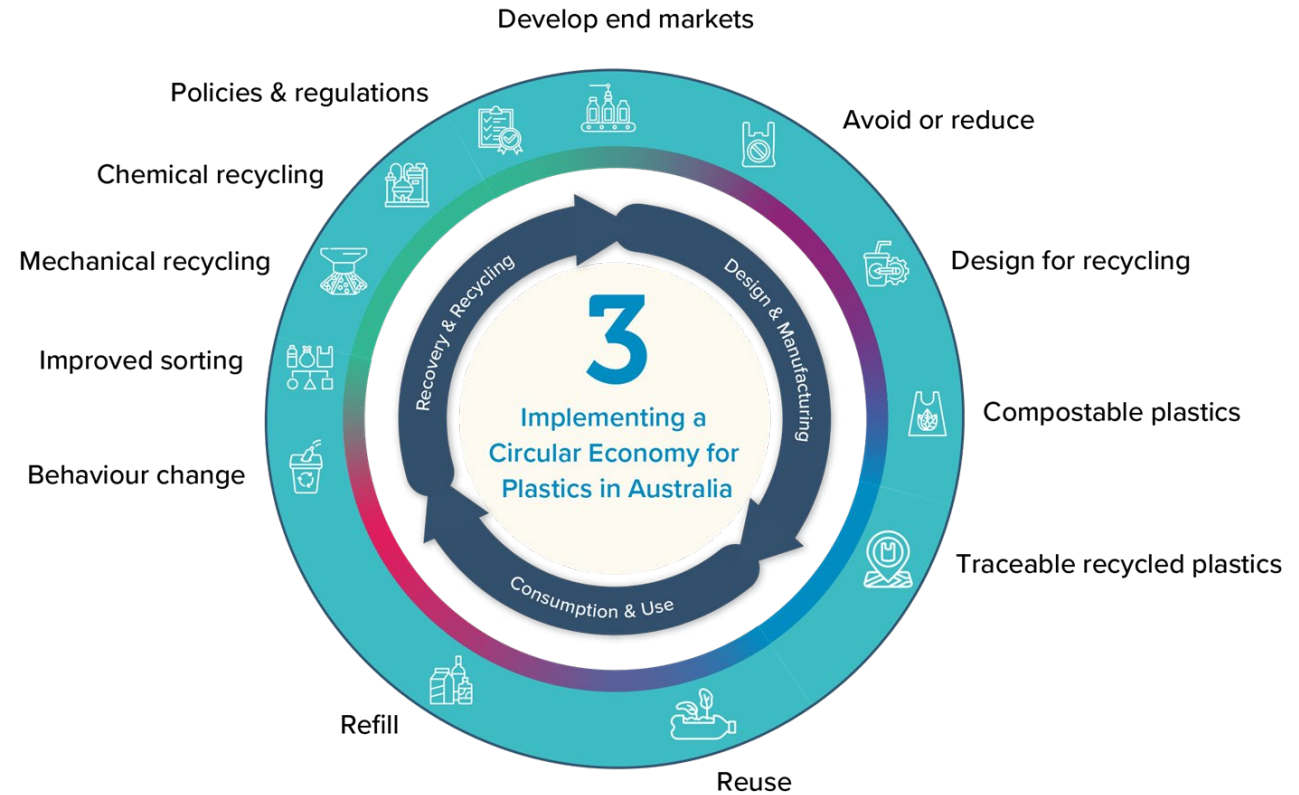
➡ Evidence-based reports informing enabling policies and regulations

Scaling a circular economy

Business models & markets

Policy, regulation & practice

Tools: carbon neutral & circularity



Solving Plastic Waste CRC partners: all mission critical

Plastics value chain and stakeholders

Manufacturers; processors; recycling companies; technology/consultants; industry bodies; public good; councils; governments

Logos of stakeholders in the plastics value chain:

- Manufacturers:** VIVA EnergyAustralia, SECOS GROUP, amcor, GALE PACIFIC, demtech, NEUMANN STEEL
- Processors:** APRR Plastics, Licella HOLDINGS
- Recycling companies:** ECOT, YOURC Your Packaging Solution www.yourc.com.au, RMCG
- Technology/consultants:** ACOR AUSTRALIAN COUNCIL OF RECYCLING, aora AUSTRALIAN ORGANICS RECYCLING ASSOCIATION, Hort Innovation, MTA Association of Australia
- Industry bodies:** MINDEROO FOUNDATION, PARLEY, earthwatch AUSTRALIA, PLANETARK Positive environmental actions, for everyone., TOTAL ENVIRONMENT CENTRE
- Public good:** CITY OF GOLDCOAST, Council of Mayors South East Queensland, Government of South Australia Green Industries SA, NSW, EPA VICTORIA
- Councils:** (Included in Public good)
- Governments:** Queensland Government

Research providers

Logos of research providers:

- Griffith University QUEENSLAND AUSTRALIA
- THE UNIVERSITY OF QUEENSLAND AUSTRALIA
- CQ university AUSTRALIA
- University of Southern Queensland
- THE UNIVERSITY OF MELBOURNE
- RMIT UNIVERSITY
- DEAKIN UNIVERSITY
- CSIRO
- UTS
- MACQUARIE University
- THE UNIVERSITY OF SYDNEY
- UNSW SYDNEY

Opportunities for a better future

- Call for net zero healthcare – reduce, reuse, recycle
- Global Roadmap for Healthcare Decarbonisation
- National Health and Climate Strategy vision
- Hundreds of sustainable healthcare champions
- Increased focus on reduction and collection and sorting of waste streams
- Increased measurement of waste streams and carbon footprint
- Research and Innovation helping to solve some of the waste challenges

The Solving Plastic Waste CRC is on a mission to reduce plastic waste going to landfill by enhancing industry driven collaboration across the Plastics waste value chain



THANK YOU

solvingplasticwastecrc.com



Solving Plastic Waste
Cooperative Research Centre

Growing the circular economy for plastics
