



Enabling Design for Environmental Good

PLASTICS SECTOR

Australia's plastics consumption has grown significantly in recent decades to over 3.4 million tonnes per annum. While the growth rate has slowed, the recovery rate has been relatively static for over a decade hovering around 13-15% per annum (Envisage Works 2021). The high diversity in the types of plastics in circulation in Australia can create difficulties developing approaches for reuse, repair, and recycling. As a result, landfill rates remain high. Product stewardship schemes such as the Vinyl Council of Australian and the Australian Packaging Covenant Organisation have developed targets, guidance, awards, reporting and labels for better design for packaging and some plastic products. Further drivers are needed to continue improving the composition, additives, labelling, and/or design of plastics, and products imported or locally manufactured in Australia. **Improved Eco-Design and management systems provide a key point of intervention to reduce plastic waste.** There is a high willingness within the sector for innovation and clarity on direction within the Australian plastics sector, including amongst those involved in packaging.

'Enabling Design for Environmental Good' is a project that uses insights and approaches from design, innovation, and sustainability to propose a suite of actions to improve the uptake of sustainable design for products and associated materials used in Australia.

This is an extract from the original project report, focusing specifically on the plastics sector which was selected as it holds significant potential for impact on the Australian economy.

For this report, the plastics sector is considered to encompass the broad plastics sector in Australia, including both packaging and products such as pipes, rainwater tanks, and garden furniture. This is because the supply chains overlap with resin suppliers selling to diverse product categories including packaging, and some reprocessed plastic material moves from packaging to durable products.

To encourage more action, key points of potential intervention along the supply chain were identified. 'Cross-cutting levers' developed in this project support stakeholders to apply Eco-Design initiatives at meaningful points in the development of products such as plastics. The four most important levers for improved Eco-Design and circularity in plastics are (in numerical/not priority order):



CROSS CUTTING LEVER 1

A national strategic plan would enable coordination of stakeholder collaboration on the future of plastics including supporting the other actions proposed.



CROSS CUTTING LEVER 5

National funding could stimulate new investment in Eco-Design and collaborative ventures for improved circularity, such as reusable packaging and products, and step change in collections for recycling vastly greater quantities of plastics.



CROSS CUTTING LEVER 6

Introducing a plastic specific landfill fee would change the economic viability of recycling plastics compared to virgin materials and encourage uptake of recycled content in plastic products and packaging.



CROSS CUTTING LEVER 8

Strengthening procurement would drive demand for products and packaging that are designed to be reusable, repairable, and recyclable, that meet certification standards, and participate in best-practice industry label schemes.

The Enable Design for Environmental Good publication is available at www.dcceew.gov.au

NEXT PAGE

Enabling Design for Environmental Good

PLASTICS SECTOR

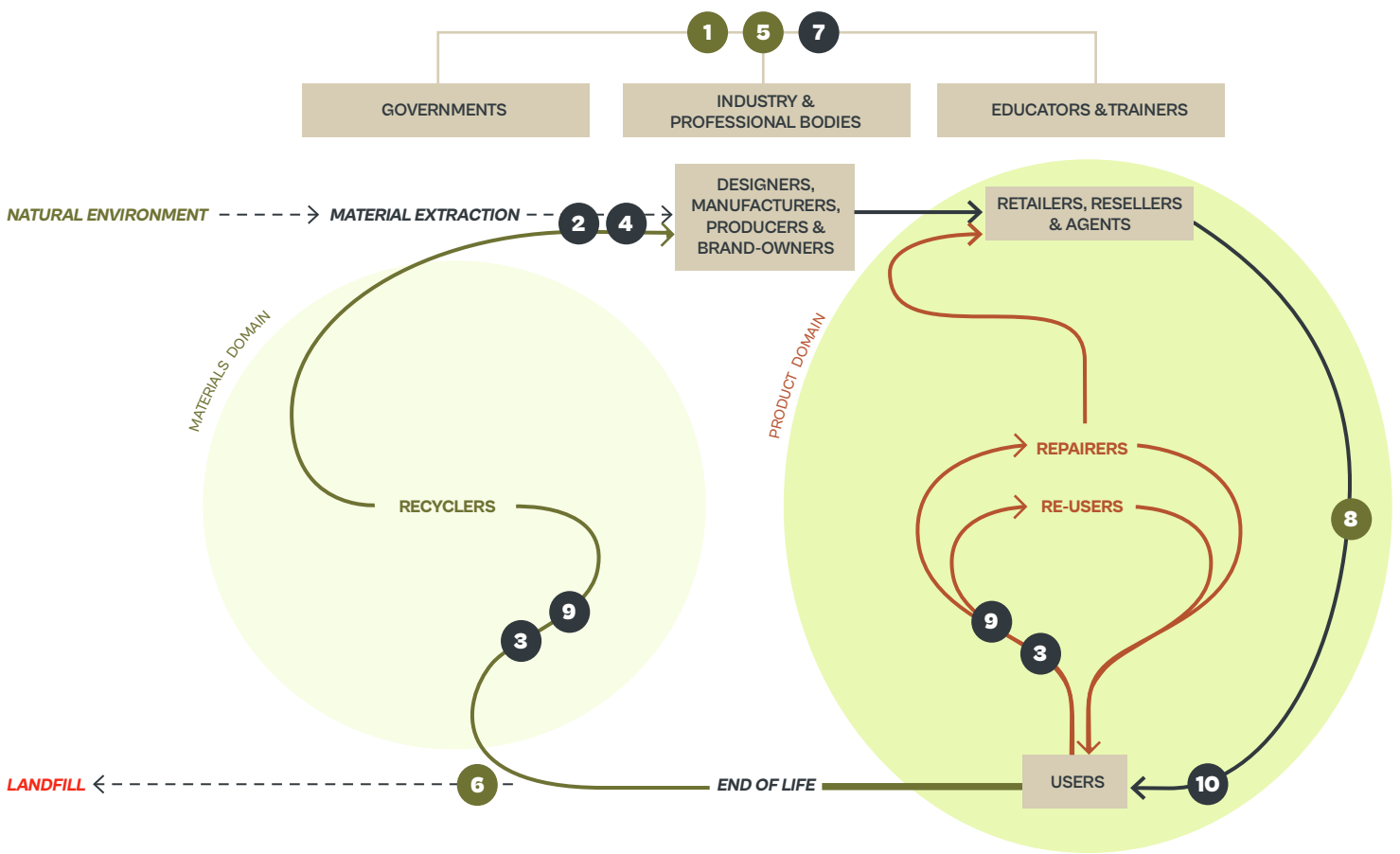
The diagram below is adapted from various material flow diagrams from organisations such as the Ellen MacArthur Foundation. It represents the linear flow of materials from extraction/production to manufacture, use and end of life at landfill in the plastics sector.

It shows specific points along the supply chain where recommended levers may be applied to improve Eco-Design and circularity through the activation of value retention options to limit linear and environmentally problematic material flows. The diagram also shows two distinct

circular loops: Orange shows actions and pathways that keep a product in circulation for as long as possible (reuse and repair) and Green shows actions and pathways that keep material in circulation for as long as possible (recycling).

Impacts of levers for Eco-Design within a product supply chain

Example: PVC plumbing pipe (plastics sector)



- 1** Cross-cutting lever 1 Strategy for Eco-Design for a Circular Australia
- 2** Cross-cutting lever 2 Revise and energise product stewardship and extended producer responsibility
- 3** Cross-cutting lever 3 Activate design for reuse, repair and refurbishment: the Reuse & Repair Reset program
- 4** Cross-cutting lever 4 Raise standards and specifications for products and materials for national alignment with global best practice producer responsibility
- 5** Cross-cutting lever 5 National funding for Eco-Design, circular initiatives and supply chain innovation: The Eco-Design Innovation Fund
- 6** Cross-cutting lever 6 Phase in Accelerating Recyclables from Landfill Fees on priority products
- 7** Cross-cutting lever 7 Financial and regulatory mechanisms addressing negative externalities
- 8** Cross-cutting lever 8 Procurement power and market pull: Buy for Good program
- 9** Cross-cutting lever 9 Professional education program to activate skills and capacity: Learning for Environmental Good and Up-skilling Program
- 10** Cross-cutting lever 10 Accelerate public acceptance and support of design for environmental good

Responsible entities
 Current dominant linear flow
 Preferred circular flow
 Products flow
 Secondary Materials flow