



## Ending Plastic Waste

Ending our dependence on plastic is one of our most urgent environmental challenges. Global use of plastic is estimated to double by 2040 but the world is responding, with nearly 200 countries agreeing to work towards a United Nations treaty to combat global plastic pollution. The time is now to bring science, technology, and business together to innovate in the design of new products and materials that will help unlock the value from plastic waste.

We need transformation to build a successful waste sector, deliver new industries and jobs, and stop plastic pollution ending up in our environment. Together with our partners, our goal is to reduce 80 per cent of plastic waste entering the Australian environment by 2030.

CSIRO conducts world-leading, award winning research into plastic pollution in Australia and beyond, on land and at sea, to help protect ecosystems and inform waste management. Our research will reduce the impact of plastic in our environment and address the entire plastics supply chain to build Australia's circular economy. We are developing new innovations in manufacturing and systems knowledge to create better plastics circularity. We are collaborating locally and internationally to develop technology and inform regulation to change the way we make, use, recycle and dispose of plastics.



## Opportunity

Over 9.5 billion tonnes of plastic have been produced globally since 1950, with only nine per cent recycled. This is commercially unsustainable and there are significant detrimental impacts to human health and the environment.

Closer to home, we know plastics are contaminating Australia's land and seas, and challenging our industries, communities and citizens. CSIRO research has already found that in Australia three-quarters of rubbish found along our coastline is plastic. Most is from Australian sources, not from overseas, with debris concentrated near urban centres.

A circular economy for plastics, which employs not only waste management, but reuse, recycling and responsible manufacture, will support the development of new industries and jobs and increase efficient use of natural resources.

## Impact

Together with our partners, we aim to transform plastic waste into a commodity, whilst informing waste management policies to build a more resilient Australia and support new industries.

- New jobs and industries
- Internationally competitive circular economy products and services
- Significant reduction of waste in the environment
- Reduced harm to wildlife, people and communities

## Focus

Our researchers are investigating the relationship between plastics, humans and our environment, with a focus on sources and amounts of plastic pollution in Australia and the world, and how to turn plastic waste into valuable products. Our research applies to the life cycle of plastics. We're working with industry, government, researchers, philanthropic organisations and communities to address everyone's role in solving this problem.

With our partners and harnessing our research, our focus is on:

- Revolutionising packaging
- Social change and governance
- Waste innovation
- Information for decision making
- Managed waste systems

## Collaborators

As part of our Ending Plastic Waste research, we're engaging with a range of government partners on a federal, state and local level; along with industry partners Australian Packaging Covenant Organisation, Chemistry Australia, Kimberly-Clark Australia, Circle 8 Clean Technologies, Ostrom Polymers and Phantm; and a number of universities including Monash University, Murdoch University, University of Technology Sydney, University of Queensland, RMIT University, University of Tasmania, and University of Western Australia. We are also partnering with a number of international organisations including the National Science Foundation, and organisations as part of the Indo-Pacific Plastics Innovation Networks in Indonesia, Vietnam and Thailand.

**As Australia's national science agency and innovation catalyst, CSIRO is solving the greatest challenges through innovative science and technology.**

CSIRO. Unlocking a better future for everyone.

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