

01 November 2024

Joanne Chong & Alison Roberts
Commissioners
Productivity Commission
4 National Circuit
BARTON ACT 2600

Dear Commissioners

Submission to the inquiry into *Opportunities in the Circular Economy*

The Australian Academy of Technological Sciences and Engineering (ATSE) is a Learned Academy of independent, non-political experts helping Australians understand and use technology to solve complex problems. Bringing together 900 of Australia's leading thinkers in applied science, technology and engineering, ATSE provides impartial, practical and evidence-based advice on how to achieve sustainable solutions and advance prosperity.

ATSE thanks the Productivity Commission for the opportunity to respond to this inquiry. We have previously published [Towards a Waste Free Future: Technology Readiness in Waste and Resource Recovery](#) that we believe would be useful to the Commission in completing your inquiry. A copy of the summary report is attached to this letter, with the full report available on [ATSE's website](#).

Australia only recovers 58% of materials that go into our waste streams, producing 27 million tonnes of landfill each year. Waste products can contain considerable value, and discarding or destroying these waste produces results in this value being unutilized. Waste materials can be used as vital feedstock for manufacturing, and emerging technologies are helping to increase the range of products that can be recycled and remanufactured to develop new products, including traditionally hard to recycle products. For example, UNSW's SMaRT Centre has developed Green Ceramics [MICROfactorie technologies](#) that help create kitchen benches and tiles from waste materials.

Making the most of this opportunity will not only will also support Australia's sovereign manufacturing capacity and allow us to add value back into global supply chains, but also develop new markets and create jobs – with the recycling industry able to grow by 35,000 jobs if we recycled everything possible. For example, Circular Plastics Australia (a collaboration between Coca-Cola, Asahi, Pact and Cleanaway) has established two PET plastic recycling plants in [Albury-Wodonga](#) and [Melbourne](#), supporting hundreds of jobs and allowing Coca-Cola and Asahi to make commercially viable 100% recycled beverage bottles.

ATSE's report makes 4 overarching recommendations to help establish a stronger circular economy:

- Shifting to design for waste avoidance
- A systems approach to increasing resource productivity and recovery
- Using big data and analytics to inform decision making
- Targeted investment, regulatory reform and policy certainty

Technology is essential to support and guide the necessary systemic and regulatory change. Advances in technology will enable materials to be identified, tracked, sorted and processed and support the design of products that are more durable, reusable, repairable, and able to be remanufactured or disassembled once they reach the end of their first life.

Research and development are needed to enable these technologies to be delivered at scale and produce real-world impacts on waste processing, however more work is still needed to adapt technologies to be industrialised and used at scale. However, Australia spends significantly less than the OECD average on research and development. If Australia is to become a leader in developing a circular economy, Australia needs to boost its investment in research and development to support new discoveries and efficiency improvements.

ATSE would be happy to connect you to a range of experts in the circular economy from our Fellowship or to provide additional information to support the Productivity Commission's inquiry. If you would like any further information from ATSE, please contact academypolicyteam@atse.org.au.

Yours sincerely

Kylie Walker

Chief Executive Officer