

The role of standards for a strong circular economy

CSIRO Ending Plastic Waste Symposium

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**Chemistry
Australia**

The Business of Chemistry
Essential for Life

Content

1. Creating an Australian Plastics Circular Economy – supporting the UN Treaty
2. Ending plastic feedstock waste: Operation CleanSweep[®]
3. Ending plastic product waste: Circular plastic value-chain standards & specifications

Representing the Strategically Important Australian Chemistry Industry



Supplies **108** of Australia's
114 industries

Delivers
\$38 billion
to Australia's
GDP



3rd largest
manufacturing
sector

5,500 small,
medium and
large businesses
in every state
and territory



Directly employs
more than **61,000**
people in highly
skilled jobs



The industry underpins
212,000 jobs in related
supply chains

Global Industry Vision

A world without plastic pollution

A world in which plastics are sustainably produced, designed, used, re-used and recycled in a circular economy and don't become pollution.

And a world where plastics contribute significantly to the UN Sustainable Development Goals (SDGs), including a lower carbon future.



**OUR AMBITION:
TO ELIMINATE
PLASTIC POLLUTION**

Championing a global agreement
for a sustainable, circular economy.

PlasticsCircularity.org



**THE
CHALLENGE**

Unmanaged plastic waste ends up as pollution.

As many communities throughout the world lack even basic systems to collect waste, used materials are often discarded onto land and into rivers and oceans. While most refuse sinks, many plastics are buoyant and can circle the globe on ocean currents. This unmanaged waste causes serious environmental and economic damage. In a planet with limited resources we must keep these plastics in our economy and out of our environment.



**OUR
VISION**

We envision a world without plastic pollution.

A world in which plastics are sustainably produced, designed, used, reused and recycled in a circular economy and don't become pollution. And a world where plastics contribute significantly to the UN Sustainable Development Goals (SDGs), including a lower carbon future.



**OUR
AMBITION**

We support governments' ambition* to eliminate additional plastic pollution by 2040.

To get there, we need to accelerate a circular economy in which plastic products and packaging are **sustainably reused or recycled instead of discarded**, enabled by a global agreement that unlocks industry innovation and global investment in plastics circularity.

*G7 Climate, Energy and Environment Ministers Communiqué, 2022.

Our Ambition: Eliminate Plastic Pollution | 5

Chemistry Australia Vision

Committed to creating an Australian Plastics Circular Economy



Stewardship Action Plan: all stages of the circular economy with value-chain partners

Foundation Partner to CSIRO EPW Mission

The transition from Linear to Circular requires:

1. Design for re-useability, recyclability and compostability
2. **Eliminating plastic pellet loss to the environment**
3. Product and market development that create demand for re-usability and recycled content
4. Standardized collection, sorting and cleaning infrastructure for quality, clean plastic stream feedstock at scale
5. A suite of recycling technologies able to transform used products back into high value resources
6. Research, development and piloting of solutions to deliver technology platforms and market volumes
7. **Specifications & standards to verify raw material feedstocks / recycling outputs / recycled content of products**
8. Conformance of imported materials and products to meet Australian specifications including APCO targets, and
9. Nationally consistent and reliable data systems to measure performance and inform decisions.

Standards help improve market certainty

“Shift to a circular economy can reduce volume of plastics entering oceans by > 80% by 2040”

UNEP – Nairobi March 2020 – Global treaty to end plastic pollution.

Economies and markets need certainty for investment, scale and growth

Standards help people: create uniformity from variety = increased certainty, investment, scale

- Behaviours, policies, systems, processes, information, operations

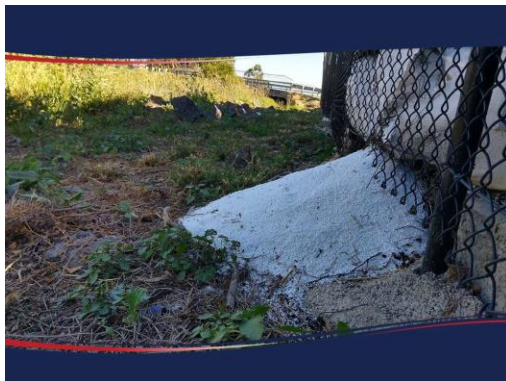
Dysfunctional markets can require intervention. COAG Regulatory Intervention Model:

- Voluntary
- Co-regulatory
- Mandatory

Golden Rule of Stewardship:

- Go Voluntary
- Go Hard
- Go Early

Ending plastic feedstock waste



Operation Clean Sweep®

Global plastics industry standard:

- [Operation Clean Sweep®](#): 3,300 Signatories in 60 countries
- Standardised, auditable system tailored to local economies

Australian plastics value-chain standard: **Its on our watch!**

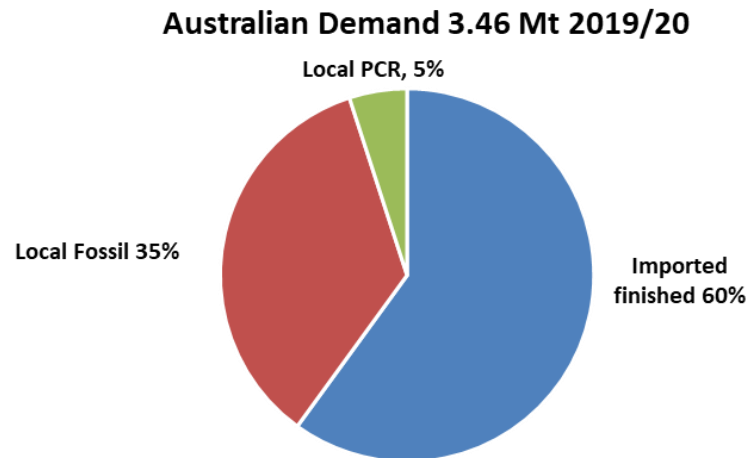
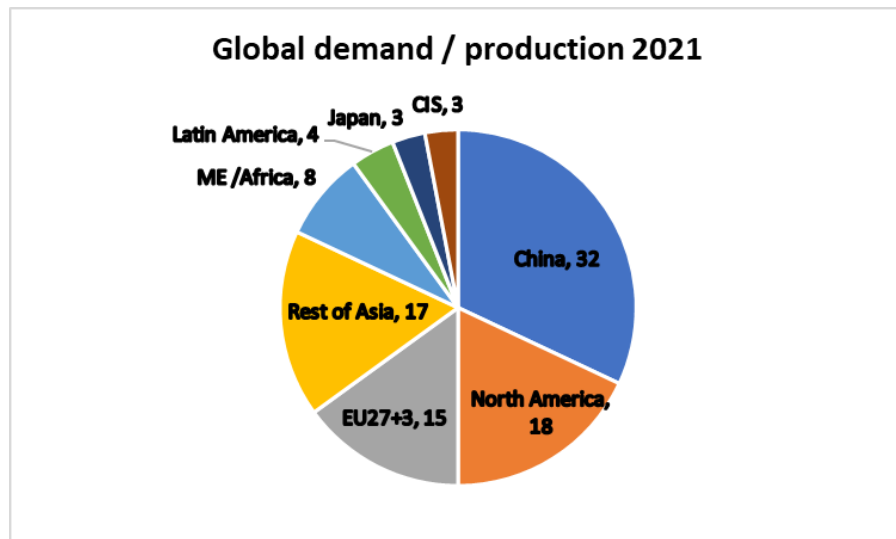
- [Operation Clean Sweep Australia®](#): Zero pellet loss
- 85 company signatories along the value-chain
- Tangaroa Blue Foundation joint licensee with Chemistry Australia
- Whole of plastics feedstock value-chain approach:
 - Resin makers / importers / distributors / logistics
 - Product makers / reprocessors / recyclers



Sign up today

Ending plastic product waste

Global demand / production: **430Mt in 2022** (UNEP 2022)

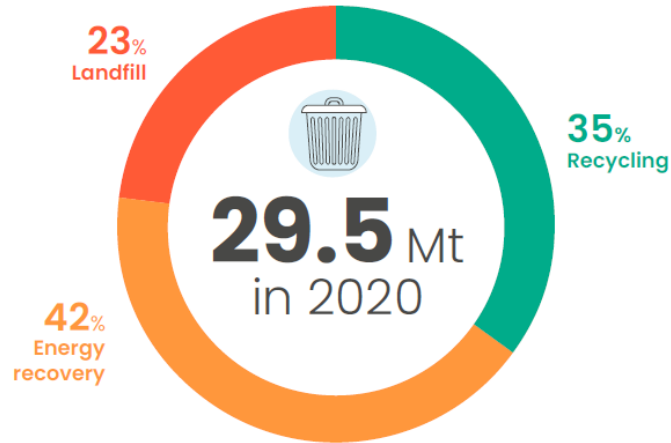


Australia 2019: demand 3.8Mt (0.9% global) / production: 0.5 Mt (0.1% global)

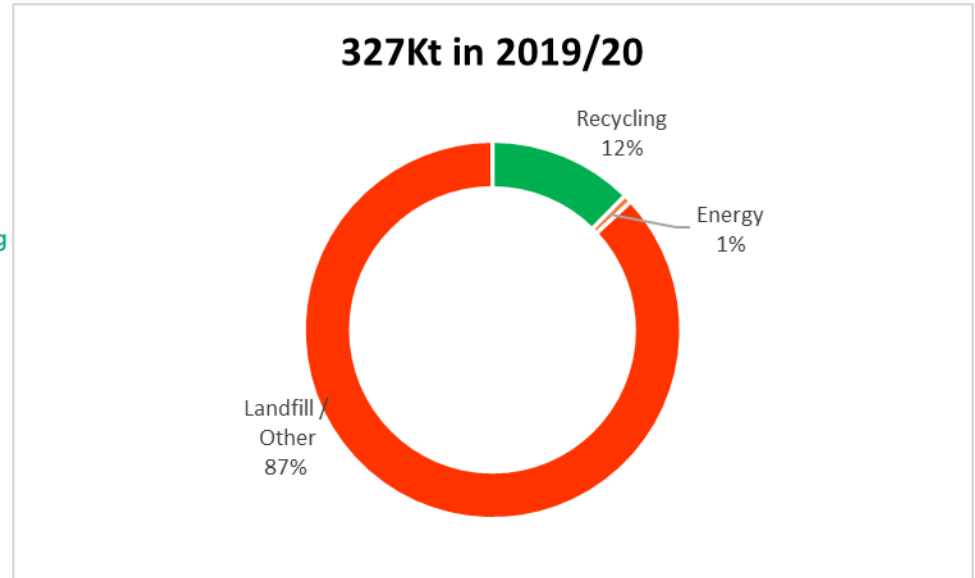
60% of Australian plastics consumption is imported finished goods

100% of the Australian plastic market / value-chain needed to transition linear to circular

Product end of life: EU and Australia



Europe



Australia

1. Optimise product design, durability, collection/reprocessing, standards, traceability
2. Triple mechanical recycling
3. Introduce Advanced Recycling in place of Energy Recovery

Virgin plastic: feedstock to resin



2 regulated natural gas and oil fields in Bass Strait and Central Australia :

- High spec engineering processes extract Ethane and Propane
 - (Single-use fuel if not polymerised into increasingly circular systems)
- Multi-level engineering standards / specifications help people produce highly engineered Polyethylene and Polypropylene
- High degree of traceability
- **Agnostic oil and gas molecules**

Recycled plastic: feedstock to resin



26M people: 11 M dwellings + 2.5M businesses / 537 LGAs / 8 States, Territories:

- Used products (eg: rigid & flexible packaging)
- Variability in feedstock provided
- Comparatively low level of traceability
- Comparatively fewer standards in place
- **Large amount of public goodwill and system potential**
- **High capability circular value-chains, engineering, know-how, opportunity**



Strengthening circular economy standards & specifications Chemistry Australia The Business of Chemistry Essential for Life

Foundation ISO 59000 Series Circular Economy: via ISO / Standards Australia (**imminent**)

Foundation CSIRO mapping of broad plastics Standards landscape in Australia (**existing**)

Sector specific mapping / alignment of Stds/Specs within circular markets: (next level required)

- Aligning used plastic packaging to food / non-food grade polymers (**next project to commence**)
- Verify raw material feedstocks / recycling outputs / recycled content of products
- Traceability / mass balancing within resin production and product manufacturing sectors
- Globally aligned with domestic functionality
- Working Group of CSIRO / Chemistry Australia and circular value-chain partners:

1. What's already in place, and needs alignment
2. Gaps needing development, and alignment
3. Agreed alignment of Standards into an integrated system



Thank you

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