
APCO 2018 Working Groups *- Key Findings Briefing Kit*

March 2019



Introduction

APCO is leading the delivery of the National Packaging Targets and working to create 100% recyclable, reusable or compostable packaging in Australia by 2025 or earlier. To bring these targets to life, it is vital that we develop a coordinated, whole-of-supply chain approach to the recovery and recycling of problematic packaging materials.

To accelerate this circular approach, in 2018 APCO led five Working Groups to address five of the biggest challenges for recovery and recycling in Australia. They include:

1. Biodegradable and Compostable Packaging
2. Expanded Polystyrene
3. Glass
4. Polymer Coated Paperboard (Phase II)
5. Soft Plastics.

These national, collaborative forums brought together over 80 experts, including manufacturers, brand owners, independent experts, resource recovery and recyclers, and all levels of government.

The five working groups developed detailed project reports and recommendations. The following document provides a one-page snapshot of key findings from each report – including the current challenges, key working groups findings and the critical data and infrastructure gaps that need to be addressed in order to move forward.

To download the full reports, or for more information about the working group process, visit the APCO website: www.packagingcovenant.org.au

Biodegradable and Compostable Packaging Working Group 2018 Summary

For the Biodegradable and Compostable Packaging Working Group, the objective was to analyse the current status of biodegradable and compostable packaging materials in Australia and identify a range of stakeholder-led projects that will improve recovery and help drive the delivery of the 2025 National Packaging Targets.

The 2018 Working Group recognises that compostable packaging is a disruptive technology that has a role to play in achieving the 2025 National Packaging Targets. However, the implementation of a whole of system approach is required, involving packaging manufacturers, brand owners, councils, waste collection contractors, MRFs, organic recyclers, consumers and state and federal government. A regulated, certification based, labelling program to guide industry and consumer behaviour is also critical. This systemic change must also align with international progress on compostable packaging applications, such as the New Plastics Economy action plan, sponsored by the Ellen MacArthur Foundation.

A snapshot of the challenge

- Biodegradable and compostable packaging is currently a poorly understood waste stream in Australia, with no comprehensive national data on the quantity consumed, and a broader lack of information on the economics of collection and recycling of compostable materials
- Industry and consumer understanding are consistently limited, an issue compounded by the fact there is no consistent labelling system in use. Nevertheless, community and industry interest in this sort of packaging is growing, driven by the perception it offers an opportunity to meet environmental and waste diversion goals
- An increasing number of products that claim to be ‘degradable’, ‘biodegradable’ or ‘compostable’ do not meet relevant industry standards
- Most biodegradable and compostable packaging is considered a contaminant in existing kerbside recycling systems for plastics and paper
- A limited number of organics recycling facilities accept compostable packaging, alongside a reluctance from some waste contractors to transport compostable packaging to facilities
- Strict regulation is currently preventing compostable packaging in recycled organics being applied to land
- There is a perception that accepting compostable packaging will lead to more contamination in collected organics.

Key working group findings:

- Certified compostable materials should only be prioritised when they achieve the best environmental outcomes and can be recovered through widely available recycling or organics recovery services. In some cases, a life cycle assessment may be necessary to identify the highest value recovery system.
- There are opportunities to increase the use of certified compostable packaging - at this early, transitional stage, ‘closed systems’ such as events, sporting stadiums, cafes or office campuses are ideal.
- Consistent and clear terminology will play an important role in guiding industry and consumers.

The following knowledge and data gaps should be addressed:

- The quantity of compostable plastic packaging consumed and recovered in Australia, as well a further breakdown of packaging that is local manufacture versus imports
- Identification of organics processing facilities that will accept compostable packaging, and the acceptable types of compostable packaging
- Identification of councils that currently accept compostable packaging materials at kerbside through GO/FOGO collection and their challenges or opportunities
- Environmental and economic benefits of compostable versus recyclable packaging
- Real time data on the fate of compostable plastic packaging introduced into organics processing facilities.

Expanded Polystyrene Working Group 2018 Summary

For the Expanded Polystyrene Working Group, the objective was to analyse the current status of EPS packaging materials in Australia and identify a range of stakeholder-led projects that will help improve recovery and drive the delivery of the 2025 National Packaging Targets.

The EPS Working Group 2018 vision is for EPS packaging to be reused and recycled wherever viable and sustainable (we note that composting is not a possible solution for EPS at this stage).

A snapshot of the challenge

- An estimated 71,000 tonnes (growing at a rate of 5% per annum) of EPS is consumed in Australia annually, with relatively low recycling rates at 29%. An estimated 12,000 tonnes of EPS are disposed to landfill each year and this material occupies large volumes of space. These problems and associated costs to local government are not reflected in landfill disposal costs.
- EPS is a common issue in illegally dumped rubbish. In the litter stream, EPS is particularly problematic because it is lightweight and easily breaks down into small pieces.
- EPS is generally not collected through kerbside systems and the network of drop-off points are fragmented and not accessible by all consumers.
- It is generally cheaper for a consumer to landfill EPS than pay for recycling.
- There are high levels of frustration amongst consumers as they do not know if or how to recycle EPS.
- Contamination rates in many commercial and industrial sources reduces its commercial value.
- Some users are switching from EPS to alternative foams, which can be generally less recyclable due to low volumes and contamination of polymers. Some manufacturers have switched from EPS to more recyclable materials (e.g. cardboard), but there is currently no commercially viable alternative for some electronics and some fresh produce that require the insulation and shock absorption properties of EPS.
- There are limited local markets for recovered EPS; most are exported at present.

Key working group findings:

- All consumers must have access to a convenient drop-off or collection point for EPS, e.g. at least one drop-off site in each local government area. For households, this could be through kerbside collection or more drop-off facilities at council sites.
- Accurate consumption, recycling and landfill data is critical to demonstrate EPS as a priority waste issue and to better understand the potential for increased collection and recycling.
- There is significant potential in the commercial and industrial sectors for more re-use and recovery through greater collaboration.
- There is potential to use more recycled EPS locally e.g. in waffle pods, skirting board, picture frames.
- As seen internationally, if voluntary industry and government efforts to reduce and recover EPS are not successful – i.e. targets not being met – packaging/product or landfill bans should be considered.

The following knowledge and data gaps need to be addressed:

- The quantity of EPS that comes into Australia as packaging with imported products
- Estimated mass and volume of EPS in landfill
- Economic cost-benefit analysis and lifecycle assessment of recycling vs landfilling EPS
- Consumer awareness and knowledge of EPS recycling
- The number and location of collectors and recyclers in Australia
- Litter impact if collection and recycling of EPS was implemented for consumers
- Viability of alternatives to EPS
- International approaches to EPS recycling, e.g. in South Korea and Japan, could inform approaches in Australia.

Glass Working Group 2018 Summary

For the Glass Working Group, the objective was to analyse the current status of glass packaging materials in Australia and identify a range of stakeholder-led projects that will help improve recovery and drive the delivery of the 2025 National Packaging Targets.

A priority for glass recovery in metropolitan areas, where feasible, is to improve the quality of collected glass and to divert it to nearby glass manufacturers. Any residual material unsuitable for glass manufacturing, or in geographic areas where transport costs to a glass manufacturing plant are prohibitive, should be recovered through secondary markets achieving highest potential resource value. Any proposed changes to current systems need to achieve a system-wide benefit, i.e. they need to consider total costs and benefits and avoid cost shifting.

A snapshot of the challenge

- The national recycling rate for glass packaging is relatively low at around 50%, with challenges including limited or low-value end markets for broken glass, increasing levels of glass breakage in the kerbside system, consumers disposing of glass with general rubbish and increasing costs of recovery. Each year, up to 62,000 tonnes of glass is estimated to be lost to landfill.
- Glass packaging manufacturers would like to source more quality cullet to increase recycled content, however a high proportion of collected glass does not meet quality specifications for colour and contamination levels. Markets for broken, contaminated glass are more limited and some material is currently being stockpiled.
- While an increasing quantity of quality glass is being sourced from container deposit/refund schemes, this is projected to still be insufficient to meet potential demand for cullet
- Broken glass in commingled bins and trucks can become embedded in paper and paper making equipment, causing problems at the paper mill.
- These issues are increasing the costs of glass recovery - costs that are primarily being borne by local councils and ratepayers.

Key working group findings

- At end-of-life, the highest value market for recovered glass is generally back into glass containers.
- A priority for metropolitan areas is to improve the quality of collected glass and to divert it to nearby glass manufacturers.
- Any residual material unsuitable for glass manufacturing should be recovered through secondary markets to achieve highest potential resource value.
- There is potential for more recovered glass to be manufactured back into containers if quality standards are met. One option being trialled is source separation at kerbside. More research is required into best practices at MRFs to minimise losses and increase quality yield.
- Private companies, MRF operators and state governments have invested in processing equipment to manufacture products such as glass sand and aggregate for civil construction. There are a number of technical, behavioural and regulatory barriers that need to be addressed to further build these end markets.

The following knowledge and data gaps need to be addressed

- How to address issues faced in regional cities, in comparison to metropolitan.
- The impact of differing sorting and processing technologies – what is best practice?
- Environmental and economic cost/benefit analysis for landfilling vs recycling glass.
- The impact CDS could have on the carbon footprint for glass recovery in Australia.
- Identifying all current Australian processors, innovators or technologies available.
- The impact of differing packaging labels and adhesives on the glass recycling process.

Polymer Coated Paperboard Working Group 2018 Summary

For the Polymer Coated Paperboard Working Group, the objective was to analyse the current status of PCPB packaging materials in Australia and to identify a range of stakeholder-led projects that will help improve recovery and drive delivery of the 2025 National Packaging Targets.

The vision of the PCPB Working Group 2018 is for a significant reduction in PCPB single use packaging, and for all PCPB packaging to be designed in line with the waste hierarchy, with clear pathways in place for collection and material or organics recycling that keep it out of landfill.

A snapshot of the challenge

- Consumption of PCPB is growing, driven by a global move to replace plastics with more recyclable materials. In 2015, Australians consumed an estimated 56,492 tonnes of PCPB
- Contamination remains a problem - kerbside collected bales have been routinely recorded with contamination levels as high as 14% (with recent import Chinese import restrictions limiting contamination to no more than 0.5% in certain categories)
- While some categories of PCPB are classified as 'widely recycled' in the kerbside system, their composite structure and the use of wet strength additives can affect the cost effectiveness of recovery through MRFs and subsequent paper mills, locally or internationally. Longer processing times and alternate screens are required for recycling PCPB packaging due to the polymer laminates and additives. Some PCPB beverage containers are eligible for collection through state/territory container deposit schemes, e.g. some fruit juices and flavoured milks
- There is currently no dedicated recycling facility in Australia for PCPB, making paper mills the primary market, along with landfill
- While technically possible, food contact standards for packaging restricts 'closed loop' recycling back into some packaging
- Most coffee cups and food service packaging is consumed away from home, making conventional kerbside recycling ineffective for these applications.

Key working group findings

- The ultimate goal is to recycle as much as possible back into the same material, which is generally paper. Packaging that cannot be collected for material recycling e.g. because it's too contaminated with food, could be designed for organics recycling
- A significant proportion of PCPB single-use packaging could be reduced through the substitution with reusable alternatives, particularly hot and cold cups
- Programs that source-separate coffee cups from commercial and industrial venues, such as cafes and office buildings, for recycling are in the process of expanding after successful pilot / trial scale programs and may provide viable long-term solutions
- Australia does not have a dedicated PCPB recycling facility, however a number of alternative technologies to recover source-separated PCPB are being investigated or trialed. Paper mills run on continuous processing.
- Engagement from packaging manufacturers, waste and recycling collection services, councils, paper mills and state and government in the design or implementation of the identified projects will be critical for driving change.

The following knowledge and data gaps need to be addressed

- Material flows for PCPB including consumption volumes and sources; and recovery and recycling data by format type and location
- What happens to PCPB in Material Recovery Facilities
- The financial (cost/benefit) and environmental impacts (life cycle assessment) of different collection and recycling systems for PCPB (e.g. composting vs recycling; plastic vs paper recycling)
- The lifecycle impacts of alternative polymer linings, e.g. PE vs PLA and the impacts, if any, these materials have on the existing recycling stream
- Clear evidence of composition thresholds that affect recyclability

Soft Plastic Packaging Working Group 2018 Summary

In 2018, APCO convened five working groups to investigate barriers and opportunities to improve the recovery of 'problematic' packaging materials. For the Soft Plastics Working Group, the objective was to analyse the current status of soft plastics packaging materials Australia and to identify a range of stakeholder-led projects that will help improve recovery and drive the delivery of the 2025 National Packaging Targets.

The Working Group's vision is for all soft plastics to be designed for reuse or recycling, to incorporate recycled content where feasible, and to be recycled or composted at end of life.

A snapshot of the challenge

- The soft plastics recycling rate is relatively low – around 14% in 2015-16 (based on consumption of 336,000 tonnes and recycling of 48,000 tonnes).
- Soft plastics are technically recyclable, although multi-layer formats are the most problematic due to the presence of different polymers and other materials, e.g. aluminium foil.
- Challenges exist across the soft plastics recovery system - from limited collection and drop-off services for businesses and households, through to the setup of Material Recovery Facilities. Local markets are also currently limited and there is a low commodity value for collected soft plastics.
- Safety regulations mean soft plastics generally cannot go back into food contact packaging.
- Technical difficulties also make it hard to recycle soft plastics back into other soft plastics.
- Different recovery approaches have resulted in inconsistent messaging around soft plastics recyclability.

Key opportunities for soft plastics recycling

- Trials have demonstrated that MRFs can manually sort aggregated soft plastics from kerbside bins, sometimes at a neutral cost, as soft plastics are already being received as a contaminant and recycling would avoid landfill costs.
- Design guidelines being developed in Europe (CEFLEX) will help inform domestic design of soft plastic packaging to make it more 'recyclable'.
- More collection/drop off points for consumer packaging (e.g. REDcycle) are required, alongside services for other identified streams like C&I, accompanied with extensive education and engagement regarding reducing, reusing and recycling.
- Emerging chemical processing technology has the potential to convert end of life mixed plastics to oil that can close the loop by being used to remanufacture plastics or any oil-based product.

The following knowledge and data gaps need to be addressed

- Consumption, collection, recycling and market destination data for soft plastics by source and waste stream, to identify exact volumes we are dealing with in differing streams.
- The lifecycle benefits of recycling soft plastics compared to other disposal options such as landfill, to support the business case for pursuing new initiatives.
- The lifecycle benefits of different end-markets for soft plastics, to ensure highest value applications.
- Consumer and business behaviours for recycling soft plastics, to support source separation education at home, work or drop off points.
- International efforts and technologies to address the reduction and recycling of soft plastic packaging, to inform best practice for Australia.