



Foundational framework for a Plant Packaging Product Stewardship Scheme

31 March 2022 Version 1









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# Acknowledgements

This is the first version of the proposed product stewardship scheme for the Polypropylene Plant Packaging Recycling (PoPPr) Program. The project is funded by the Australian Government under the National ProductStewardship Investment Fund (NPSIF) and is delivered under the Australia New Zealand Pacific Islands (ANZPAC) Plastics Pact led the Australian Packaging Covenant Organisation (APCO), in partnership with Greenlife Industry Australia (GIA). This document has been prepared by The Activ Group in consultation with APCO, GIA and the PoPPr Steering Committee.

We would like to extend our thanks to all contributors for their time, expertise, advice and guidance in developing this first version of the PoPPr scheme framework.

# **Executive Summary**

This document outlines a co-designed, industry supported framework for a polypropylene (PP) plant packaging product stewardship scheme.

The framework was developed under the ANZPAC Plastics Pact, by the Australian Packaging Covenant Organisation (APCO) in partnership with Greenlife Industry Australia (GIA). APCO's Collective Impact Framework to build a circular economy for packaging in Australia, has been adopted to support the scheme's development.

The paper follows on from a 2020 business case which outlined the challenges associated with recovery and recycling of PP plant packaging in the Australian market, including the lack of existing recovery pathways and the widespread use of carbon black pigments in plant packaging. It has been informed by a pilot program, preliminary cost benefit analysis (CBA), and through industry consultation undertaken since 2019.

The business case for recycling PP plant packaging outlined a range of technical and operational issues. It also outlined the usage rates for plant packaging, the growing consumer interest in gardening, and the strong support and need for a circular plant packaging system.

Though gradually changing, issues with kerbside collection of PP plant packaging, such as the technical difficulties with identify carbon black pigments in automated sortation and the costs of upgrading optical sorting equipment, continue to reinforce the benefits of plant packaging stewardship.

The benefits of keeping PP plant packaging in the plant packaging value chain also support the case for greenlife plant packaging to remain in polypropylene given it has demonstrated durability in harsh growing and maintenance conditions.

The scheme aims to increase the percentage of recycled content in the manufacture of Australian plant packaging and decrease the percentage of virgin material by collecting PP packaging from the greenlife packaging value chain and remanufacturing it back into new plant packaging.

The process has considered a range of elements for product stewardship design with a focus on customer driven value. The design focuses on a circular economy scheme, that considers the waste hierarchy to deliver material circularity at its highest value for as long as possible. The scheme design also aims to balance the waste stream, stakeholder requirements and market dynamics, to minimise the free-rider effect.

The role of the scheme is multifaceted and extends beyond plant packaging resource recovery to include consumer education and scheme promotion to drive behaviour change, product stewardship reporting programs, and the distribution of subsidies and rebates.

The design process has been mindful of synergies with other product stewardship schemes and scheme managers and seeks alignment with an appropriately resourced existing entity to manage the scheme framework and achieve its goals. The underlying principle of the scheme is to be efficient, flexible, and innovative. The scheme design seeks to leverage existing infrastructure for efficiencies in governance, legal and financial management and in technology, communications and operating costs.

Consultation with Greenlife Industry Australia indicated support for the scheme be established as a program within an existing product stewardship organisation.

A key element of the design process was to conduct a Pilot Program to test design elements of the PP plant packaging recycling scheme. The Pilot has been successful in determining

- broad acceptance of a product stewardship scheme by Pilot participants
- cost range per kilogram of collected recyclate as per the CBA
- consistency of communication to participants and consumers, and
- low contamination rates of recycling streams.

However, the effects of severe weather and COVID-19 significantly impacted the findings of the Pilot Program, which operated from November 2021 to February 2022.

The retail exchange between businesses and consumers of plant pots will have significant impact on the success of a scheme. Collection points should have high visibility to encourage participation and remind consumers to return their used plant packaging.

A preliminary CBA identified the key financial elements to be included in a product stewardship scheme for plant packaging. To design an efficient and effective product stewardship approach, the proposed scheme must balance optimal recovery solutions with the most efficient cost model. Revenue options were considered with the preliminary CBA supporting a funding mechanism that combines membership and plant packager contributions through a recycling fee.

Drawing on extensive industry consultation, supplemented by insights gathered through the execution of the pilot, the following characteristics have been identified.

- It is understood the industry has sufficient points of consolidation and agreement to maximise coverage and minimise free riders in support of a voluntary scheme.
- The preliminary CBA supports the operation of a scheme under an existing entity.
- A hybrid collection model should be adopted to support increased collection of plant packaging, through diverse collection pathways.
- Scheme guidelines set the basis for scheme participants around the collection, transport, recycling, and disposal of products covered under a scheme and assist in the management of free riders.
- Scheme revenue which combines membership and plant packaging manufacturer contributions through a recycling fee will support scheme viability. Packaging manufacturer contributions will be based on a volumetric fee as a percentage of the cost of plant pots and manufacturers producing labels and stakes will contribute separately via a set fee.

Additional research is recommended to further understand the nuances of national collection and to finalise the recycling fee. Research should include market impact, comprehensive material flow analysis, and an understanding of modernisation for material recycling facilities. With this information a phased scheme implementation can commence.

# Introduction

## Purpose & Background

The purpose of this document is to outline a co-designed, industry supported framework for a polypropylene plant packaging product stewardship scheme aligned with and informed by APCO's packaging value chain as shown in Figure 1.

The business case, completed in June 2021 articulated both a requirement and widespread stakeholder support for the development of a national recovery and recycling scheme for plant packaging. The business case has also reviewed potential governance, administrative and funding models for further refinement.

## Greenlife Industry Collective Impact

The scheme design phase is informed by APCO's Collective Impact Framework for industry transformation towards circular best-practice within Australia's packaging industry. APCO's stated vision is "to collaborate to keep packaging materials out of landfill and retain the maximum value of the materials, energy and labour within the local economy. Achieving this vision will require fundamental changes to the way packaging is manufactured, used, collected and reprocessed into new packaging or products."<sup>1</sup>.



Figure 1 Packaging Value Chain

In the scheme design, collective impact is achieved through the five core criteria of the Collective Impact model, applied to the Greenlife Industry context as shown in Figure 2.



## Scope

The PoPPr Program focuses on PP (Resin Identification Code #5) packaging used across the greenlife supply chain including packaging supplied to and used by households, landscapers, commercial and residential landscape projects, major civic projects, within wholesale production nurseries, commercial horticulture production, forestry, and land restoration projects.

The scope of the collection does not include plant packaging made from other materials such as:

- Soft plastic horticultural bags (composite product)
- Pots sold for decorative applications
- Expanded and extruded polystyrene (currently being phased out)
- High Density Polyethylene (HDPE)
- ABS
- Timber
- Concrete/cement
- Glass reinforced plastics (GRP)
- Ceramics
- Metals

## Scheme Design Principles

The scheme design has focused on the following core principles:

- Customer driven To create value for the entire plant packaging ecosystem.
- An open system To drive participation by co-designing a flexible and agile program.
- Economically sustainable To ensure a scheme can adapt to market or regulatory changes.
- Circular Economy A scheme designed to consider the waste hierarchy and deliver material circularity at its highest value for as long as possible.
- Stakeholders Acknowledging all stakeholders have shared responsibility.
- Behaviour change Educating to build awareness and drive best practice change for sustainable plant packaging in Australia.

# Consultation and Engagement

The PoPPr scheme design has been developed through extensive engagement with stakeholders, particularly with business and industry representatives from the horticultural, nursery and greenlife industry, PP plastic producers/suppliers, plastics re-manufacturing and recycling sectors, as well as Government. Consultation and engagement processes have been consistent with APCO's Collective Impact principles and include:

- Establishment of a Steering Committee
- Industry-wide engagement through the Sustainable Packaging in Horticulture Working Group
- Industry Association liaison and feedback
- One-on-one meetings with greenlife packaging value chain business, end users and key stakeholders.

# **Drivers for Change**

# ANZPAC Plastics Pact and Australia's 2025 National Packaging Targets

The design of the PoPPr Scheme is aligned with the <u>ANZPAC Plastics Pact (ANZPAC)</u> Targets and Australia's 2025 National Packaging Targets (NPTs). Both initiatives are powerful drivers of change in Australia and across the Pacific Region.

The <u>ANZPAC Plastics Pact (ANZPAC)</u> is a collaborative solution that brings together key players behind a shared vision of a circular economy for plastic, in which it never becomes waste or pollution.

Covering Australia, New Zealand and the Pacific Islands, the ANZPAC Regional Plastics Targets are:

- Eliminate unnecessary and problematic plastic packaging through redesign, innovation and alternative (reuse) delivery models
- 100% of plastic packaging to be reusable, recyclable or compostable packaging
- Increase plastic packaging collected and effectively recycled by at least 25% for each geography within the ANZPAC region
- Average of 25% recycled content in plastic packaging across the region

The 2025 NPTs are:

- 100% reusable, recyclable, or compostable packaging.
- 70% of plastic packaging being recycled or composted.
- 50% of average recycled content included in packaging (revised from 30% in 2020).
- The phase out of problematic and unnecessary single-use plastics packaging.

Product stewardship has been identified as a key strategy to delivering a circular economy for packaging in Australia.<sup>2</sup> A product stewardship scheme to recycle plant packaging is a highly visible activity contributing to both sets of targets and will enable the drive to packaging circularity for the greenlife industry.

#### Consumer sentiment

Consumer sentiment in Australia is a significant driver of change towards improvements in recycling with a general trend towards more informed consumers increasingly willing to act.

According to a recent study by McCrindle Research, consumer sentiment towards ethical and sustainable purchases is increasing, with reduction of waste from packaging a significant driver of consumer decision-making<sup>3</sup>. Of those surveyed, 64% expressed a desire to reduce their waste from packaging. Choosing products with low environmental impact is important to 51% of respondents and 52% are willing to purchase products and services which positively impact the environment.

In other research by the Republic of Everyone<sup>4</sup>, plastic waste was one of three issues which most concerned people across three of four demographic categories.

Recent global research by Simon, Kutcher and Partners<sup>5</sup> identified that global consumers are a significant factor in driving towards sustainability. Among wide-ranging findings, the researchers identified that 26% of consumers have made significant changes to purchasing behaviour towards sustainable products and 37% have made modest changes. Millennials are the demographic making the most significant changes.

#### Government

The design, development and implementation of the scheme is supported and funded by the Commonwealth Government's National Product Stewardship Innovation Fund (NPSIF). The NPSIF is a funding initiative under the National Waste Policy 2018 and the National Waste Policy Action Plan 2019 and there are fourteen other product stewardship scheme design projects funded in the current round, representing a diverse range of Australian industry.

Since the release of the National Waste Policy and Action Plan, the Australian Government has introduced a suite of new legislation aligned with the Recycling and Waste Reduction Bill 2020 (RWR) with the purpose of managing the environmental, health and material impacts of waste and establishing the legislative framework for Australia's waste export bans. Additional legislation covers transitions, and customs, excise and general charges as well as the replacement to the Product Stewardship Act 2011.

<sup>2</sup> APCO Collective Impact Report, 2021, page 7

<sup>3</sup> Australia Towards 2031 Report, McCrindle Research, Sydney 2021.

<sup>4</sup> https://republicofeveryone.com/power-and-the-passion/

<sup>5</sup> Global Sustainability Study 2021 Simon Kucher and Partners

Additionally, the Australian Government has launched complementary initiatives such as the Recycling Modernisation Fund and a fund to improve national waste data to track recycling impact against the national waste targets.

The legislation, initiatives and funding are reflected in State and Territory Government initiatives. Many of these initiatives are part of the National Waste Policy 2018, and an emerging ecosystem of funds and initiatives across Australia are accelerating the drive to change.

## **Greenlife Industry Policies**

Greenlife Industry Australia have prepared policies<sup>6</sup> which directly drive change towards improved environmental performance across the industry. Specifically, the Environmental Sustainability Policy states the industry "promotes the reduction in waste materials entering landfill. The industry is committed to minimising waste and maximising efficiencies by reducing, re-using, recycling and donating waste where appropriate."<sup>7</sup>

## Recovery and recycling

Current challenges associated with recovery and recycling of PP plant packaging reinforce the need for plant packaging product stewardship. These include:

- A lack of existing recovery pathways available to household greenlife consumers, with most kerbside collection systems rejecting plant packaging.
- Widespread use of and market preference for black plant packaging, using undetectable carbon black pigments, preventing recovery via current automated sortation technologies.
- The diversity of end-of-use destinations from which material can be recovered, highlighting that a nuanced approach is required by a national scheme.
- Biosecurity challenges for recovery and material consolidation.

Stakeholder input and feedback has informed the co-design of this version of the framework.

# Plant Packaging Landscape

# Key findings from the Business Case

The business case prepared by Sustainable Resource Use (SRU) outlined a range of technical and operational issues underlying the recycling potential of PP plant packaging in Australia and internationally<sup>8</sup>.

It outlined the usage rates for plant packaging along with the growing consumer interest in gardening and subsequent growing demand for appropriate packaging; and the opportunity to orientate the plant packaging system towards a circular model.

Most plant packaging in Australia is polypropylene with polymer uniformity, although size, shape and colour varies. The report identified the diversity of retail and commercial pathways for plant transactions, highlighting the existence of different materials flow channels, complicating the reverse logistics potential of any product stewardship scheme.

The report identified that at least 90% of the local PP plant packaging is produced domestically by two manufacturers. Imported packaging of varying quality and manufacturing methods comes from South Korea, China and Italy. Some imported materials are incompatible with local manufacturing methods, having a negative impact on recyclability. An estimated thirty packaging manufacturers and packaging importers participate in the plant packaging sector.

The business case recommended the industry continue manufacturing with polypropylene, with minimal use of other polymers for reasons outlined in *Polypropylene plant packaging* below, and to

<sup>6</sup> Note that Greenlife Industry Australia policies are currently undergoing review.

<sup>7</sup> Nursery and Garden Industry Australia Environmental Sustainability Position Version 2 2014

<sup>8</sup> Allen, Peter (2021). Polypropylene Plant Packaging Recycling (PoPPr) Program. Sydney: APCO.

develop a system of measuring and reporting on consumption, reuse, and recycling outcomes against targets.

It also identified previous and current internal product stewardship trials by major retailers and packaging manufactures have established collection points, to test alignment of drop-off rates and collection frequencies and to understand cross-contamination risks.

Other plant packaging landscape considerations have emerged since the business case was finalised, including the need to further understand current and planned material recycling facility (MRF) capability across Australia, especially for optical scanning, scale and speed. Other considerations include the impact of Federal and State Government funding for technology upgrades to improve MRF capability; and of plant packaging material flows and intra/interstate movement of plants.

The need for data to measure and analyse is evident. While lack of data does not impact the scheme design, scheme performance will benefit if the information deficit is reduced through fine-tuning.

## Polypropylene plant packaging

Extensive industry consultation has indicated a preference for plant packaging to remain in polypropylene as it is 'fit for purpose' owing to its durability for harsh growing and maintenance conditions of greenlife.

Once greenlife purchases are made, pots and labels are often used for a short period, due to planting in garden beds or re-potting to decorative pots. When considering indoor plants, the whole greenlife product is often inserted into a decorative pot, such that disposal of a growing pot and label may be delayed. Some retailers also provide the ability for a drop and swap system for consumers.

In production nurseries, a substantial number of pots, trays and stakes are often re-used during the stages of plant production, however under current circumstances, re-use can still result in disposal in landfill at the end of life.

This demonstrates there are advantages to keeping PP plant packaging in the plant packaging stream and making the recyclate available to PP plant packaging manufacturers as the first preference<sup>9</sup>.

# Scheme Design Considerations

# Shared responsibility

Product stewardship schemes support the environmentally sound management of products and materials over their life. This includes handling at the end of their useful life, as well as re-use, and repurposing. Schemes differ in their design and scope, as each aims to balance various design principles to optimise the alignment between the waste stream, stakeholder requirements and market dynamics.

This means that for product stewardship schemes to be successful, they must be structured and operated based on shared responsibility across most of the industry actors accounting for significant market share to minimise the free-rider effect, where businesses take advantage of the scheme without contributing financially.

The scheme design process has accounted for free-rider effects because the stakeholder ecosystem covers a combined market share of approximately 90% of participants.

g It is noted that the mixed nature of the PP waste stream in Australia still meets the technical requirements of pot production.

As a result, the principle of shared responsibility is embedded in the proposed design and is expressed through a set of guidelines developed through industry and stakeholder consultation. The draft guidelines are listed in Appendix 1.

## Voluntary scheme

In Australia, the Federal government defines product stewardship programs as either mandatory, co-regulatory or voluntary under the Recycling and Waste Reduction Act 2020.

"Voluntary product stewardship schemes are led by industry. They may apply for government accreditation that involves demonstrating that their activities contribute to Australia's waste reduction and recycling objectives. Accredited voluntary product stewardship schemes are authorised to use the Australian Government product stewardship logo that tells businesses and consumers that their activities reduce the potentially adverse impacts of their products across the lifecycle aligned with circular economy principles."

Product Stewardship Centre for Excellence<sup>10</sup>

#### Box 1 Voluntary schemes

This scheme has been designed on an industry wide, voluntary basis as it is understood the industry has sufficient points of consolidation and agreement to maximise coverage and minimise free riders.

## Existing stewardship scheme synergies

The scheme will be mindful of the efficiencies to be gained through synergies with other product stewardship schemes and scheme managers. Efficiencies can be gained in operating the scheme through alignment of product stewardship entities, for improved collection logistics from diverse sources, for co-location of collection points and shared use of transport. This is particularly important for servicing remote and regional areas.

For management and logistics synergies, while still retaining openness and competition, existing product stewardship organisations whose operations map across the retail sector may offer suitable options. This could include organisations such as APCO an accredited voluntary product stewardship scheme, and B-Cycle Battery Recycling which overlap the retail sector.

Identifying schemes with common logistics requirements and mapping potential synergies is a priority in the implementation stage. Existing schemes that may share such logistics include Big Bag Recovery, Tyre Stewardship and B-Cycle Battery Recycling.

There are several voluntary product stewardship schemes currently being investigated under the NPSIF in parallel with the PoPPr scheme which may also share common logistics requirements.

# Cost benefit analysis

Independent economist RPS Group developed a simple funding and financial model to balance scheme expenditure with revenue in the long-term; and to recommend measures to ensure a financially stable scheme, in a preliminary CBA. Initial qualitative findings included:

- Scheme variable costs likely to be much higher than fixed costs meaning cost is driven by the packaging collected, thus finding a volumetric levy is appropriate.
- The scheme needs to handle risk and uncertainty to maintain funding stability.
   Risks are items forecastable with data such as recycled resin prices related to price elasticity, and strength of international and domestic trade-flows.

<sup>10</sup> Product Stewardship Centre of Excellence (2021). OVERCOMING FREE-RIDERS: Options for maximising industry participation

**Uncertainties** are unknowns that are not feasible to accurately forecast but can still have impacts on viability, such as how many pots are collected.

- The scheme should provide collection payments to *non-kerbside pathways* but develop kerbside pathways through research & development investment.
- The scheme should not price in an explicit financial incentive for use of recycled content as there is already a natural incentive in that recycled resin is cheaper and has no functional impacts.

The overall recommendation for a funding model based on risks and uncertainties suggested the scheme should:

- Accrue a high cash balance in early years to establish a financial buffer.
- Provide flexibility to buffer against unanticipated outcomes.
- Keep levy constant between 2022-2027.
- From 2028+ the levy can be based on better certainty on inflows and expenditure.

Using key assumptions sourced from the business case, accepted industry benchmarks and available industry research, RPS Group identified the following as a base line for a simple funding financial model:

- The recycling fee setting required to achieve stable cashflow between 2023-2027, with the annual material collection target increasing from 19% to 41.7% by 2027 is \$0.01.3 cents per pot unit.
- The levy can only be significantly reduced by reducing the material collection target.
- The levy can be reviewed beyond 2028 based on outcomes in the recycled PP market, with the levy to retain health cumulative cashflow.
- The levy can be responsive to a reasonable range of fluctuations in the recycled PP market.

\*Important: The indicative per unit fee is provided for context only and is subject to further investigation. The implementation pathway details further material flow analysis and financial modelling required before the recycling fee can be finalised. These investigations may have the impact of reducing the indicated fee. This information is required following feedback from the Steering Committee and identification of information gaps.

# Further information regarding the financial framework for the scheme is detailed under Scheme Financial Framework.

# PoPPr Pilot Program

The PoPPr pilot program tested key elements of the scheme design. It was designed to consider the proposed scheme objectives and design principles, channel strategy and demand management; activation participants, vendors and industry partners; operations: services, digital enablement and timeline, success measures and risk.

The Pilot Program concluded in March 2022 with the findings considered in the scheme design. Approximately 90% of collected volume was captured by the digital platform providing granularity to the data, recording 34,110 items of waste.

Whilst the pilot operations were affected by COVID lockdowns and a series of significant weather events in December 2021 and February 2022 useful metrics were captured<sup>11</sup> to confirm the economic modelling undertaken by RPS Group as part of the preliminary cost benefit analysis.

		\$/kg
Pilot design assumptions	Assumptions for pilot design, outlined in the cost benefit analysis	\$3.85
Actual data	Cost per kilogram based on the actual pilot costs	\$4.18

<sup>11</sup> Refer Polypropylene Plant Recycling Pilot Program 31/02/2022

Adjusted cost per kilogram, normalised to remove weather/covid affects	\$2.70
"At scale" modelled cost per kilogram based on market tested long term logistics program	\$1.35

Key findings from the Pilot<sup>12</sup> indicate:

- Broad acceptance of the need for product stewardship scheme by Pilot participants.
- The parameters used in the economic modeling by economic consultant RPS Group regarding pot sizes and collection volumes are valid and can be relied upon for future modelling.
- Confirmation of the market prices paid for collected polypropylene.
- Recycling stream contamination rates were low.
- Consistency of communication to participants and consumers is important for meaningful engagement with the Scheme.
- While consumers were happy to engage with a digital platform, more work is needed to
  optimise processes between retailers and the scheme operation. This includes better
  receipting processes to assist retailer engagement and capture accurate data.
- The Pilot timeframe would have benefited from a longer timeframe (ideally, a year-long pilot) to:
  - o assesses consumer behaviour change
  - o understand the timeframe of consumer use from initial plant purchases to accumulation of enough pots to make it worthwhile to return or to engage in recycling.
  - o manage the impact of COVID-19/adverse weather disruptions.

#### ACCC authorisation

The scheme brings together participants across the greenlife industry to make agreements which may affect the price of plant packaging throughout the packaging value chain and is therefore likely to fall within the definition of a "cartel behaviour" as defined under the Competition and Consumer Act 2010 (Act). This disallows industries "to make a contract or arrangement, or arrive at an understanding, a provision of which would have the purpose, or would or might have the effect, of substantially lessening competition."

As such, ACCC Authorisation is required for the scheme to operate under subsection 88(1) of the Act.

Once the final scheme design is drawn, proponents will commence a process to apply to the ACCC to allow for an exemption to operate.

# Foundational Framework

# 1. Scheme Governance and Administration

# 1.1. Scheme Objectives

The objectives of the scheme are:

- 1. To embed a culture of resource recovery and recycling for plant packaging within the Australian community and greenlife industry.
- 2. To increase the recovery and recycling of plant packaging so it never becomes waste or pollution.
- 3. To increase the percentage of recycled content in the manufacture of plant packaging.
- 4. To decrease the percentage of virgin material used in the manufacture of plant packaging.
- 5. To facilitate participation in the stewardship of plant packaging by all businesses in the green life packaging value chain.

#### 1.2. Scheme Activities

The proposed initiating activities as indicated below are for the purpose of modelling and program commencement and may be modified for relevance and action as the program commences and evolves.

#### **Education and awareness**

- Consumer education and scheme promotion to drive behaviour change.
- Encourage participation by the green life packaging value chain.

#### Plant packaging resource recovery

- Facilitate a product stewardship program for the recovery of plant packaging.
- Ensure the recovery of polypropylene remains economically viable as per the purpose of product stewardship schemes.
- Facilitate the distribution of subsidies and rebates if required

#### Measurement and reporting

- Ensuring the program can accurately and credibly measure and report on key points of the plant packaging product stewardship targets including:
  - o Maximising the proportion of plant packaging to be reusable, recyclable, or compostable.
  - o Maximising plant packaging collected and effectively recycled by at least 25%.
  - o Maximising the proportion of recycled content in plant packaging.
- Support program participants to measure and report on their resource recovery.
- Support measurement of contribution to the National Packaging Targets, particularly the 70% Plastics recycled/composted and 50% recycled content into new packaging.

#### Research and development

- Support innovation and investigation in improving the recovery of plant packaging.
- Contribute to the elimination of unnecessary and problematic plant packaging through redesign, innovation, and alternative delivery models.
- Investigate the recommendations made in the business case report compiled by Sustainable Resource Use titled 'Polypropylene Plant Packaging Program – Business Case Development.'

#### Governance, finance, and administration

- Efficient operation and administration of the product stewardship program.
- Maintain transparent governance.
- Seek appropriate regulatory accreditations and licenses.

# 1.3. Scheme entity and structure

A product stewardship scheme requires an appropriately resourced entity to manage the scheme framework, and which has the capacity to realise the scheme's stewardship goals. How the entity is established, influences the governance model, overheads and costs associated with the operations the scheme. The entity should have operational independence, engage the greenlife industry, be alert to commercial sensitivities and conflicts of interest and report transparently on the impact of the scheme.

The underlying principle is that the organisation needs to be efficient, flexible, and innovative.

Industry consultation indicated support for establishing a program under an existing entity and this finding is supported by the preliminary cost benefit analysis.

The scheme should be established in this way on the basis it provides:

- independence, organisational design, and relevant expertise
- the lowest cost of operations
- access to efficiencies through activated synergies across other programs

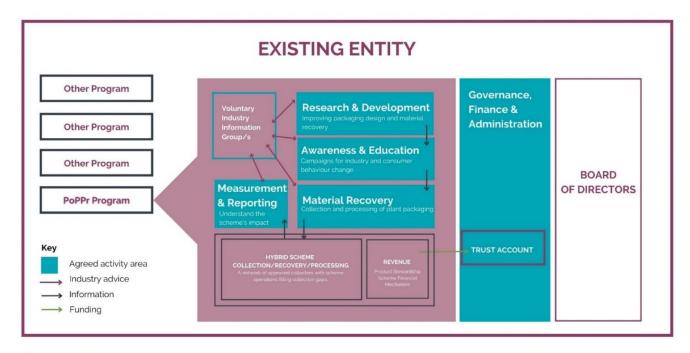
access to stewardship industry specialists.

Under this structure, the existing entity has infrastructure which is leveraged to the benefit the scheme and its participants. In this example, the entity would manage a separate 'scheme fund' to manage and administer the revenue.

Many of the overhead costs would be the apportioned across the existing entity's activities, including governance, legal and financial management, technology, and communications costs, leading to a much lower operating cost for the scheme.

The preliminary cost benefit analysis found the range of annual operating costs for entities to be

- Industry Association: approximately \$850,000 \$900,000.
- Product Stewardship Organisation: approximately \$750,000.



**Figure 3 Proposed Scheme Structure** 

# Identification and nomination of the Entity

Consultation with Greenlife Industry Australia suggested the scheme be established as a program within an existing product stewardship organisation.

An assessment of appropriate and willing product stewardship organisations for the plant packaging scheme will be finalised during the implementation stage. Consideration should be given to the following organisational characteristics:

- Product Stewardship Accreditation.
- applicability of existing governance structures.
- program management skills and expertise.
- operational infrastructure.
- existing reporting, measurement and evaluation infrastructure and processes.
- accessibility and alignment with other product stewardship schemes.

# 1.4. Guidelines for Participants

Scheme Guidelines set the basis for scheme participants around the collection, transport, recycling, and disposal of products covered under the PoPPr Scheme and assist in the management of free riders.

The scheme's guidelines propose the minimum requirements to ensure that polypropylene plant packaging is managed safely and in an environmentally sound manner at the end of its useful life,

from the point of collection to the point of reprocessing. The guidelines propose defined outcomes and how they are measured.

The guidelines cover the auditing and, where applicable, the certification of collection locations, transporters, recyclers, and processors. They may support the development of a code of conduct or statement of commitment for program participants and provide system users with confidence in the scheme's transparency and integrity. They will inform the reporting requirements for measuring and evaluating the impact of the scheme and may support required regulatory applications, such as ACCC authorisation.

The guidelines include information on the potential hazards and environmental impacts associated with the collection, transport, recycling, and processing of end-of-life polypropylene plant packaging as well as appropriate controls for those hazards and impacts. The guidelines will not absolve collection locations, transporters, or recyclers from any federal, state and/or municipal legislation and regulations applicable to their business operation. It is the responsibility of the program participant to be aware of and abide by all such legislation and regulations.

Tailored sets of guidelines will be required for different scheme participants, and it is intended the guidelines will be reviewed annually in consultation with industry participants operating in the greenlife packaging value chain. Below are some of the considerations within the guidelines:

- Preferencing for collected material to be supplied to other scheme accredited participants for reprocessing and remanufacture.
- Ensuring that non-recyclable end-of-life plant packaging is provided to a scheme accredited PP recycler for environmentally sound management.
- Prioritising the purchase of plant packaging made from recycled content where appropriate.
- Use of scheme approved branding and logo to promote the scheme to the community and industry; and adherence to the conditions that apply to the branding.
- Compliance with legal and other requirements, including scheme guidelines and procedures for quality, traceability, environment, and Work, Health, and Safety.
- Reporting of evidence required to manage any applicable fees or rebates under the scheme
- Cooperation with risk-based audits or surveys instigated by the scheme from time to time.
- Retaining and making accessible to the scheme, records demonstrating that obligations and scheme procedures are being met, and for audit purposes.
- Ensure that plant packaging generated through business operations are disposed of through scheme accredited stewards.
- Partner with downstream recyclers who operate to the highest Australian environmental and work, health and safety guidelines and ensure that all products and materials collected in Australia, are processed, at least to first stage, in Australia.

The draft scheme guidelines are available at Appendix 1 and will be finalised during scheme implementation.

# 2. Scheme Financial Framework

# 2.1. Key financial elements

The preliminary cost benefit analysis identified four financial elements to incorporate in the plant packaging stewardship design:

- Revenue the amount of money required to realise scheme goals.
- Direct costs the cost of collections, recycling, and related collections infrastructure.
- Direct but value-added costs the scale and role of industry and consumer awareness campaigns and research and development.
- Indirect operational costs the overhead costs associated with operating the scheme.

Each of these areas require individual scheme settings to design the most efficient and effective product stewardship approach. The settings must also be flexible to allow a scheme to adapt and

adjust to changing market conditions and desired collection targets. This design has focused on balancing optimal recovery solutions with the most efficient cost model.

These design parameters have been embedded in the scheme design where revenue is collected through a designed-for-purpose funding mechanism based on membership plus plant packager (manufacturers and importers) contributions; and direct, direct valued added, and indirect operational costs are funded by a volumetric contribution and organisational memberships.

#### 2.2. Revenue model

The preliminary costs benefit analysis considered four revenue options and stakeholder consultation on the options has supported a funding mechanism which combines membership and plant packager contributions through a recycling fee, where fees are paid directly into a fund managed by the Entity.

Functionally, the scheme charges an annual membership (possibly calculated by turnover) to all or selected parties enabling participation in the scheme. The fee is set at a level which supports the Scheme to undertake the activities required to reach its goals.

Additionally, plant packaging manufacturers and importers will contribute a volumetric fee calculated as a percentage of plant pots. Manufacturers and importers of PP plant packaging products such as labels and stakes will contribute separately via a set fee.

Setting the value of the recycling fee requires further exploration and identification of full financial statements for the scheme. Further, consideration should be given to an existing payment model in the agricultural industry<sup>13</sup> - the Nursery Products Levy which is legislated by the Commonwealth Government. This levy, set at 5% of the value of plant packaging and is specifically intended for green life marketing, research and development, and biosecurity support. This was established with the cooperation of the Nursery Industry.

## 2.3. Resin prices

The business case identified resin costs for virgin and recycled PP resins as well as costs for recyclate at various stages of processing as per Table 1.

Range of price paid for virgin resin	\$2,000-2,400 per tonne
Range of price paid for recycled resin	\$1,200-1,500 per tonne
Range of price paid for clean baled PP at gate	\$350-450 per tonne
Range of price paid for loose PP at gate	\$150-250 per tonne
Range of cost of collection <150km radius	\$300-\$400 per tonne
Estimated value of produced pots into the market	\$3,500 per tonne

Table 1 Resin pricing (Allen, 2021, p. 42)

The preliminary cost benefit analysis was based on these prices however, due to increasing demand for polypropylene recyclate globally, prices may increase and have flow-on effects across the scheme. Managing the impacts of resin prices on the scheme is a key activity for the managing Entity.

 $<sup>13\</sup> https://www.awe.gov.au/agriculture-land/farm-food-drought/levies/rates\#animal-products$ 

# 2.4. Transitional funding

Transitional seed funding is needed in the implementation stage to facilitate establishment of the scheme. These activities include establishing governance, financial and administrative functions; engaging with scheme participants; recruiting collectors and recyclers in the collection network under the scheme guidelines; and marketing and promotion of the scheme.

It is intended that fees from initial membership payments will form most of the transitional funding, although upfront contributions from significant stakeholders may also be required.

It is expected that the next phase of the program, including financial modelling and ACCC approval could take up to 18 months to complete, therefore modelling must be completed to assess the required pricing of interim membership fees to support this next stage of development.

# 3. Collection and Logistics

## 3.1. Scheme Collection Model

A study of existing voluntary product stewardship schemes has identified three material collection models: open, closed and hybrid.

Industry consultation on collection models identified the PoPPr Scheme should adopt a hybrid collection model.

Under a hybrid collection model, the scheme:

- facilitates the recovery and reprocessing of material via a network of accredited/approved organisations. The scheme pays a subsidy to approved participants who operate under the scheme guidelines.
- in identifying gaps in material recovery (non-serviced non-competitive spaces), operates the material recovery and owns the material collected. It directs material to accredited/approved recyclers and revenue from the sale of material is reinvested in the scheme.
- the scheme focuses on recovery gaps, compliance; measurement and reporting; communications; research and development; and collection and disbursement of revenues to collectors/recyclers

This model supports increased collection of plant packaging, by adopting the recommendation in the business case to facilitate multiple collection pathways. It enables existing collection programs already underway to seek accreditation under the scheme; and supports regional, local council and MRF pathways (collection channels). It also represents an opportunity to collect greater volume for return to plant packaging manufacturers.

Hybrid schemes are designed to have lower barriers to entry for industry participants and provide transparent and structured payment(s) to collectors and recyclers. The model is intended to engender flexibility and market confidence, yet have more oversight of the system, especially in terms of maintaining standards and guidelines.

#### 3.2. Collection channels

The collection channel strategy describes the market engagement and collection approach of the Scheme to deliver on the desired outcomes. The main components of the channel strategy include the channel type (or collection sites) and the channel mix (site duration).

Channel Type	Channel Mix
Retailers: Large & independent	<ul> <li>Temporary (time bound events and</li> </ul>
<ul> <li>Plant producers/Growers</li> </ul>	specific collection campaign)
Wholesalers: Consolidated & independent	Semi/Permanent (site locations)



Understanding the characteristics of each channel is important to the success of the PoPPr program and takes into consideration the following:

- Volume (under/over collection) and associated costs, utilisation, and optimisation outcomes
- What effective control mechanisms can be activated to manage budgetary constraints and requirements (demand management options)
- Composition and quality of waste stream collected, impacting program viability (weight, volume, condition and mix of products & materials)
- Consumer uptake and reasonable access (population coverage) verses a target market and customer segmentation approach aligned to objectives of the program.

# 3.3. Leveraging logistics

Product stewardship schemes are highly dependent on optimising forward and reverse logistics to minimise operating costs. The hybrid collection model facilitates logistical considerations across the recovery ecosystem including:

- Collection points across retail, growers and wholesale, landscapers, and agricultural locations
- Reverse logistics
  - o high volume cross-docking facilities
  - o leveraging manufacturer delivery networks
- Collection/delivery optimisation for recyclers including
  - Sortation and aggregation of collected PP and delivery
  - Recyclate (stacking/bundling/chipping)
  - o Delivery of recyclate to re-manufacturers

#### 3.3.1. Retail Interface

The retail interface with businesses and consumers of plant packaging will have significant impact on the success of the scheme. Interfaces include the various ways that consumers can drop off plant packaging and how scheme participants manage material collection points.

The pilot program found a key principle is to enable frictionless drop-off and collection.

Further, collection points themselves provide high visibility for the scheme and provide reminders to consumers to return their used plant packaging. To facilitate maximum scheme participation, the choice of collection receptacle must be adapted to account for varied site requirements, such as floorspace availability and limitations; forklift accessibility, OH&S requirements (weights, transport), visibility needs and accessibility for collection.

There is a potential need to use a consolidation site for smaller retailers to feed in volume, to increase participation and achieve coverage budgetary efficiency.

Larger capacity sites can readily accept collection receptacles with larger volumes and footprints that can be handled by forklifts or hand-operated trolleys or be fitted with locking wheels to aid with site organisation.

# 3.3.2. Reasonable access – rural/regional

The PoPPr scheme design actively promotes the participation of businesses and consumers in rural and regional areas where logistics are more challenging. The business case identified the main problem for rural and regional areas is the cost effectiveness of freighting to re-processing sites.

To enable reasonable access to the Scheme the implementation stage should consider:

- A freight equalisation opportunity (like the South Australian scheme for recyclables).
- Reverse logistics through backloading on existing freight supply chains.

Logistical synergies with other product stewardship schemes.

Opportunities for alignment with other stewardship schemes should focus on rural and regional orientated programs such as the existing Big Bag Recovery Scheme and the upcoming Recycling Used Oil Containers Scheme, Recycling Farm Plastics Scheme, Recycling Non-Packaging Agri Plastics Schemes.

# Implementation Pathway

The implementation of the scheme is outlined in two parts.

- Phase 1 (April -December 2022) details the activities to the conclusion of the NPSIF project to complete the preparations for implementation.
- Phase 2 (January December 2023) development of activities for the first 12 months of the scheme's establishment and operations.

## Phase 1 (April -December 2022)

Phase 1 activities focus on the verification of the final elements of the scheme design towards ACCC approval of the scheme design. This is expected to be undertaken in two parts.

#### Part 1 - Scheme finalisation

#### Material Flow Analysis

Further analysis on the material flow of PP packaging, nationally by sector and estimated volume.

Greenlife sectors differ in their treatment of PP plant packaging waste (for example, reuse practices). The costs of collection will differ by sector and geography. Understanding this dichotomy will better inform the financial model and provide greater certainty in the ability of the scheme to correctly forecast the required recycling fee to be raised.

Whilst preliminary analysis of the volume of waste has been undertaken, to complete the granularity required to for the identification of the recycling fee, further understanding is required of the volumes of waste by market sector, their uses, and applications.

#### Research

A key outstanding element pertinent to the design of this scheme remains the role of kerbside collections and Material Recovery Facilities. This key part of the national waste management infrastructure is rapidly changing. Powerful market forces are driving stepwise changes in MRF's sorting capabilities. These forces include changing regulatory frameworks, economic incentives from increasing resin prices, and generous grants programs led by local, state, and federal jurisdictions.

In the last 12 months the landscape has moved and there is a critical requirement to assess the national MRF footprint for its current and future processing capabilities.

While household consumption is estimated to be less than 17% of the total Industry volume<sup>14</sup>, it is critical to understand the MRF capability roadmap to forecast the funding required to operate the PoPPr program at scale over time.

#### Collection Pathway Viability

Once complete the material flow analysis will add more granularity to the financial modelling through understanding the financial economic point of recovery.

Understanding the size of collection subsidies across different waste scenarios and collection points, will allow the scheme to understand the relationship to market price for recovered PP material and the cost of collections and recovery alongside each market segment.

This work is important to inform the setting of payments and may allow the payments to be refined to support only those collections which are uneconomic due to location, size, access, or contamination factors. Through fine tuning the model in this way, it may be possible to reduce the size and cost of the scheme.

#### Financial Modelling

Once the material flows analysis and MRF roadmap are completed the project can commence development of an implementation plan with fully formed financial statements. This should include:

- finalisation of the recycling fee for a representative economic percentage to ensure the burden of the fee is relative to the product.
- a "financial transition plan" for the period between NPSIF project conclusion and scheme commencement, with a focus on initial seed funding.

#### **Industry consultation**

Ongoing Industry consultation should occur at regular intervals during this phase to socialise transition plans, key scheme features and opportunities to participate. It is expected that once the financial model is created, the program will be ready for a final round Industry consultation and scheme endorsement.

#### Part 2 - Scheme approvals

Once the scheme is finalised, the development focus will be on scheme approval.

#### **ACCC Approvals**

The documentation to seek approval from the Australian Competition and Consumer Commission can be finalised and application made.

#### Business Plan Development.

The final business plan will be completed pending the commencement of the scheme. The design and requirements for this Phase 2 deliverable are outlined in **Appendix B** to this document.

# Phase 2 (January - December 2023)

Pending ACCC approval, the process of establishing the operations of the scheme via a phased national roll-out of scheme operations can commence as outlined in the business plan. Delivery of initial phases will support further roll-out beyond funding period.

# Conclusion

The Polypropylene Plant Packaging Recycling Program had identified the following elements of the scheme design.

It is understood the industry has sufficient points of consolidation and agreement to maximise coverage and minimise free riders in support of a voluntary scheme.

The preliminary CBA supports the PoPPr program operating under an existing entity on basis it provides:

- independence, organisational design, and relevant expertise
- the lowest cost of operations
- access to efficiencies through activated synergies across other programs
- access to stewardship industry specialists.

A hybrid collection model should be adopted to support increased collection of plant packaging, through multiple collection pathways. It enables existing collection programs to participate in the scheme; and supports regional, local council and MRF pathways to fill gaps in recovery.

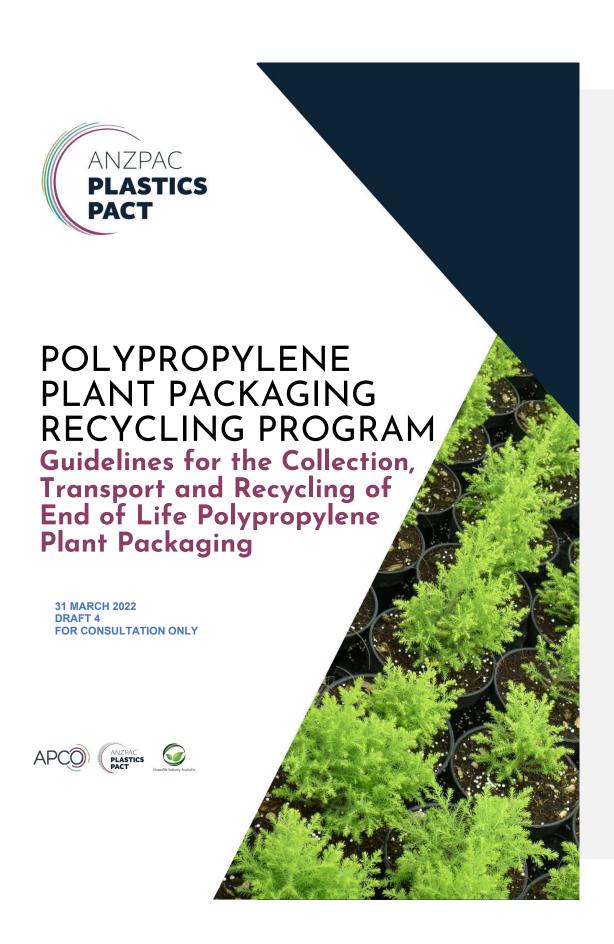
Scheme Guidelines set the basis for scheme participants around the collection, transport, recycling, and disposal of products covered under the PoPPr Scheme and assist in the management of free riders.

Scheme revenue which combines membership and plant packager contributions through a recycling fee will support scheme viability. Plant packager contributions will be based on a volumetric fee percentage of plant pots and plant packagers whose operating with labels and stakes will contribute separately via a set fee.

This initiative can have a transformative effect on the waste ecosystem in the greenlife industry. Whilst additional effort is required still to quantify the economic fundamentals of the scheme and its associated financial model, the initiative continues to have wide engagement from Industry.

# **Appendices**

# Appendix A Draft Scheme Guidelines



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# Overview

This document outlines the guidelines under which organisations participant in the *Polypropylene Plant Packaging Recycling (PPR) Program* and the expectations that apply to the collection, transport, recycling, and disposal of products covered under the Program.

The guideline has been developed to support the delivery of the scheme objectives and identified recycled content targets:

#### Objectives:

- 1. To embed a culture of resource recovery and recycling for plant packaging within the Australian community and greenlife industry.
- 2. To increase the recovery and recycling of plant packaging so it never becomes waste or pollution.
- 3. To increase the percentage of recycled content in the manufacture of plant packaging.
- 4. To decrease the percentage of virgin material used in the manufacture of plant packaging.
- 5. To facilitate participation in the stewardship of plant packaging by all businesses in the green life packaging value chain.

#### Recycled Content Targets

#### <<for discussion>>

The guideline outlines minimum requirements to ensure that polypropylene plant packaging is managed safely; in an environmentally sound manner at the end of its useful life; from the point of collection to the point of final disposition. The guideline also defines outcomes and how they are measured.

# Purpose of document

This document will be used to develop:

- guidelines intended to be used in the auditing and, where applicable, certification of collection locations, transporters, recyclers, and processors for the *Polypropylene Plant Packaging Recycling (PoPPR) Program*
- a code of conduct/statement of commitment of program participants
- any required regulatory applications, such as ACCC accreditation.

The final guidelines will include information on the potential hazards and environmental impacts associated with the collection, transport, recycling, and processing of EOL Polypropylene Packaging as well as appropriate controls for those hazards and impacts.

The final guidelines will not absolve collection locations, transporters, or recyclers from any federal, state and/or municipal legislation and regulations applicable to their business operation. It is the responsibility of the program participant to be aware of and abide by all such legislation and regulations.

It is intended the guidelines will be reviewed annually by industry in consultation with key stakeholder groups.

**Commented [A1]:** To be finalised in conjunction with further economic assessment.

Commented [A2]: Drafting Note: The current draft requests ISO 14001 certification of recyclers but does not envisage that collection locations or transport providers will need to be independently certified. However, it is expected that auditing will need to be in place to monitor compliance of collection locations and comment is sought on how this can be achieved. It has been suggested for example that this could be through self-declaration i.e., completion of a checklist followed by periodic random audits of a percentage of locations. This will need to form part of the systems developed by the scheme.

# **Definitions**

**Collection site** means a location that only serves as a site for receiving and possibly consolidating PP prior to sending it to a Recycler. This may be a temporary or permanent site location and could include a retail site or grower or event location.

**Collector** means the organisation who performs the activity of collecting PP from Collection Sites. They are responsible for maintaining a collection site network and ensuring that the collection sites operate within the overall scheme collection guidelines. The Collector is responsible for providing scheme complaint collection infrastructure (receptacles) and transport of the materials to a program approved recycler.

**Disposal** - Any operation which is not recovery even when the operation has as a secondary consequence the reclamation of substances or energy.

**Downstream processor** An entity that receives material from the first recycler or other downstream processor for additional processing and/or disposition.

**End of Life -** Product that is deemed obsolete or not fit for purpose and which would otherwise go to landfill.

**Energy Recovery or Energy from Waste (EFW)** - Means the heat treatment of material in which the heat produced is used to produce electricity or steam or reduce the energy already required in a process. This includes the use of plastics as a fuel substitute but does not include direct incineration.

**Environmental Management System -** Part of an organisations' management system used to develop and implement its environmental policy and manage its environmental aspects.

**Health and Safety Hierarchy of Control -** The hierarchy of control is a method of ranking risk control options in a hierarchy from most to least preferred as follows:

- 1. Eliminate the hazard
- 2. Substitute the hazard with a lesser risk
- 3. Isolate the hazard
- 4. Use engineering controls
- 5. Use administrative controls
- 6. Use personal protective equipment

**Manufacturer** means businesses or organisations that are engaged in Greenlife packaging importing, and/or manufacturing and are first to supply that packaging to the domestic Australian market

**Polypropylene Plant Packaging Recycling (PoPRr) Program (the Program)** means the product stewardship program for polypropylene plant packaging.

**Polypropylene Plant Packaging (plant packaging or PP)** means packaging used for the production, supply, and/or marketing of greenlife in Australia which is made from polypropylene (PP5), including but is not limited to pots, stakes, labels, trays, garden ties.

**Program Guidelines** means the guidelines under which organisations participant in the *Plant Packaging Recycling (PPR) Program* and the expectations that apply to the collection, transport, recycling, and disposal of products covered under the Program.

**Program participant** means any manufacturer, importer, collection site, collector and recycler who have been approved to participate in the PoPPr Program.

**Recycler** means a business or organisation recovering Greenlife packaging materials and processing it into a form whereby it can be used as an intermediate product (Recylate) to be returned to the production process for re-use.

**Commented [A3]:** Drafting note: possibly reference Annex 1 of the European Directive 2008/98/EC sets out a non-exhaustive list of disposal operations

**Commented [A4]:** Drafting note: define the entities that this includes

# **Guiding principles**

These guiding principles apply to all participants in the scheme.

Participants Agree to:

- Give preference for supply to other program participants.
- Ensure that all end-of-life PP generated is provided to a scheme approved PP recycler for environmentally sound disposal.
- Give priority to the purchase of plant packaging manufactured using recycled content where appropriate.
- Promote the Program to the community, other businesses, and organisations; and use Program branding and logo as appropriate and adhere to the conditions that apply to that use
- Comply with legal and other requirements, including these Program Guidelines and procedures for quality, traceability, environment, and Work, Health and Safety.
- Provide reporting to the scheme as the evidence required to manage any applicable fees, levies and claims under the scheme
- Cooperate with random or risk-based audits as instigated by the Program and with surveys undertaken from time to time.
- Retain and make accessible to the scheme, records to demonstrate these obligations and related program procedures and guidelines are being met.
- Give the Program access to relevant records for audit purposes as appropriate.
- Ensure that Plant Packaging generated through your own operations are disposed of through approved Program Participants.
- Partner with downstream recyclers who operate in accordance with the application
  preferences outlined in this guideline and to the highest Australian environmental and
  work, health and safety guidelines and ensure that all products and materials
  collected in Australia, are processed (at least to first stage) in Australia.

# **Guiding Principles for Manufacturers/Importers**

- Manufacturers of polypropylene plant packaging manufactured in Australia, contribute
  a volumetric fee calculated as a percentage of plant pots; and Importers of PP plant
  packaging products such as labels and stakes will contribute separately via a set fee,
  to support the implementation of the scheme
- Provide data on the types and numbers of PP imported
- Commit to a continuous improvement regime for quality and to improve recycling outcomes.
- Comply with Australian law regarding the import of loose polypropylene.
- Promote participation in the Scheme to businesses and other organisations to which they supply and purchase.
- Pass on the cost of the environmental contribution to purchasers of plant packaging as a component of the product pricing.
- Contribute to making the environmental contribution visible to the customer.

# Guiding Principles Collection sites (Growers, Retailers, Wholesalers etc)

- Commit to accepting the cost of the environmental contribution from importers/manufacturers and pass on the environmental contribution to customers.
- Make the environmental contribution visible to the customer through mechanisms such as Program branding, promotional materials, receipts, or other communications as considered appropriate by the Program.
- Only sell plant packaging that is compliant with the relevant Australian Standards.
- Promote participation in the Program to consumers, communities, and relevant greenlife and packaging industry supply chain companies.
- Commit to corporate and community plant packaging drop-off location obligations if collection points are provided.

## **Guiding Principles for Collectors**

- Provide transportation and logistics services that conform to approved Standards for quality, environment health and safety, (e.g., packing, tracking, safety & quality assurance), for example ISO 14001, and/or ISO 45001 or equivalent, ISO 15270:2008(en).
- Guarantee all end-of-life packaging received go to a sorting and/or processing facility of an approved Program Participant
- Accept collected plant packaging only from approved Program Participant.
- Acknowledge that legacy plant packaging from stockpiles is not eligible for the rebate without prior consent of the Program.
- Maximise the use of Australian domestic markets for plant packaging recycling.
- Use the approved tracking system to ensure accurate tracking of plant packaging collected for recycling.
- · Report to the Program on collection rates and costs.
- Report fire, contamination, and other relevant significant incidents to the relevant authorities and to the Program to enable a better understanding of the risks to improve collection systems.
- Be a member of the Program.

# **Guiding Principles for Recyclers**

- Provide processing services that meet the Program guidelines including approved quality, environment, health and safety standards and laws for example ISO 14001, and/or ISO 45001, ISO 15270:2008(en).
- Prioritise plant packaging from approved Program collection points, logistics providers and sorters to recycle collected PP.
- Guarantee all end-of-life plant packaging received is processed by a reprocessing facility approved by the Program, for environmentally sound disposal.
- Ensure the environmentally sound use of commodities obtained from the recycling of plant packaging and maximise the use of domestic markets for process outputs.

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- Acknowledge that legacy plant packaging from stockpiles is not eligible for the rebate without prior consent from the Program.
- Use the approved tracking system to ensure accurate tracking of plant packaging collected for recycling.
- Report fire and other relevant incidents to the relevant authorities and to the Program to enable a better understanding of the risks and to improve collection systems.
- Report to the Program on collection and recovery of plant packaging processed such as quantity, chemistry, fate, and costs.
- Be a member of the Program.

# **General Requirements**

This section describes requirements that apply to Program Participants and/or the specific functions carried out by all actors in the value chain. The responsibility for its compliance is undertaken by the Program Participant in conducting and managing those functions, i.e collection, transports, and recycling.

All requirements are mandatory unless otherwise stated.

#### 1. Insurance

- Collection locations, transporters and recyclers must possess the following insurance:
  - o product and public liability insurance for not less than \$20 million; and
  - o workers compensation insurance for the amount as per state law
  - Contractor's Operations and Professional Services Environmental insurance, including coverage for Professional Liability and Contractor's Pollution Liability. Level of coverage no less than \$10M
  - Scheme participants must have a documented closure plan that assures proper closure of the facility and assures against abandonment of any recycling products, or materials. The closure plan must be supported by proof of a sufficient financial instrument to guarantee the execution of the closure plan

#### 2. Risk Management

- Collection locations, transporters, and recyclers shall have conducted a risk assessment to identify health, safety and environmental (HSE) risks associated with the products and activities included in the operation and have effective processes in place to mitigate the risks in accordance with the health and safety hierarchy of control hierarchy. These shall include at least the following for all activities/products where HSE risks have been identified:
  - o Documented safe work methods
  - o Training and assessment of competence of all people involved in carrying out the identified activities
  - Monitoring that the controls are effectively implemented (e.g., through site inspections or audits)
  - Monitoring of worker exposure or air emissions if potential exposure above the safe exposure limits or potential for emissions to the atmosphere have been

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require review and comment by Industry leaders not final. The intention is that these requirements will be harmonised with existing Industry best practice guidelines such as NIASA, AGAS, and others.

Commented [A5]: Drafters Note: These specifications

#### Commented [A6]:

Drafting Note: This section needs further work and advice is being sought on the appropriate insurance types and levels.

Commented [A7]: Drafting Notes: Guidance on conducting health and safety and environmental risk assessments can be found in Standards Australia Handbooks on Health and Safety and Environmental Risk Management. Most state health and safety regulators also have information and templates available to assist.

identified as a potential risk.

o Records of training, assessment, and monitoring.

#### 3. Legal Compliance - Mandatory

- Collection locations, transporters, and recyclers shall maintain a documented process to identify, assess and ensure compliance with this Guideline and all applicable regulatory requirements, including but not limited to:
  - Environmental regulations, including permits or certifications for operating and regulations related to air emissions and other discharges
  - o Occupational Health and Safety regulations
  - o Australian Dangerous Goods Code
  - o Privacy Act
  - o Hazardous Substances legislation
- The provider shall have a documented process for reporting to the Program Manager within 5 business days any legal breaches or incidents that are reportable to the local regulatory authority.

#### 4. Emergency & Disaster Response

#### Emergency Response Plan (ERP)

Collection locations, transporters, and recyclers shall implement and maintain an emergency response plan to prepare for and respond to emergencies including fires, spills, and medical.

The response plan shall include prompt notification to the Program as well as appropriate regulatory authorities.

The plan shall be periodically tested through drills.

All persons associated with or who are responsible for any aspect of the collection transport, recycling or disposal of the Plant Packaging must be familiar with these ERPs. This includes but is not limited to company officers, employees, contractors, subcontractors and agents and the officers, employees, contractors, sub-contractors, and agents of the disposer of the Polypropylene Packaging.

#### Disaster Recovery Plan (DRP)

Collection locations, transporters, and recyclers shall also establish and maintain Disaster Recovery Plans.

The DRP shall include items such as alternative locations for collection and recycling facilities, alternative transporters, backup plant and equipment in the event of any type of interruption to normal mode of operation caused by various internal and external factors. The plan shall include a disaster recovery timeline.

#### Receiving Handling and Storage

All end-of-life materials shall be stored in a manner that provides protection from:

- Theft
- Air, land, or water emissions e.g., leaching
- Exposure of people on site to hazardous substances.

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#### 6. Transport

Any person, including but is not limited to company officers, employees, contractors, sub-contractors and agents and the officers, employees, contractors, sub-contractors, and agents of the disposer of the hazardous waste and related waste, who undertakes or is responsible for any aspect of the transport or disposal of the wastes must comply with each of the conditions below (as applicable).

Collection locations, transporters, and recyclers shall ensure that Polypropylene
Packaging under their control is transported in accordance with National and State
transport and dangerous goods regulations and that necessary documentation is
maintained if the material is classified as trackable.

#### 7. Records Management

The recycler shall maintain and make available for audit documentation evidencing compliance with the Program Guidelines.

Records to allow the traceability of polypropylene packaging, including manifests bills
of lading, chain of custody documents, applicable Polypropylene Packaging transport
records, and other records mentioned in this document shall be accessible, legible,
and maintained for at least 3 years.

#### 8. Disposal to Landfill

Any waste that is disposed of to landfill must be disposed of at a waste facility that is appropriately licensed under State or Local government legislation or regulations.

# Specific Requirements

This section includes specific requirements for each type of facility that are additional to the general requirements described above.

#### Collectors

#### **Approval**

Collectors shall be pre-approved by the Scheme and agree and activate all relevant general Guidelines of the scheme.

#### Secure storage & site management

- The Collector will provide sites for the storage and collection of the products and materials under the Program in accordance with the Program Guidelines.
- The Collector will be responsible for all compliance activity at that site, with the following requirements in place for the broader community:
- Sites must be manned during business hours and under surveillance (secure)
- Sites must adhere to all relevant workplace health and safety standards in connection
  with the proper handling of the goods. This includes compliance with all relevant
  WorkSafe standards, environmental regulation, standards, and laws. Ideally, Sites will
  follow required certifications stipulated by the Program.
- Site personnel must be willing to assist the public with the drop off (disposal) of their

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**Commented [A8]:** Drafters Note: In this draft we refer to only Collectors and Recyclers – there may however be a role for a sorting/staging service

items in the correct receptacle (provided by the Collector or the Program or as otherwise agreed)

• The Collector must separate, handle and store the products and materials in accordance with the Program Guidelines set by the Program and to enable effective downstream recycling tracking and recovery. Collectors must operate in accordance with the contaminant requirements set out in Appendix A.

#### **Incident Reporting**

- Program Participants must take all reasonable steps to identify, assess and address risks in the operation and overall delivery of any Collection services at the Sites.
- Program Participants must advise the scheme operator of any incidents that may have, or are likely to occur, across its operations in connection with, or may affect, the services under the Program. Program Participants must provide the following incident reporting as it relates to the Program:
  - o Any breaches of relevant workplace health and safety law;
  - Any breaches of any environment protection legislation and /or remedial notices and directions.
  - o Any legal proceedings brought against the party under any legislation; and
  - Revocation of any certification, license and/or permit required to deliver the service.

#### **Site Access**

Public access areas shall be clean and tidy, secure, free of hazards and easily accessible by the public.

#### Signage

Clear signage shall be provided including:

- instructions to the public
- access times; and
- details of equipment that is/isn't included in the collection.

#### Storage

Areas used for the receipt of EOL Polypropylene Packaging shall be a clearly marked and segregated from other activities.

#### Fees

There shall be no cost for members of the public to deposit end of life plant packaging collected under the Program.

#### **Downstream Processing and Recycling**

- Collectors shall only send end of life plant packaging to a recycler that has been certified as complying with this Guidelines.
- Collectors shall prepare end of life plant packaging for transport in accordance with instructions from the recycler.

## Recyclers

#### Certification

 Recyclers shall hold current certification to AS NZS ISO 14001 Environmental Management Systems from an Accredited Certification Body.

#### **Recovery Specifications**

- The intent of the scheme is that all materials will be reprocessed back into plant
  packaging where possible and expects that accredited manufacturers will use these
  materials as a priority resource.
- Of the material collected, 90% of material shall be recovered and 97% shall be prepared for re-use and recycled.

#### **Recylate Specifications**

 Preparation of recylate shall be in accordance with the specifications detailed in Appendix C.

#### Allowable Recylate Applications

#### Circularity

In keeping with the Scheme objectives recyclers will provide the recyclate to
manufacturers who support the circularity of the scheme for application as outlined in
Appendix D – Allowable recyclate applications.

#### Landfill, Energy Recovery, Incineration

 Recyclers shall not use landfill, energy recovery or incineration as standard practice for disposal

#### Refurbishing, Reselling, Export

 Whole units of equipment received for recycling under the PoPPr Program shall not be refurbished, resold, or exported.

#### **Goods Receiving and Storage**

#### Advice for collection sites

 Recyclers shall provide instructions to collection sites and transporters on appropriate temporary on-site storage containers and preparation of goods for transport. The recyclers may also provide the collection receptacles.

#### Length of storage

 Recyclers shall not store or stockpile any more than up to 2 months equivalent of the recyclers' treatment capacity.

#### **Processing and Handling**

 End of life PP may be processed using any process currently available including manual and mechanical, provided the operation follows this Guideline and all applicable regulatory requirements, including permits.

#### **Facility Operations**

Facilities employing mechanical material processing and separation activities shall be equipped with:

DRAFT FOR CONSULATION

**Commented [A9]:** Drafters Note: Specifications require ratification by Industry Leaders

**Commented [A10]:** Drafters Note: Specifications require ratification by Industry Leaders

Commented [A11]: Drafters Note: Specifications require ratification by Industry Leaders

**Commented [A12]:** Advanced and chemical recycling as considered unnecessary at this stage

10

- A dust collection system/apparatus engineered to reduce environmental emission of and worker exposure to toxic substances and particulate matter.
- An emergency shut-off system.
- Adequate fire suppression equipment for the size/type of facility.
- Recyclers shall undertake the following monitoring:
- Air quality
- Noise levels in the vicinity of any mechanised processor.
- Requirements for Personal Protective Equipment and any health monitoring shall be determined based on the air monitoring.

#### **Recycling Reporting**

Recyclers are required to report across key milestones in the critical path of every transaction as it is uniquely captured across the collection, transport, and recycling process in accordance with *Appendix E – Recycler Reporting Requirements*.

# Appendix A Contaminant Requirements

**Commented [A13]:** Drafters Note: Table below, specifications require ratification by Industry Leaders

Contaminants	Description
Total contaminants	Should not exceed 8% by weight
Allowable	The following levels of contamination are allowed 2% Maximum acceptable Metal Paper/Cardboard Liquid or other residue High-Density Polyethylene (HDPE, #2) Any plastic container or packaging containing Polyethylene Terephthalate (PET, #1), Polyvinyl Chloride (PVC, #3), Polystyrene (PS, #6), Other (#7)
Not Allowable	The following contaminants are not allowed at any level (zero percent allowed) Plastic bags, sheets, film Oil, grease, rocks, dirt Wood Glass Electronic scrap Medical and hazardous waste Products with degradable additives Containers which held flammable, corrosive or reactive products, pesticides, or herbicides

# Appendix B Collector Reporting Requirements

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acility that has been

Commented [A14]: Drafters Note: These

platform

ements may be supported by a digital tracking

Reporting (Tracking) Milestone Description Collection Site Approved Collection site Claimant must select a collection site they have had approved by the collection site add process. **Destination Facility** Approved Destination Facility Claimants must select a recycling facility that has been approved in the system. Collection Weight Weight of shipment is within threshold The uploaded weight is within 5% of the weight specified in the recycling and sorting facility receipt. The claimant can enter data after receiving the data from the recycling and sorting receipt Collection Conformity The collection is not contaminated with other waste The destination facility confirms via the recycling and sorting facility that the collection has less than 8% contamination by weight. Location Confirmation The nominated collection site has been independently confirmed A JPEG with a valid geotag has been uploaded and is within 1500 metres of the collection site address An independent transporter consignment document, that displays the nominated collection site address, is uploaded.

# Appendix C Recyclate Specifications

Commented [A15]: Drafters Note: These specifications require ratification by Industry Leaders

Quality specifications	Description	
Flake Specifications	<ol> <li>PP flake specification for input into optical sorter and then wash and extrusion process (non-food grade)</li> <li>Input material should be de-dusted, sieved and wind shifted</li> <li>Flake Size 2 – 12mm</li> <li>Bulk density ~320kg/m3</li> <li>Labels contamination &lt;50ppm</li> </ol>	
Agreed Recyclate Grade		
A grade	Impurities PVC < 10 ppm Metal < 5 ppm Colour impurities < 10 ppm Opaque impurities < 10 ppm	
B Grade	Impurities PVC < 30 ppm Metal < 10 ppm Colour impurities < 70 ppm Opaque impurities < 130 ppm	
C Grade	Impurities PVC < 150 ppm Metal < 50 ppm Colour impurities < TBD ppm Opaque impurities < TBD ppm	

# Appendix D Allowable recyclate applications

Key Application	Description
90% Expectation that 90% recyclate will re-enter the market as these products	Plant pots, Plant labels, Plant stakes, Plant ties
10% Non-core applications should make up less than 10% of the recyclate in total.	Electrical cable covers, building panels and concrete reinforcement stools (bar chairs and shims), furniture, irrigation fittings, agricultural and garden pipe, drainage products (such as drain gates) and tanks, builders' film, kerbing, bollards, concrete reinforcing, and a wide variety of injection moulded products.

# Appendix E Recycler Reporting Requirements

This table covers record keeping, milestones and reporting requirements of recyclers approved under the scheme.

the scheme.	
Reporting (Tracking) Milestone	Description
Inbound Receipting into facility	This information capture is critical from an audit perspective to ensure product received under the scheme has been correctly weighed, assessed, and receipted into an approved facility.  Data from this milestone closes the collection, shipping and sorting processes further upstream in the process (often required for any claim). Data collected includes: Unique reference that is associated with collection point Qty / Weight Ship ID Condition
	Allocation to recycler batch ID (for downstream tracking)
Pre-processing Status Reporting	Can include status of the product received, its condition and any other information that is required before the potential for mass balance processing takes over.
Processing (cleaning, shredding and commodity breakdown)	This level of reporting includes multiple levels of capture (in addition to above references):  Load Summary report - Breakdown of items  Commodity Breakdown report - includes weight by commodity type, landfill diversion percentage and recovery rates  Further reporting for in and out of scope scheme reporting is also represented here.
Certificate of Destruction	Legal document that evidences the transaction / batch destruction process to commodity level (if being on-shipped for further processing) or to raw material state. Key data on certificate is weight, and recovery percentages by type.
Certificate of Recycling	Second tier recycling processing to raw material state
Mass balance reporting	Can be quarterly or annual reporting for commodity information. Identifying total quantities collected, resold, reused, recycled, incinerated with waste to energy recovery, incinerated as disposal treatment, and disposed by landfill (mass balance reporting) each reporting period identifying the performance of each supplier or downstream agent facility.
Incident and other Guidelines reporting	Incident, capacity, status of facility, quantities in storage, all represent scheme reporting for consideration.
	Notice within 5 business days of any fines, regulatory orders, environmental incidents such as spills, or any reportable health and safety incidents

Commented [A16]: Drafting Note: Depending on the final design of the PoPPr scheme, the minimum requirement is to conduct the tracking, audit, and evidentiary requirements.

Drafting Note: The final design of the scheme and the role, scope and governance requirements of the scheme organisation and operator will further inform the level of detail required across the critical processing path.

# Appendix B Business Plan Framework

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# 1 Establish Entity

- Organisation Structure
- Funding Options (Financing)
- Procurement & Contract Strategy
- Governance Plan
- Governance & membership terms sheets
- Commercial Risk position
- Governance & Risk management plan
- Draw up Constitution w Lawyers

#### 1.1 Membership

- Structure/Framework
- Volume modelling
- Member fee model (if any)
- Liable party share of scheme costs
- Test model with potential members
- B2B reporting
- Member data security & management
- Dispute process
- Expulsion
- Membership enrolment
- Member services agreement
- Negotiation
- MOU
- Draw up contract
- Establishment Agreement
- Operating Agreement

# 2 Establish Program

## 2.1 Program Establishment

- Collection Strategy
- Final collection Strategy
- Site Selection Plan
- Tender documents for approval
- Tender documents issued
- Tender close
- Tender review
- Tender recommendation

# 2.2 Recycling Service Provider Selection Plan

- Documents for approval
- Documents issued

## 2.3 Service provider presentations

- Final rates and scope of works
- Site visit & compliance audit
- Contracts established

## 2.4 Marketing, Branding, Communications

- Strategy
- Potential number and type of members
- Budget
- Branding & style guides
- Website development
- Program names need
- Communications
- Potential members/ parties interaction
- Government liaison
- Board Round Table
- Industry briefings Syd & Mel
- Road show
- Community

## 2.5 Training & audit

- Develop material
- Establish online registration & payment
- Lock in dates, pricing & bookings details
- Advertise
- Conduct
- Review
- Arrange audit of key recyclers
- Conduct audit
- Advise outcome, monitor improvements

## 2.6 Board or Industry Committee (under existing entity)

- Board resolutions to establish etc.
- D & O insurance in place
- Board Composition
- Board & Committee Charters Draft
- Board Selection & appointment process

# 2.7 General meeting Establishment (under existing entity)

- Call general meeting
- Advisory Committees
- Committee Calendar
- Appointment/indemnity docs
- Induction arranged
- remuneration plan
- Delegation matrix
- Approve budget & business plan

- Approve organisation chart /roles and responsibilities
- Review risk management plan
- Adopt policies
- ASIC forms
- Bank forms

## 2.8 Resources selection & appointment (under existing entity)

- Business plans and budgets
- Roles & Responsibilities
  - o CEO
  - o Finance/Company Secretary
  - o Marketing Communications Contract
  - o Office Administration
  - o Sustainability/auditor Contract
  - o Program Manager Management
  - o Operations PSO Administration
- Reporting framework

## 2.9 Key Policies and Operating Processes

- Membership enquiry/customer service
- New member enrolment
- Database entry
- Execute agreements
- Allocation of market share and costs
- Invoice
- Member communications/reporting
- Member special needs
- Complaint/Dispute
- Member exit
- Supplier enquiry
- Payroll/Super
- Financial reporting
- General Finance processes expenses, p/cash
- Funds Management
- Accounting & payroll needs
- Accounts Receivable/payable
- Tax, Treasury, Audit
- Contract Register
- Data management and reporting
- Records management
- Key HR processes performance management, rem & ben
- Recruitment
- Procurement/supplier management
- Travel & Expense management
- Premises needs & utilities
- Printing & stationery
- Risk Plan
- Compliance
- Assets required

• Auditor appointment

## 2.10 IT strategy/costs

- CRM/Database
- Assets
- Software
- Communications
- Websites
- Back up/Recovery plan
- 1800 number
- Landlines
- Mobiles
- Conference call facilities

#### 2.11 Insurances

- Service Providers
- Banker/Credit card facility
- Accountant
- Paypal Account

#### 2.12 Legal

- Standard contracts
- Supply contract
- Employment contract

#### 2.13 Member Recruitment

- Execute Membership & Recycling Services Agreement
- Invoice
- Receive funds (Membership & advance recycling fees)
- Advise regulator
- Track market share

## 2.14 Data collection & reporting

- Develop specification
- Obtain quotes for development
- Develop data base & test
- Needs
- Government input/reporting
- Membership details
- Member market share
- Program reporting
- Member fees
- Invoicing
- Foundation Funds
- Related Party information
- Scheme target
- Material Recovery target

- Sites/Events
- Reasonable access

## 2.15 B2B reporting

- Classes of products
- Issues/failures
- Member status / portal Reporting Requirements
- PSO to Government
- PSO to members
- Membership details & changes
- Targets
- Financial Reporting/Audit
- ATO reporting
- Board & committee reporting
- Audit operations

## 2.16 Program Launch

- Funding in place
- Entity in place and ready, with legal & tax, ACCC advice
- Resourcing in place
- Branding and tools web, logo, vision
- Communication Plan
- Approach to market & members in hand
- Contracts in place, commercials locked in
- Database operational & tested
- Issue and Risk management framework
- Decision points met for Board/Taskforce
- Work allocation & management
- Reporting established and ready