Design Standards Working Group Overview

DCCEEW - Reform of packaging regulation

- The Australian Government is committed to transitioning Australia to a circular economy and reducing waste and pollution.
- This can’t be done without reforming how packaging is made, recovered, and reprocessed.
- After the 2021 Independent Review of the co-regulatory arrangement for packaging, all Environment Ministers agreed to reform the regulations, including new mandatory obligations for:

➢ packaging design.

➢ recycled content.

➢ the removal of harmful chemicals.

DCCEEW – Consultation on 3 potential options

- To ensure regulation is informed by evidence and industry progress to date, the **Department of Climate Change, Energy, the Environment and Water (DCCEEW)** is consulting on **three potential reform options:**

1. **Strengthen administration of the co-regulatory arrangement**
2. **National mandatory requirements for packaging**
3. **An extended producer responsibility scheme for packaging**

- DCCEEW would like to hear from all stakeholders by 28 October https://consult.dcceew.gov.au/reform-of-packaging-regulation

DCCEEW – Design Standards Working Group

- The work presented here is an interim proposal developed by the **Design Standard Working Group**, an independent, expert working group established by DCCEEW.
- The Working Group is developing an independent recommendation on packaging design requirements for DCCEEW in 2024.
- DCCEEW will consider the independent recommendation as part of the development of reform options, alongside broader industry feedback from the consultation.
- The work of the Working Group is not a government product or decision.
- All content is **provided in confidence** to allow industry to contribute to the development of advice on packaging design. It is not for further distribution.
- Interested parties can provide feedback on packaging reform more broadly via the department's consultation process on the DCCEEW website.

DSWG Purpose

1. Develop an **evidence-based, feasible, future-proofed, and effective Standard** for the design of packaging available in Australia, in line with circular economy principles.
2. Consider and incorporate **best practice international design** standards and other relevant approaches to the safe, sustainable, and circular management of packaging through its life cycle and across the value chain.
3. Ensure mandatory packaging design requirements for brand owners and producers are developed with **consideration of current and future recycling and reprocessing infrastructure** and systems to support increased recycling rates, higher quality bales, and development of end markets of recycled content.
4. **Ensure expert industry stakeholders are consulted**, and environmental impacts, lifecycle outcomes, and commercial factors are considered in developing the National Design Standard.

Definition of Packaging for DSWG

From the National Environment Protection (Used Packaging Materials) Measure 2011

Consumer Packaging means **all packaging products** made of any material, or combination of materials, for the containment, protection, marketing or handling of consumer products. This also includes Distribution Packaging.

Distribution Packaging means all packaging that contains multiples of products (the same or mixed) intended for direct consumer purchase, including:

a) **secondary packaging** used to secure or unitise multiples of consumer products such as cardboard boxes, shipper, shrink film overwrap;

b) **tertiary packaging** used to secure or unitise multiples of secondary packaging such as pallet wrapping stretch film, shrink film, strapping.

DSWG Scope for 2024

Key focus areas for the DSWG:

- Recovery of packaging
- Recyclability of packaging
- Kerbside comingled collection (the ‘recycling bin’)
- Consideration of the complete packaging value chain (value/affordability/end markets)
- Clarity and consistency in design guidelines
- Consider alignment with global standards while meeting requirements of an Australian supply chain

DSWG Scope for 2024

Areas out of scope for 2024 discussion:

- LCA/Carbon Footprint is acknowledged as a key contributor to packaging sustainability but will be a focus for 2025 review/discussion
- Product Stewardship opportunities
- Recycled content (A separate team is reviewing these).
- Re-use and refill systems. Metrics for these standards will be refined in 2025.
- Compostable packaging collected via FOGO (Food Organics, Garden Organics) system. The Kerbside Harmonisation project is reviewing this in line with state-by-state FOGO 2025-2030 strategies.

Packaging Recyclability Grading Global Benchmarking

With more jurisdictions seeking to regulate packaging, there are a corresponding number of recyclability grading schemes being developed.

Key schemes include:

- Recyclass (Europe)
- The Association of Plastic Recyclers (North America)
- The Packaging and Packaging Waste Regulation (Europe)
- Australasian Recycling Label Governance Program (Australia/New Zealand)

The opportunity is to leverage the strengths and advantages of global best practice schemes while ensuring Australian requirements (logistics and supply chain, for example) are fully met.

Packaging Recyclability Grading
RecyClass Definitions

RecyClass was set up by Plastics Recyclers Europe to provide direction for the European packaging industry regarding recyclability. RecyClass uses a 6-stage classification system.

CLASS A

The packaging does not pose any recyclability issues and the recycled plastics can potentially feed a closed-loop scheme to be used in the same quality application.

CLASS B

The packaging has some minor recyclability issues that slightly affect the quality of the recycled plastic generated. However, majority of recycled plastics from this packaging can still potentially feed a closed loop.

CLASS C

The packaging presents some recyclability issues that affect the quality of the recycled plastics or lead to material losses during recycling. In the first case the recycled plastic could be used in a cascade open-loop scheme, whereas in the latter case the plastic could potentially feed a closed loop scheme.

CLASS D

The packaging has significant design issues that highly affect its recyclability or imply large material losses. In both cases the recycled plastic can only be fed into low-value applications (i.e. the packaging will be downcycled).

CLASS E

The packaging has major design issues that jeopardize its recyclability or imply severe material losses. The packaging is not considered recyclable and can only be used in incineration with energy recovery.

CLASS F

The package is not recyclable at all, either because of fundamental design issues or a lack of specific infrastructure for collection, sorting and recycling in EU27+3.

https://recyclass.eu/wp-content/uploads/2024/03/RECYCLASS-RECYCLABILITY-METHODOLOGY_v.2.3.pdf

Packaging Recyclability Grading
APR Recyclability Categories

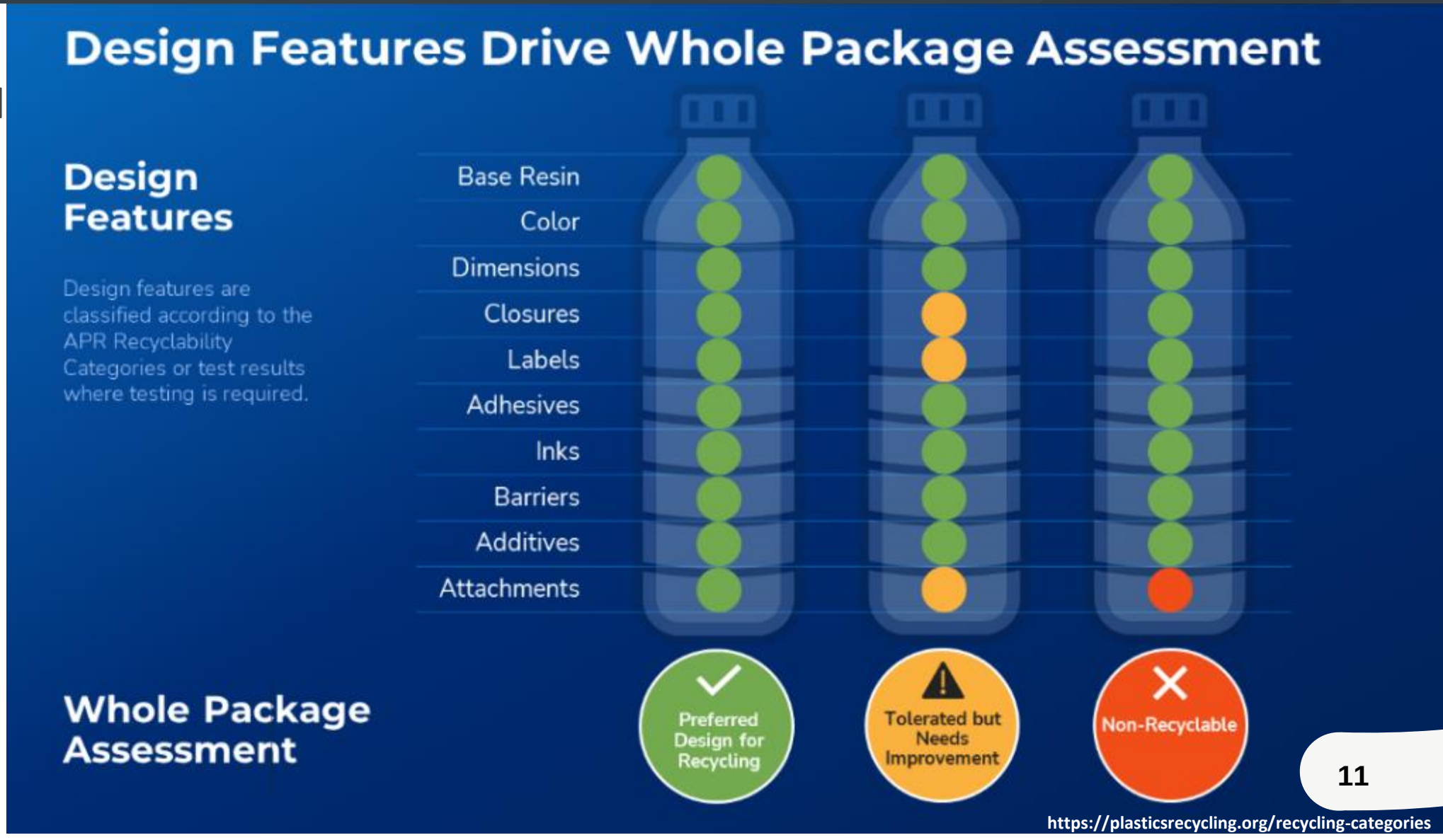
Each design feature is classified into a recyclability category.

APR Preferred Design for Recycling.

Tolerated but Needs Improvement.

Non-Recyclable.

Requires Testing



https://plasticsrecycling.org/recycling-categories

Packaging Recyclability Grading
PPWR Grading Scheme

Packaging and Packaging Waste Regulation (PPWR) was formally legislated in March 2024. As per the Proposal for a Regulation of the European Parliament and the Council on packaging and packaging waste, amending Regulation (EU) 2019/1020 and Directive (EU) 2019/904, and repealing Directive 94/62/EC, Annex II, Table 2 'Recyclability performance grades':

Recyclability Performance Grade	Assessment of recyclability per unit, in weight
Grade A	higher or equal to 95 %
Grade B	higher or equal to 90 %
Grade C	higher or equal to 80 %
Grade D	higher or equal to 70 %
Grade E	lower than 70 %

Note that while the Recyclability Performance Grades are defined as per the chart, the methodology for calculating the percentage values is still to be finalised

https://eur-lex.europa.eu/resource.html?uri=cellar:de4f236d-7164-11ed-9887-01aa75ed71a1.0001.02/DOC_2&format=PDF

Packaging Recyclability Grading Benchmark Summary

	A	B	C	D	E	Packaging Innovations
RecyClass Definitions	The packaging does not pose any recyclability issues and the recycled plastics can potentially feed a closed-loop scheme to be used in the same quality application.	The packaging has some minor recyclability issues that slightly affect the quality of the recycled plastic generated. However, majority of recycled plastics from this packaging can still potentially feed a closed loop.	The packaging presents some recyclability issues that affect the quality of the recycled plastics or lead to material losses during recycling. In the first case the recycled plastic could be used in a cascade open-loop scheme, whereas in the latter case the plastic could potentially feed a closed loop scheme.	The packaging has significant design issues that highly affect its recyclability or imply large material losses. In both cases the recycled plastic can only be fed into low-value applications (i.e. the packaging will be downcycled).	The packaging has major design issues that jeopardize its recyclability or imply severe material losses. The packaging is not considered recyclable and can only be used in incineration with energy recovery.	The package is not recyclable at all, either because of fundamental design issues or a lack of specific infrastructure for collection, sorting and recycling in EU27+3.
PPWR	**≥95%**	**≥90%**	**≥80%**	**≥70%**	**<70%**	
APR	**APR DESIGN® PREFERRED:** Features readily accepted by MRFs and recyclers since the majority of the industry has the capability to identify, sort, and process a package exhibiting this feature with minimal, or no, negative effect on the productivity of the operation or final product quality. Packages with these features are likely to pass through the recycling process into the most appropriate material stream with the potential of producing high quality material.		**DETRIMENTAL TO RECYCLING:** Features that present known technical challenges for the MRF or recycler's yield, productivity or final product quality, but are grudgingly tolerated and accepted by the majority of MRFs and recyclers. A plastic item may be considered Recyclable with Detrimental features with the understanding that package manufacturers should use the detailed guidance provided by APR to change their design and achieve Preferred status.		**RENDERS THE PACKAGE NON-RECYCLABLE:** The majority of MRFs or reclaimers cannot remove these features to the degree required to generate a marketable end product, or the package cannot be captured at a majority of MRFs or reclaimers due to typical machinery settings or equipment capabilities. Ultimately, a package exhibiting this design feature will be completely discarded even if it has other Preferred features.	**REQUIRES TESTING:** In order to determine a recyclability category, testing per an APR testing protocol is required. APR provides a library of peer-reviewed, technically rigorous test methods that should be used to evaluate package design features with an unknown impact on recyclability. APR's tests are designed to encourage companies to strive for Preferred

Packaging Recyclability Grading Australian Considerations

In Australia, a key driver of recyclability is the Australasian Recycling Label (ARL).
The ARL program's definition of 'recyclable' or 'recycled' aligns with the Sustainable Packaging Guidelines which requires that:

1. In a particular geographical area, **at least 80% of the overall population has convenient access to a service that collects the packaging or packaging component**, and
2. **At least 70% of an item by weight must be able to be recycled** into a product, component incorporated into a product, or a secondary (recycled) raw material; excluding energy recovery.

In order to be considered recyclable through the ARL program, an item must also be able to be:

1. Accurately sorted at a MRF
2. Effectively reprocessed into a new product and,
3. Have a valuable, existing end market.

https://arl.org.au/why-its-important

Packaging Recyclability Grading Australian Considerations

The thresholds for recyclability of packaging under the ARL program are set per major common material type – i.e. rigid plastics, flexible plastics, fibre, metals and glass. For each material type, there are additional specific thresholds set based on more detailed sub-material types – e.g. polymer types.

Additional thresholds are set based on factors that impact the recyclability of each of the major material types including:

- size,
- shape,
- weight,
- inks,
- adhesives and,
- secondary materials such as labels, closures, etc.

Australian Packaging Kerbside Recyclability Grading Definitions

A	B	C	D	E	F	G
				Packaging that is not acceptable in kerbside commingled recycling systems, and container deposit schemes and can be a litter issue or a contaminant at the majority of MRFs or reclaimers. This packaging will require **approved** Product Stewardship programs for recovery and reprocessing.		
Packaging that is collected from kerbside commingled recycling systems, and container deposit schemes and is readily accepted by most MRFs and recyclers. The recovered packaging has a market value and there is a viable and scaled market for the recycled materials. **Recycled plastics that can be reprocessed effectively for use as Food Grade recycled content.**	Packaging that is collected from kerbside commingled recycling systems, and container deposit schemes and has some minor recyclability issues at most MRFs and recyclers. The recovered packaging has a reduced market value and there is a viable and scaled market for the recycled materials. **Recycled plastics that can be reprocessed effectively for use as Food Grade or non Food Grade recycled content.**	Packaging that is collected from kerbside commingled recycling systems, presents some recyclability issues at most MRFs and recyclers. The recovered packaging has reduced recovery yields, affecting the quality and value of the recycled materials. There is a less viable and scaled markets for the recycled materials. **Recycled plastics will contain multi-materials that reduce the recovery yields and value of the recycled materials.**	Packaging that is collected from kerbside commingled recycling systems and its handling in MRFs results in reduced recovery yields and affects the quality and value of the recycled materials. There is a less viable and scaled markets for the recycled materials. **Recycled plastics that contain multi-materials, reducing the recovery yields and value of the recycled materials. i.e Closures, Labels, Adhesives.**	The primary recyclable packaging has secondary packaging materials attached which are a contaminant in the separation and reprocessing of the primary packaging material. i.e. the secondary attached packaging materials is **< 30%** by weight of the primary materials. Labelling material that covers > 40% of the container surface area and use adhesives that don't de-bond in hot aqueous caustic wash solution and leave a residue.	The primary recyclable packaging has multiple secondary packaging materials attached which are a contaminant in the separation and reprocessing of the primary packaging material. i.e. the secondary attached packaging materials is **> 30%** by weight of the primary materials. Labelling material that covers > 40% of the container surface area and use adhesives that don't de-bond in hot aqueous caustic wash solution and leave a residue.	Packaging containers that held Harmful Chemicals & Automotive Oils or Aerosols products indicated as S6 or above (defined by the Poisons Standard, 'the SUSMP'. refer https://www.tga.gov.au/scheduling-basics.] **are NOT acceptable in Kerbside or CDS collections system. An approved Product Stewardship Program is required for this packaging.** Packaging that contain multi-materials that are a major contaminant in the reprocessing of the prime recyclable plastic.
Packaging Innovations	**REQUIRES TESTING:** Paper / Fibre packaging - currently the rapid development of fibre packaging involving moisture and barrier protection testing is required per the APCO or CEPI Pulpability Test Methods and submission to APCO's ARL for approval. Certified Commercially Compostable AS4736 packaging and AS5810 (Home compostable) are not accepted in Kerbside or CDS collections. Compostable packaging - to claim compostable packaging requires certification to Australian Standards AS 4736 (Commercial) or AS5810 (Home compostable).					

Australian Packaging Recyclability Grading Definitions

The Australian Packaging Material Recyclability Gradings are set per major common material types – i.e. rigid & soft plastics, fibre, metals and glass.

This Grading focuses on the Primary packaging material, although in Plastics and Fibre materials it was necessary to include polymer types and some secondary packaging (labelling & adhesives) with their percentage impacts on recyclability.

- Please note that the chart **doesn't include** unresolved items like Cups, Bowls, Plates (SUP Bans) **OR** the impact of size, shape, weight, closures, inks, and decoration components on the recyclability of every primary packaging.
- For packaging that **does not currently** meet the recyclability requirements (for example, flexible plastics, multi-component, certified compostable, EPS, and problematic packaging) these packaging materials will require the establishment of effective "Alternative Destination & Product Stewardship Programs".

Australian Packaging Kerbside Recyclability Grading Chart
Rigid Plastics - PET

Packaging Material		A	B	C	D	E	F	G
Rigid Plastic	PET Bottles & Jars	PET Bottles & Jars Mono Layer, clear & transparent light blue (Food products)	PET Bottles & Jars Light transparent colours (Household Products)	▸ PET Bottles & Jars Mono Layer, clear & transparent light blue (Household products)	▸ PET Bottles & Jars - Dark colours (Amber, Dark Green, Blue, Brown).	▸ PET Bottle Opaque. e.g. White (titanium dioxide), black pigments (carbon black), or opaque colours. ▸ PET bottles & Jars with barriers or coatings greater than 5% by weight.	▸ PET Bottles & Jars with Composite Barrier - Ethylene vinyl alcohol EVOH; Nylon polyamide (PA). ▸ PET Bottles & Jars with Oxo & Landfill degradability additives. ▸ PET Can with Aluminium Beverage ends	▸ PET Containers holding Harmful Chemicals & Automotive Oils.
	Additional Information	▸ The different gradings of Food & Household Products are designed to assist packaging reprocessor separation to reduce contamination in meeting Food Grade Certification requirements. Note - PET clear & transparent light blue Bottles & Jars (monolayer) that are used for Household products are placed in Column C as a disincentive to leave clear PET for Food products only. ▸ **Packaging containers that hold Harmful Chemicals & Automotive Oils are NOT acceptable in Kerbside or CDS collections system. An approved Product Stewardship Program is required for this packaging.**						

Australian Packaging Kerbside Recyclability Grading Chart
Rigid Plastics – PET Thermoformed

Packaging Material	A	B	C	D	E	F	G
Rigid Plastic	PET Thermoform		PET Clear Thermoformed The PET Intrinsic Viscosity needs to be greater than or equal to 0.65 dl/g (deciliters/gram)	▸ PET Thermoformed The PET Intrinsic Viscosity needs to be greater than or equal to 0.65 dl/g (deciliters/gram) and the secondary PE layer less than 10%. ▸ CPET trays Unpigmented	The PET Intrinsic Viscosity needs to be greater than or equal to 0.65 dl/g (deciliters/gram) and the secondary PE layer less than 10%	▸ C-PET trays Pigmented. ▸ PET Trays Composite Materials. ▸ Compostable Plastics eg PLA, PHA.	▸ Containers made from PS, PA, PVC, PETg.	
	Additional Information	▸ **Packaging containers that hold Harmful Chemicals & Automotive Oils are NOT acceptable in Kerbside or CDS collections system. An approved Product Stewardship Program is required for this packaging.** ▸ Intrinsic Viscosity (I.V.) is an important quality characteristic of PET. The I.V. of the material measured in dl/g (deciliters/gram) is dependent upon the length of its polymer chains. The longer the chains, the stiffer the material and te higher the Intrinsic Viscosity.						

Australian Packaging Kerbside Recyclability Grading Chart
Rigid Plastics - PET

Packaging Material		A	B	C	D	E	F	G
Rigid Plastic	PET RIGID Packaging **Labelling**	▸ Label coverage is to be less than or equal to 40% of the container surface area. Exemption: Shrink Sleeve Label coverage less than or equal to 50% of the container surface area. ▸ A clear filmic print carrier with a density of less than 1.0 g.cm³ for Food products and in addition a White filmic label for Household products. ▸ A PET clear thermoformed trays (not clamshell) with a combined PET lidding film and PET Filmic labels. ▸ Adhesive to de-bond in hot aqueous caustic wash solution** leaving no residue on PET flake. ▸ Inks to be caustic resistant and not cause discolouration of wash water	▸ Label coverage to be less than or equal to 40% of the container surface area. Exemption: Shrink Sleeve Label coverage less than or equal to 50% of the container surface area. ▸ A clear filmic print carrier with a density of less than 1.0 g.cm³ for Food products and in addition a White filmic label for Household products. ▸ A PET clear thermoformed trays (not clamshell) with a combined PET lidding film and PET Filmic labels. ▸ Adhesive to de-bond in hot aqueous caustic wash solution** leaving no residue on PET flake/ ▸ Inks to be caustic resistant and not cause discolouration of wash water.	▸ Label coverage to be less than or equal to 40% of the container surface area. Exemption: Shrink Sleeve Label coverage less than or equal to 50% of the container surface area. ▸ A clear filmic print carrier with a density of less than 1.0 g.cm³ for Food products and in addition a White filmic label for Household products. ▸ A PET clear thermoformed trays (not clamshell) with a combined PET lidding film and PET Filmic labels. ▸ Adhesive to de-bond in hot aqueous caustic wash solution** leaving no residue on PET flake. ▸ Inks to be caustic resistant and not cause discolouration of wash water	▸ Label coverage less than or equal to 40% of the container surface area. ▸ Filmic labels with a density greater than or equal to 1.0 g.cm³.	▸ Material coverage greater than or equal to 50% of the container surface area. ▸ Adhesives that don't de-bond in hot aqueous caustic wash solution and leave a residue on PET flake/ Inks. ▸ Paper based labels		
	Additional Information	NOTE: To meet the Primary Packaging grading classification, the labelling & adhesive must comply with the requirements indicated. ▸ **Hot aqueous caustic solution - Polymer reprocessing to remove labelling materials -conditions 75ºC; pH ≥12.8 ▸ ***Clear Crystallisable PET - Check with label supplier that this is a non-clumping crystallisable PET that will cause issues at the PET reprocessors. ▸ # Shrink Sleeve Double Perforation - Double perforation (5-8mm apart) to run the full length of the label to aid the label separation from the primary container.						

Plastic Film Densities

		Polyolefins	
PET	1.38 g.cm3	HDPE	0.96 g.cm3
PVC	1.35 g.cm3	LDPE	0.92 g.cm3
PVDC	1.35 g.cm3	CPP	0.905 g.cm3
Bioplastic	1.25 g.cm3	PP	0.9 g.cm3
Paper	1.201 g.cm3	BOPP	0.9 g.cm3
PVOH	1.19 g.cm3		
EVOH	1.18 g.cm3		
Nylon	1.1 g.cm3		
PS	1.06 g.cm3		

Australian Packaging Kerbside Recyclability Grading Chart
Rigid Plastics – HDPE

Packaging Material		A	B	C	D	E	F	G
Rigid Plastic	HDPE Bottles containers closures	HDPE Containers & Closures Clear / Natural (Food products)	HDPE Containers & closures pale / pascal colours (Household Products)	▸ HDPE Containers & closures White & Dark colours (Household but not chemical products). ▸ HDPE Containers Clear / Natural (Household products)	HDPE Containers multilayered barrier (PE, PP, EVOH greater than 5%)	▸ HDPE Containers - Black pigments (carbon black). ▸ HDPE Containers with Mineral fillers (Calciuim Carbonate).	▸ HDPE Containers with Oxo & Landfill degradability additives. ▸ HDPE Containers with Non Polyolefin Multilayer plastics.	▸ HDPE Containers holding Harmful Chemicals & Automotive Oils.
	Additional Information	▸ The different gradings of Food & Household Products are designed to assist reprocessor scanning separation to reduce the contamination in meeting Food Certification requirements. **Note** - HDPE Containers Clear / Natural used for Household products are placed in Column C as a disincentive to leave clear PET for Food products only. ▸ **Packaging containers that hold Harmful Chemicals & Automotive Oils are NOT acceptable in Kerbside or CDS collections system. An approved Product Stewardship Program is required for this packaging.**							

Australian Packaging Recyclability Kerbside Grading Chart
Rigid Plastics – HDPE

Packaging Material		A	B	C	D	E	F	G
Rigid Plastic	HDPE Bottle/Jar **Labelling**	▸ Label coverage to be less than or equal to 40% of the container surface area. [#] Exemption Shrink Sleeve Label exemption coverage less than or equal to 50% of the container surface area. ▸ A clear filmic print carrier of PP, PE or PET for Food products and in addition a White filmic label for Household products. ▸ Adhesive to de-bond in hot aqueous caustic wash solution** leaving no residue on HDPE flake. ▸ Inks to be caustic resistant and not cause discolouration of wash water	▸ Label coverage to be less than or equal to 40% of the container surface area. [#] Exemption Shrink Sleeve Label exemption coverage less than or equal to 50% of the container surface area. ▸ A clear filmic print carrier of PP, PE or PET for Food products and in addition a White filmic label for Household products. ▸ Adhesive to de-bond in hot aqueous caustic wash solution** leaving no residue on HDPE flake. ▸ Inks to be caustic resistant and not cause discolouration of wash water	▸ Label coverage to be less than or equal to 40% of the container surface area. [#] Exemption Shrink Sleeve Label exemption coverage less than or equal to 50% of the container surface area. ▸ A clear filmic print carrier of PP, PE or PET for Food products and in addition a White filmic label for Household products. ▸ Adhesive to de-bond in hot aqueous caustic wash solution** leaving no residue onHDPE flake. ▸ Inks to be caustic resistant and not cause discolouration of wash water	▸ Label coverage greater than 40% of the container surface area.	▸ Material coverage greater than 40% of the container surface area. ▸ Adhesives that don't de-bond in hot aqueous caustic wash solution and leave a residue on HDPE flake/ Inks. ▸ Paper based labels	▸ Material coverage greater than 40% of the container surface area. ▸ Adhesives that don't de-bond in hot aqueous caustic wash solution and leave a residue on HDPE flake/ Inks. ▸ Paper based labels	
	Additional Information	▸ **Hot aqueous caustic solution - Polymer reprocessing to remove labelling materials -conditions 75ºC; pH ≥12.813.0 ▸ # Shrink Sleeve Double Perforation - Double perforation (5-8mm apart) to run the full length of label to aid the label separation from primary container.						

Australian Packaging Kerbside Recyclability Grading Chart
Rigid Plastics – PP

Packaging Material		A	B	C	D	E	F	G
Rigid Plastic	PP containers closures & trays			PP Containers & trays - Clear & Coloured	PP Containers & trays - Multilayer barrier (PE, EVOH less than 5%.)	▸ PP Containers 7 Trays - black pigments (carbon back).	▸ PP Containers & trays with Oxo & Landfill degradability additives. ▸ PP Containers - Non Polyolefin Multilayer plastics.	▸ PP Containers holding Harmful Chemicals & Automotive Oils.
	Additional Information	▸ **Packaging containers that held Harmful Chemicals & Automotive Oils are NOT acceptable in Kerbside or CDS collections system. An approved Product Stewardship Program is required for this packaging.**						
Rigid Plastic	PP Container **Labelling**			▸ Label coverage to be less than or equal to 40% of the container surface area. Exemption: Shrink Sleeve Label coverage is less than or equal to 50% of the container surface area. ▸ Clear, White or cavitated Polypropylene label ▸ Adhesive to de-bond in hot aqueous caustic wash solution** leaving no residue on PP flake/ Inks and not cause wash water discolouration.	▸ In Mould Labelling (IML) either Injection or Blow Moulding. ▸ Label coverage to be less than or equal to 40% of the container surface area.	▸ Material coverage greater than or equal to 40% of the container surface area. Adhesives that don't de-bond in hot aqueous caustic wash solution and leave a residue on PP flake/ Inks. ▸ Paper-based labels	▸ Material coverage greater than or equal to 40% of the container surface area. Adhesives that don't de-bond in hot aqueous caustic wash solution and leave a residue on PP flake/ Inks. ▸ Paper-based labels	
	Additional Information	NOTE: To meet the Primary Packaging grading classification, the labelling & adhesive must comply with the requirements indicated. ▸ **Hot aqueous caustic solution - Polymer reprocessing to remove labelling materials -conditions 75ºC; pH ≥ 13.0						

Australian Packaging Recyclability Kerbside Grading Chart
Rigid Plastics – LDPE & Other

Packaging Material		A	B	C	D	E	F	G
Rigid Plastic	Tubes				Mono material Polyolefin tubes.		▸ Composite material tubes. ▸ Tubes smaller than 40mm in 2 Dimensions	
	Additional Information	The size of the tubes and tube types make it difficult for MRFs to separate and currently if separated end in mixed plastic.						

Rigid Plastic	Other					▶ EPS / EPE / EPA Foam containers B2B Product Stewardship Program. ▶ Compostable Plastics eg PLA, PHA.	▸ Containers made from PS, PA, PVC, PETg.	▶ EPS / EPE/ EPA Foam packing & filler materials.
	Additional Information	▸ Expanded Foams are a litter item and are NOT acceptable in Kerbside or CDS collections system. An approved Product Stewardship Program is required for this packaging.						

Australian Packaging Kerbside Recyclability Grading Chart
Soft Plastics

Packaging Material		A	B	C	D	E	F	G
Soft Plastics						▸ A mono Polyolefin film type containing greater than 90% of the packaging by weight. ▸ Secondary materials should be minimised but are accepted if less than the percentage indicated: - Nylon – less than 5% - EVOH and PVOH – less than 5% - AlOx and SiOX – less than 5% - Acrylic – less than 5% - Metallised polymer layers – less than 5% metallisation.	▸ A mono Polyolefin film type containing a minimum of 80% of the packaging by weight. ▸ The following secondary materials are accepted when their combined percentage is less than 20% and their individual percentage as part of the pack is: - Nylon – between 5-10% - EVOH and PVOH – between 5- 10% - AlOx and SiOX– less than 10% - Acrylic – less than 10%	▸ Plastic barrier films that contain less than 80% of Polyolefin films in the total weight of the film. ▸ The following secondary materials are not accepted if their combined percentage is greater than 20% or if their individual percentage as part of the pack is: - Nylon – greater than 10% - EVOH – greater than 10% - AlOx and SiOX – greater than 10% - Acrylic – greater than 10%
	Additional Information	A mono-material contains predominantly one polyolefin film type (e.g. PE or BOPP). Multiple layers of the same material can be considered as mono-material. For best practice and reduced contamination, aim to include the least amount of secondary materials as possible. NB. The following secondary materials are not accepted at any level either used separately or combined with a polyolefin film: - PET. - PVC. - PVDC. - PS - Non-polyolefin Bioplastics (e.g. PLA, PHA, starch-based) or compostable materials. - Oxo-degradable additives. - Paper. - Aluminium.							
Soft Plastics	Labelling						Paper-based labels	
	Additional Information	Soft plastic labelling for recycling needs to be a Clear or white Poyolefin filmic print carrier less than 10 % of the External Surface Area.						

Polyolefins

HDPE	0.96 g.cm3
LDPE	0.92 g.cm3
CPP	0.905 g.cm3
PP	0.9 g.cm3
BOPP	0.9 g.cm3

Australian Packaging Kerbside Recyclability Grading Chart
Soft Plastics

Packaging Material		A	B	C	D	E	F	G
Soft Plastics			B - Future grading once collection achieves 80% access		D - Future grading once collection achieves 80% access	▸ A mono Polyolefin film type containing greater than 90% of the packaging by weight. ▸ Secondary materials should be minimised but are accepted if less than the percentage indicated: - Nylon – less than 5% - EVOH and PVOH – less than 5% - AlOx and SiOX – less than 5% - Acrylic – less than 5% - Metallised polymer layers – less than 5% metallisation.	▸ A mono Polyolefin film type containing a minimum of 80% of the packaging by weight. ▸ The following secondary materials are accepted when their combined percentage is less than 20% and their individual percentage as part of the pack is: - Nylon – between 5-10% - EVOH and PVOH – between 5- 10% - AlOx and SiOX– less than 10% - Acrylic – less than 10%	▸ Plastic barrier films that contain less than 80% of Polyolefin films in the total weight of the film. ▸ The following secondary materials are not accepted if their combined percentage is greater than 20% or if their individual percentage as part of the pack is: - Nylon – greater than 10% - EVOH – greater than 10% - AlOx and SiOX – greater than 10% - Acrylic – greater than 10%
	Additional Information	A mono-material contains predominantly one polyolefin film type (e.g. PE or BOPP). Multiple layers of the same material can be considered as mono-material. For best practice and reduced contamination, aim to include the least amount of secondary materials as possible. NB. The following secondary materials are not accepted at any level either used separately or combined with a polyolefin film: - PET. - PVC. - PVDC. - PS - Non-polyolefin Bioplastics (e.g. PLA, PHA, starch-based) or compostable materials. - Oxo-degradable additives. - Paper. - Aluminium.						
Soft Plastics	Labelling						Paper-based labels	
	Additional Information	Soft plastic labelling for recycling needs to be a Clear or white Poyolefin filmic print carrier less than 10 % of the External Surface Area.						

Note the potential for increased recyclability potential once at-scale collection systems are delivered.

Polyolefins

HDPE	0.96 g.cm3
LDPE	0.92 g.cm3
CPP	0.905 g.cm3
PP	0.9 g.cm3
BOPP	0.9 g.cm3

Australian Packaging Kerbside Recyclability Grading Chart
Fibre (1) – Wood Fibre

Packaging Material		A	B	C	D	E	F	G
Fibre	Wood Fibre	▸ Wood fibre based packaging (paper, solid fibre, or board containing at a minimum of 95% by weight (including accepted fillers). ▸ Label coverage to be less than or equal to 40% of the container surface area. ▸ Labels - Uncoated or clay-coated wood fibre-based print carrier. Avoid the use of wet-strength resin / Adhesive to disperse in the repulping process.		Wood fibre 85 – 94% of the total weight (including accepted fillers) Label coverage to be less than or equal to 40% of the container surface area. Labels - Uncoated or clay-coated wood fibre-based print carrier. Avoid the use of wet-strength resin / Adhesive to disperse in the repulping process.		▸ Wood fibre less than 85% by weight. ▸ Alternative Fibres (Bamboo, Bagasse, Wheat Straw, Grass, Kenaf, etc.) less than 85% by weight. ▸ Label coverage greater than 40% of the container surface area. ▸ Use of Filmic Labels.	▸ The following secondary materials are not accepted at any level: - Silicone (Under review); PVC; PVDC; EPS; Other plastics; Other materials.	▸ Wood or Alternative fibre packaging with intentionally added PFAS (i.e. levels above 100ppm. ▸ Packaging contaminated with paint/industrial chemicals / hazardous / toxic chemicals or or biological waste.
	Additional Information	▸ Wood Fibre Label Adhesives - Adhesive to disperse and not agglomerate or deposit on the fibre in the repulping process nor give rise to excessive colloidal or solids accumulation in the wash water - as tested by the APCO & CEPI pulpability testing. ▸ For Wood or Alternative fibre packaging used for food products that could be contaminated with product residue (e.g. baked on cheese) that is unable to be cleaned and removed by consumers. Clear labelling instructions are required to ensure consumers remove food contamination before recycling. If that isn't possible instruction should be provided to place packaging in the rubbish bin or FOGO collection where available.						

Australian Packaging Kerbside Recyclability Grading Chart
Fibre (2) – Alternative Fibres

Packaging Material		A	B	C	D	E	F	G
Fibre	Alternative Fibre				Alternative Fibres (Bamboo, Bagasse, Wheat Straw, Grass, Kenaf, etc.) pulpability at a minimum of 85 % of the total weight (including accepted fillers). Testing results must also be to identify suitable Burst and Tensile strength testing in line with Wood Fibre.	Alternative Fibres that have been chemically pulped (Bamboo, Bagasse, Wheat Straw, Grass, Kenaf ,etc.) with less than 85% of the total weight.		▸ Wood or Alternative fibre packaging with intentionally added PFAS (i.e. levels above 100ppm. ▸ Packaging contaminated with paint/industrial chemicals / hazardous / toxic chemicals or or biological waste.
	Additional Information	▸ For Alternative Fibres the supplier of the primary coated fibre needs to provide the converter with the APCO or CEPI test results report indicating the percentage pulpability results. The converter can then supply this to APCO along with print treatment. If further coatings are applied, this may require further pulpability testing. ▸ **As the Australian Paper industry hasn't yet obtained sufficient pulpability history for all Alternative Fibres to determine the quality impact of these Fibres for board making - it will be important that APCO or CEPI Pulpability Testing results include handsheet evaluation (including Burst and Tensile strength testing).** ▸ For Wood or Alternative fibre packaging used for food products that could be contaminated with product residue (e.g. baked on cheese) that is unable to be cleaned and removed by consumers. Clear labelling instructions are required to ensure consumers remove food contamination before recycling. If that isn't possible instruction should be provided to place packaging in the rubbish bin or FOGO collection where available.						

Australian Packaging Kerbside Recyclability Grading Chart
Fibre (3) – Secondary Materials

Packaging Material		A	B	C	D	E	F	G
Fibre	**Secondary materials**		Secondary materials (one-sided coatings and laminates). - PE (HDPE, LDPE, LLDPE) is less than 2% - PP (PP, OPP, BOPP) is less than 2% - PET is less than 2% - Aqueous dispersion coating less than 2%	Secondary materials (one-sided coatings and laminates). - PE (HDPE, LDPE, LLDPE) is less than 5% - PP (PP, OPP, BOPP) is less than 5% - PET is less than 5% - Aqueous dispersion coating less than 5% [including compostable & dissolvable plastics]	Secondary materials (one-sided coatings & laminates). - PE (HDPE, LDPE, LLDPE) is between 5 - 15% - PP (PP, OPP, BOPP) is between 5 - 15% - PET is between 5-15% - PS is between 0-5% - EVOH is between 0-5% - Steel is between 0-5% - Aqueous dispersion coating between 5-15% [including compostable & dissolvable plastics]	▸ Secondary materials (one-sided coatings & laminates). - PE (HDPE, LDPE, LLDPE) is greater than 15% - PP (PP, OPP, BOPP) is greater than 15% - PET is greater than 15% - PS is greater than 5% - EVOH is greater than 5% - Steel is greater than 5%	▸ Waxed, (e.g. baking paper), greaseproof papers. ▸ Heavily laminated or foiled wrapping papers &Tissue. ▸ Plastic windows, labels, and components that are not easily separated from the paper.	▸ Wood or Alternative fibre packaging with intentionally added PFAS (i.e. levels above 100ppm. ▸ Packaging contaminated with paint/industrial chemicals / hazardous / toxic chemicals or or biological waste.
	Additional Information	▸ The following Fibre materials will require pulpability testing: - Double-sided coatings or laminates < 15% by weight when combined with: - Wet strength boards. - New coatings and technologies such as aqueous coatings, water dispersion coatings, etc. ▸ The following secondary materials will require pulpability testing if they are < 15% by weight when combined with materials: - Aluminium foil. - Compostable and dissolvable plastics.						

Australian Packaging Kerbside Recyclability Grading Chart
Fibre (4) – Liquid Paperboard & Other Fibres

Packaging Material		A	B	C	D	E	F	G
Fibre	Liquid paper Board Containers (LPBC)				Liquid Paper Board Containers (Gable Top) where the secondary materials are one-sided coatings & the laminates (PE (HDPE, LDPE, LLDPE) are between 5 - 15%.	▸ Liquid Paper Board Containers (Aseptic /foil lined) - CDS & Kerbside collection Product Stewardship program or Export. ▸ Liquid Paper Board Containers (Gable Top) where the secondary materials are two-sided coatings & the laminates (PE (HDPE, LDPE, LLDPE) are greater than 15%.		
	Other	▸ Bleached softwood fibre. ▸ Unbleached Kraft. ▸ Uncoated and untreated glassine. ▸ Wood fibre at a minimum of 95% by weight (including accepted fillers).				Treated and coated glassine.		

Australian Packaging Recyclability Grading Chart
METALS

Packaging Material		A	B	C	D	E	F	G
Metals	Alum	Aluminium Beverage containers.	Aluminium - Aerosol Cans ▸ Other than those products defined in Column G. ▸ All Aerosol containers must be marked "Empty to Recycle".		▸ Aluminium Foil (scrunch into a 20mm ball). ▸ less than **30%** of secondary materials on aluminium, including fibre, plastic (such as PET, HDPE, PVC, LDPE, PP, PS, PLA, Silicone, Biopolymer, EVOH), steel and glass).	▸ Aluminium foil trays (food waste contaminated) & tubes. ▸ Composite Aluminium & other packaging materials where the other components are greater than **30%** by weight.		Aluminium Aerosol Can. Product S6 and above as defined by the Poisons Standard, 'the SUSMP'. [refer https://www.tga.gov.au/scheduling-basics.]
	Steel	Steel Containers.	Steel - Aerosol Can. ▸ Other than those products defined in Column G. ▸ All Aerosol containers must be marked "Empty to Recycle".		Less than **30%** of secondary materials on steel, including fibre, plastic (such as PET, HDPE, PVC, LDPE, PP, PS, PLA, Silicone, Biopolymer, EVOH), aluminium, and glass).	Composite steel & other packaging material where the other components are greater than **30%** by weight.		Steel - Aerosol Can Product S6 and above as defined by the Poisons Standard, 'the SUSMP'. [refer https://www.tga.gov.au/scheduling-basics.]

Australian Packaging Recyclability Grading Chart
GLASS

Packaging Material		A	B	C	D	E	F	G
Glass	Bottles & Jars	Glass Bottles & Jars Clear (flint), amber (brown) or green.		Glass Bottles & Jars other transparent colours.	▸ Coated or uncoated wood fibre based or clear of white PP, PE, or PET print carrier. ▸ Label coverage greater than 40% of the container surface area. ▸ Metallised inks to be not greater than 10% of the container's external surface area	Glass Bottles & Jars - Non transparent - Black, dark blues.		Other Glass (Pyrex, non-packaging like drinking glasses, mirrors, or ceramic crockery), Borosilicate and Glass-like material that melts above 1450°C.
	Glass Bottles & Jars **Labelling**	▸ Coated or uncoated wood fibre based or clear of white PP, PE or PET filmic print carrier. Label coverage to be less than or equal to 40% of the container surface area. ▸ Shrink Sleeve label - PO & PET material. Coverage less than or equal to 80% of the container surface area.		▸ Coated of uncoated wood fibre based or clear of white PP, PE or PET print carrier. Label coverage to be less than or equal to 40% of the container surface area. ▸ Shrink Sleeve label - PO & PET material. Coverage less than or equal to 80% of the container surface area.	Coated or uncoated wood fibre-based or clear or white PP, PE, or PET print carrier. Label coverage is not to be greater than 40% of the container surface area.	Uncoated or clay-coated wood fibre-based print carrier. 100% coverage metallised paper or foil/paper laminates may cause sorting issues at some MRFs.		
	Additional Information	**NOTE**: The Primary Grading classification means the label design requirements indicated are required. ▸ Ensure label adhesives prevent glass fragments from remaining attached to the label through the glass beneficiation process. Avoid the use of solid black areas of print greater than 100mm², as sortation equipment may reject the area of glass beneath.						

Australian Packaging Recyclability Grading Chart
CERTIFIED COMPOSTABLE PACKAGING

Packaging Material	E
Compostable Packaging	▸ **Certified Commercially compostable AS4736 packaging or AS5810 (Home compostable) is not accepted in Kerbside packaging recycling or CDS collections.** Some Australian States do provide kerbside Food Organic and Garden Organic (FOGO) collections for AS4736-certified packaging. ▸ The prime design use for Certified Commercially Compostable (AS4736) packaging is for food service, where the packaging is contaminated by food waste (heavy grease contamination or food residue) and cannot be easily removed by the consumer. ▸ 'Away from Home' venues need to provide Product Stewardship programs for the collection of Certified Commercially compostable AS4736 packaging contaminated by food waste.
Additional Information	**Compostable packaging - to claim compostable packaging requires certification for either the Australian Standards AS 4736 (Commercial) or AS5810 (Home compostable).** Due to growing concerns around fluorinated chemicals, often referred to as perfluorinated or polyfluorinated alkyl substances (PFOA & PFAS) the Australian Bioplastics Assos. (ABA) certification process requires the applicant to confirm that no organic fluorinated chemicals, such as perfluorinated and polyfluorinated substances have been added to the material or product.

EPR Eco-Modulatation

- The Recyclability Grading chart will be provided to DCCEEW to inform the proposed reform option for eco-modulated design requirements.
- The chart has been designed to provide a **method for eco-modulating fees based on recyclability.** For example, **higher fees for less recyclable packaging**.
- This approach is aimed at encouraging better design to improve the environmental impacts of packaging throughout the lifecycle.
- **The main purpose of eco-modulation is to incentivise behaviour change** to:
  - improve design for recyclability.
  - innovate solutions to problematic materials and methods.
  - encourage investment to increase recovery capabilities and capacity.
  - encourage participation in effective alternative collection approaches.

Design Standards Working Group Overview

QUESTIONS