



2019

Report for WCRA NSW

Recent waste industry changes and developments
Impacts on WCRA members and pathway forward



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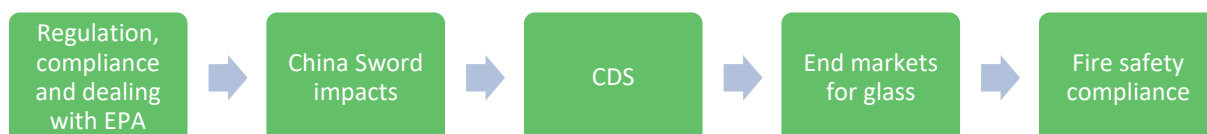
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1 Executive summary

The waste management and resource recovery sector has weathered a significant and unprecedented number of issues and challenges in recent years. These include increased regulation, higher compliance costs, increasing insurance premiums, tightening of end product quality specifications, decreasing end markets, loss of kerbside materials to container deposit schemes (CDS), decreasing revenues for commodities, a ban on the use of mixed waste organics outputs as soil conditioners, and most recently mixed plastics placed on the hazardous material list on the Basel convention.

WCRA members were consulted on the issues that are most affecting their businesses. The top five issues of WCRA members, in order of priority, are:

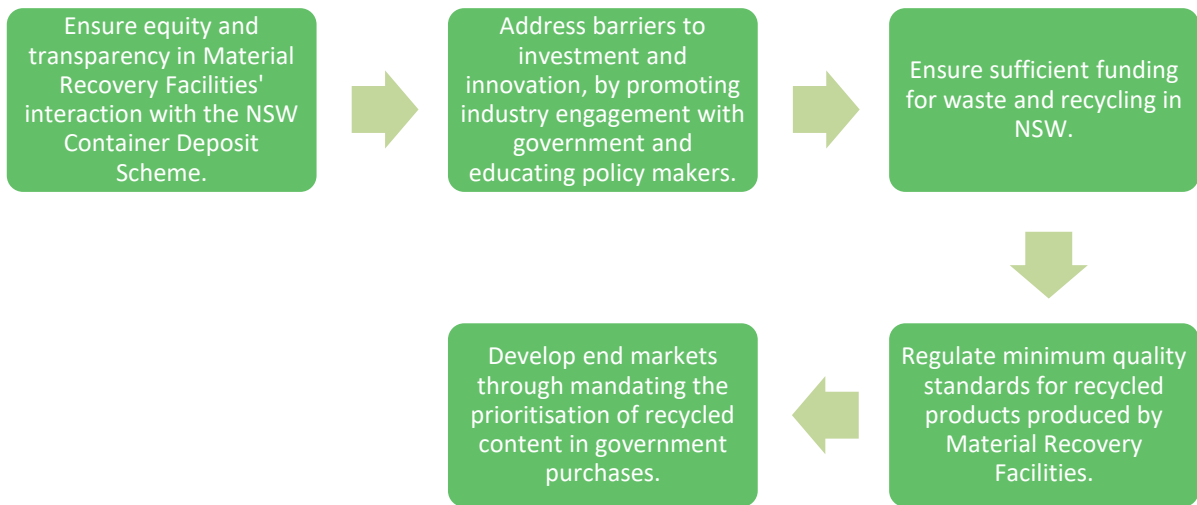


When members were consulted on how best WCRA can assist them, they stated the following:

-  Be the voice of industry
-  Lobby new environment minister; get past the bureaucrats and raise issues with active and engaged politicians
-  Seek commitment from leaders in state government that they will work collaboratively with industry
-  Get a coalition of stakeholders to plan and take action to address the issues faced by the industry
-  Harmonise the messages of key industry groups through common members

Forty-one actions are proposed for WCRA in order to assist members with their concerns. The proposed actions, shown in Table 1 below, have been developed with consideration of the input from members.

The actions can be distilled into a ‘five-point plan’ to take to government and stakeholders, comprising the following:




WCRA's members represent a large proportion of the industry and, with WCRA's support, are uniquely placed to respond to current market challenges and ensure a sustainable future for the waste and recycling industry in Australia.





Table 1 Proposed actions to support members

Theme	WCRA member issue	Summary of issue	Proposed WCRA actions	Action number
CDS	Revenue sharing agreements between MRFs and Councils	<ul style="list-style-type: none"> Significant number of Councils do not have revenue sharing agreements with MRF. Concerned re risk of negative revenue. Lack of transparency on which Councils have and have not signed a revenue sharing agreement 	Establish the number of Councils who have not signed a revenue-sharing agreement (contact EPA as a first point).	1
			Estimate the annual value of CDS rebate available to MRFs (i.e. the amount available for sharing with Councils per year).	2
			Discuss with Local Government NSW (Susy Cenedese And Liz Quinlan) how Councils can be encouraged to sign revenue sharing agreements, and any insights into how to approach Councils regarding this issue. Use this opportunity to reiterate with LGNSW that councils purchasing recycled products will stimulate end markets and ensure kerbside recycling remains viable	3
			Prepare a template Council resolution to assist Councils in expediting the signing of revenue-sharing agreements. Use the guidance document prepared by lawyer Ross Fox.	4
CDS	Transport between MRFs	<ul style="list-style-type: none"> If kerbside recycling is unloaded at a MRF, MRF can claim CDS refund if it has revenue agreement with council. If product re-loaded to another MRF, second MRF is unable to claim refund under MRF protocol. Exchange for Change commented that if nothing is processed at the first MRF and the first MRF doesn't claim, and if the second MRF has revenue sharing agreements with Councils, then MRF protocol could possibly be changed to make second MRF able to claim. The MRF protocol states that "The Protocol will be reviewed, at a minimum, 	Form a mini working group of MRF operators to determine strategy (done).	5
			Once strategy is determined, approach EFC and Ministerial Advisory Committee (MAC) Chair (Tony Wilkins) regarding updating the MRF Protocol, ensuring that their concerns about double dipping are addressed.	6
			Encourage MAC and EFC to jointly approach EPA regarding updating the MRF protocol.	7
			Continue to educate the NSW Minister for Energy and Environment regarding CDS issues affecting the waste and recycling industry.	8

Theme	WCRA member issue	Summary of issue	Proposed WCRA actions	Action number
		within 5 years of its publication, but may be reviewed more frequently when considered appropriate by the EPA”		
CDS	Transparency in CDS data	<ul style="list-style-type: none"> • MRFs, similarly to Councils, feel that data is not shared. • Exchange for Change expressed willingness to share data on trends in beverage container redemption with industry. 	Approach EFC regarding data sharing. Consider subsequent joint representation to EPA with LGNSW and EFC.	9
			Approach EFC regarding setting up a quarterly meeting with EFC and WCRA members at which EFC can explain data trends to members.	10
			Advertise these quarterly sessions to make sure members attend; could include this in existing member forums for efficiency.	11
			Seek release of individual MRF audit data to the MRFs that were sampled. Approach EFC as a first step.	12
CDS	Transparency in CDS data	<ul style="list-style-type: none"> • MRFs don’t understand rationale for which MRFs/Council are audited each quarter and how the sampling plan is developed. • APC and EFC explained that the sampling plan is done by EPA’s statistician and approved by Ministers Advisory Committee. • Lack of understanding of the method of determining the eligible container factor 	Anne Prince to send sampling plan (already in public domain) to WCRA (done).	13
			WCRA to distribute the sampling plan to members (done).	14
			The first quarterly data-sharing meeting could include an introductory session explaining the sampling regime.	15
			Request from EPA the list of which MRFs and Councils were sampled each quarter (e.g. could be released at the same time as the factor is released).	16
Regulation /compliance /EPA	EPA not commercially focussed	<ul style="list-style-type: none"> • EPA does not understand what is important to the waste and recycling industry • Members feel that EPA stifles innovation 	Find out when the next intake of EPA Board members is.	17
			Determine a shortlist of candidates with industry experience (for example, Dr Tony Wilkins) who WCRA thinks would represent industry’s industries on the EPA board, approach them to discuss.	18

Theme	WCRA member issue	Summary of issue	Proposed WCRA actions	Action number
		<ul style="list-style-type: none"> Members feel that EPA has entrenched mentality and culture No practical waste knowledge on the EPA board. EPA primarily concerned with compliance and licence conditions rather than industry development. Concern that level playing field not applied in the waste sector 	<p>Lobby the NSW Minister for Energy and the Environment to diversify the EPA board to include waste industry experience.</p> <p>Keep abreast of permanent appointment of CEO or CEO/Chair of EPA (Mark Gifford currently acting in the role), as well as other key appointments and any re-structure.</p>	19
Regulation /compliance /EPA	Resource Recovery Orders and Exemptions	<ul style="list-style-type: none"> The ability for EPA to change Resource Recovery Orders and Exemptions with no notice undermines investor confidence 	Write to the NSW Minister for Energy and Environment to bring members' concerns regarding Resource Recovery Orders and Exemptions to his attention. Refer to Ross Fox position paper on this issue if applicable.	21
Regulation /compliance /EPA19	Delays in approvals for waste and recycling facilities	<ul style="list-style-type: none"> Member frustration at dealing with multiple agencies Member frustration in timeframes for approvals Member dissatisfaction with the new Key Agency Liaison Group, in that applications end up back to individual department with the same barriers Planning assessors have limited waste knowledge, need educating; competing demands. 	<p>Establish an initial meeting with EPA and Planning (the Key Agency Liaison Group), on behalf of all the waste industry groups, to discuss the length of time that waste facility approvals take. Provide examples.</p> <p>Arrange site tours of waste facilities to educate and inform planners on the facilities, operations, impacts. Felicity Greenway in the Planning function of the department has a good understanding of waste and recycling approvals and could be approached as a starting point.</p>	22
			 <p>Felicity Greenway - 2nd Executive Director at NSW Department of Planning and Environment</p>	23
Regulation /compliance /EPA	20-year strategy	<ul style="list-style-type: none"> Lack of consultation with industry regarding the 20-year strategy 	Develop a 'hit list' of the 5 top ideas that all members can support and take them to EPA (Molly Tregoning) directly as well as via upcoming EPA organised consultation sessions. Keep WCRA input simple and specific. Give EPA direct actions rather than vague guidance.	24

Theme	WCRA member issue	Summary of issue	Proposed WCRA actions	Action number
Regulation /compliance /EPA	Inability to effectively influence state government	<ul style="list-style-type: none"> EPA is difficult to engage and consult with Multiple industry associations lobbying the same stakeholders creates confusion and dilutes the messages of each group. Groups include WCRA, WMRR, ACOR and NWRIC There is a new environment minister, and everyone will be lobbying him independently. Previously served as the Minister for Innovation and Better Regulation from January 2017 until March 2019. Accounting background. Likes cricket. 	Maintain regular fortnightly communication between WCRA, ACOR, WMRR and EPA's Chair/CEO. Establish a formal agenda for these meetings and document minutes and actions (with associated timelines).	25
			Lobby for re-establishment of quarterly meetings between EPA CEO/Chair, EPA board representative and industry peak bodies (NSW representatives).	26
			Anissa Levy, formerly acting head of the EPA, is now Co-ordinator General for Environment, Energy and Science in the Department of Planning, Industry and Environment; her understanding of waste and EPA makes her a good target for promoting WCRA's message within this new 'mega-agency'. 	27
			Also target the new Minister for Energy and Environment, Matt Kean. Focus on job creation. He is engaged on waste issues, and his Chief of Staff Christian Dunk is also accessible. The Minister has brought three of his former innovation team across from the former Innovation and Better Regulation portfolio. 	28
			Co-ordinate lobbying efforts with other industry groups where interests are aligned, to avoid overloading recipients with multiple messages. Recommend to NWRIC that they regularly engage the NSW representatives of the other industry groups.	29
China Sword	Contamination in incoming kerbside recycling hinders product quality	<ul style="list-style-type: none"> Need to lower contamination in incoming recycling Householders need to know what can and can't be placed in the kerbside recycling bin 	Support Project Yellow Sail (EPA, ACOR and Federal Government) by encouraging council customers to sign up/participate.	30
			Send a press release and letter to EPA, ACOR and Federal Government congratulating them on funding Project Yellow Sail and their leadership on this project.	31

Theme	WCRA member issue	Summary of issue	Proposed WCRA actions	Action number
		<ul style="list-style-type: none"> Contamination in recycling bins is costly to remove 		
China Sword	Many products aren't recyclable	<ul style="list-style-type: none"> A product that is made from 2 or more different materials will be difficult to recycle. For example, a plastic water bottle is made from PET, the plastic lid and neck are made from a different plastic and there is a stick-on label made from plastic film. Small items such as plastic lids will get caught in recycling screens or end up in mixed paper All products should be designed and manufactured so that at the point of disposal all of the raw material in the product can be recovered and recycled. 	Engage with APCO and offer to educate their members on the practical recycling implementation of packaging design. This project has been undertaken previously aimed at packaging designers, by touring MRFs and explaining the constraints in recycling certain packaging types.	32
China Sword	Improving product quality at MRFs is expensive	<ul style="list-style-type: none"> Need to lower contamination in outgoing products Better quality recovered materials will ensure that recycled materials can be better marketed on both the national and international commodity markets Improving product quality in expensive The NSW Government receives an estimated ~\$750 million pa. via the waste levy; Approx. 15% of this waste levy is hypothecated back to the waste management industry whilst the balance (~\$630 million pa) stays with NSW Treasury 	Lobby for sufficient funding for waste and recycling, through levy hypothecation, re-allocation of WLRM funding, or other means.	33
			Encourage members to apply for Waste Less Recycle More funding in equipment to achieve better sorting and recovery quality (funding goes until 2021)	34
			Lobby for regulated minimum quality standards for recycled products produced by MRFs, to be included as a condition of EPA licence.	35

Theme	WCRA member issue	Summary of issue	Proposed WCRA actions	Action number
China Sword	Issues are changing and evolving	<ul style="list-style-type: none"> International markets continue to restrict imports of recyclables 	WCRA to form a reference group of MRF operators to monitor issues and re-assess actions and strategy as issues evolve.	36
End markets for glass	Need to create market pull for recycled products	<ul style="list-style-type: none"> Govt wants industry to make markets, not government In promoting recycled glass use in roads, EPA has no authority/influence over RMS. Local Govt already has a specification for recycled product use, but engineers are reluctant to use it due to risk and pre-existing arrangements with suppliers. Local government in NSW has an estimated expenditure of \$10 billion.¹ 	Attend the NSW EPA Opportunities and Barriers for Recycled Crushed Glass on Monday 24 June 2019 to determine current status of end uses for recycled glass.	37
			Lobby government at all levels (including Anissa Levy and NSW Premier) to mandate the prioritisation of recycled content in all government purchases. Focus on glass as a first priority. Co-ordinate with other industry groups to ensure consistency of message.	38
Fire safety regulation of waste facilities	Current draft <i>NSW Fire Safety in Waste Facilities Guidelines</i> are too onerous	<ul style="list-style-type: none"> Current draft Guidelines will have high cost of compliance Stockpile size, shape, testing and movement restrictions, and areas required for quarantine, will have high operational burden Good operators will be penalised, unlicensed operators will benefit 	Make a submission of behalf of members to draft guidelines (done).	39
			Provide training for members on the final guidelines. Review the training material already developed by WCRA Victoria to determine if some of this can be re-used for NSW.	40
			Approach Fire and Rescue NSW for clarification on finalised guidelines if required.	41

¹ Local Government NSW <https://www.lgns.w.gov.au/policy/response-china%E2%80%99s-national-sword>

2 Introduction

The waste management and resource recovery industry is a significant contributor to Australia's economy, with an estimated annual turnover of \$15 billion and 50,000 employees.²

WCRA is an industry industrially registered organisation representing most of the employers in the waste and recycling industry in NSW and the ACT. WCRA currently has 190 members who own, operate or control an estimated 90% of the vehicles and infrastructure used in waste and recycling activities in NSW and the ACT. This membership includes most of the commercial recyclers and recycling facility operators across NSW.

Recent changes in the waste industry have impacted the business of many WCRA members.

At the start of January 2018, in response to environmental concerns, China began to enforce strict contamination limits on the importation of recycled materials under its National Sword policy. Other Asian countries have followed China's lead banning imports of resources due to concerns about product quality; very recently the Council of Australian Governments agreed to develop a timetable to ban the export of recyclable waste from Australia. Concurrently, local end markets for recovered glass suffered a significant decline particularly in NSW where 50% of local bottle processing capacity closed.

Additionally, the NSW EPA has recently restricted the use of waste-derived organic products on land after more than a decade of significant sector investment. The return and earn Container Deposit Scheme (CDS) has eroded the contents of the household kerbside bin, with average reductions of 47% for glass, 26% for mixed plastics and 17% for aluminum cans, and an overall average reduction of 9% in the weight of contents of the yellow-lid recycling bin. Regional MRFs have reported up to an 18% reduction in kerbside recycling tonnes received, depending on residents' access to reverse vending machines and other collection points.

WCRA has a role in further developing the waste industry's capabilities and reputation by ensuring that both newcomers to the industry and seasoned practitioners are well informed about waste, the industry and the issues affecting both. WCRA engaged A.Prince Consulting to undertake research on the impacts of the above issues on its members, and to develop actions which WCRA can undertake in order to support its members in dealing with these challenges.

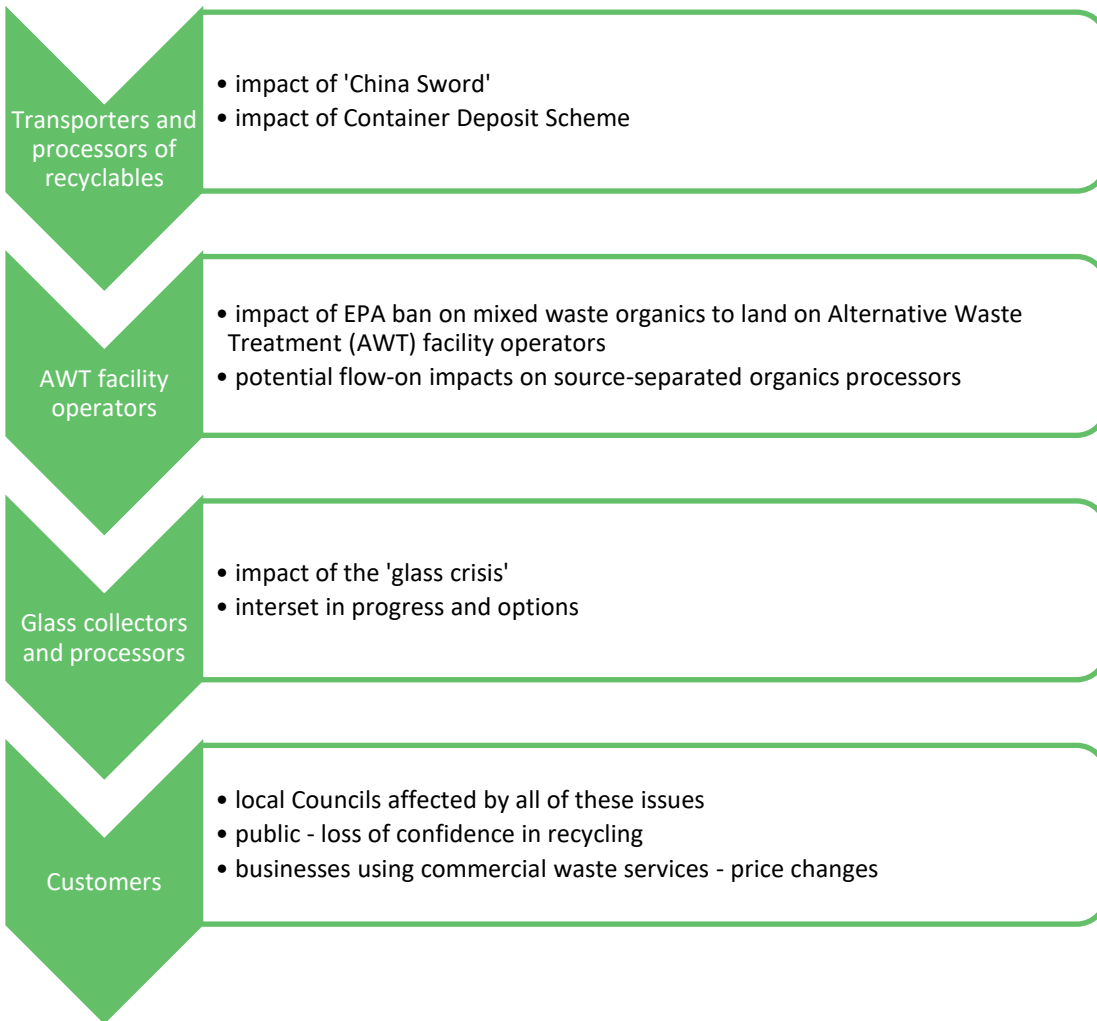
² Senate Environment and Communications References Committee: Never a waste crisis: the waste and recycling industry in Australia June 2018

3 Issues identified prior to consultation

Prior to consultation with WCRA members, the following list of current issues and challenges in the waste and recycling industry were identified:

China Sword	Container Deposit Scheme	EPA mixed waste organics ban	Glass recovery
<ul style="list-style-type: none"> • impacts on Material Recovery Facilities • status of NSW government's response to China sword • application and impacts of temporary storage limit relief • responses of other industry stakeholders e.g. ACOR, WMRR, APCO, LGNSW • responses of federal and other state governments • lack of new/extra grant money for industry support • impact of new Fire Safety guidelines 	<ul style="list-style-type: none"> • impacts on Material Recovery Facilities (quality and quantity of material) • impacts on transporters of recyclable material • status of revenue sharing agreements • bin diving issues • absence of refunds for commercially sourced eligible containers • impact on quality of feedstock for Material Recovery Facilities • reduction in volumes in kerbside recycling bins as material diverted to CDS collection points • data on container recovery not made publically available • movement of unprocessed material from one MRF to another MRF for processing: who gets refund? • need to review MRF protocol 	<ul style="list-style-type: none"> • impacts on operators of alternative waste facilities, and their customers • EPA plans for future mixed waste organic output uses • status of industry plans for mixed waste organic outputs - alternative uses? • risk of similar restrictions on other products e.g. FOGO, glass sand, greenwaste, biosolids, treated greasetrap • vulnerability of RRO/RRE in their ability to be changed with no notice 	<ul style="list-style-type: none"> • progress since the WCRA industry report • government response • status of end markets for glass • application and impacts of temporary storage limit relief

These issues affect the following types of WCRA members:



This list of issues formed the basis of the stakeholder consultation described in the following section.



4 Consultation

4.1 Consultation with WCRA members

A consultation session was held with the WCRA Executive and invited guests on 9th April 2019 from 9.15-11.30am at WCRA's Wetherill Park office. Participants are shown below.

Table 2 WCRA consultation participants

Participant	Company or organisation	Contact
Tony Khoury	WCRA	tony@wcra.com.au
Clive Denmark	Wilson Waste	hamletconsulting@bigpond.com
Greg Turner	JR Richards	Greg.Turner@jrrichards.com.au
Mark Pobje	WCRA	mark@wcra.com.au
Joe Richards	JJ Richards	joe@jjrichards.com.au
Mark Falanga	Wastefree	mark@waste-free.com.au
Glenn Gauslaa	Viking Waste	vikingwaste@bigpond.com
Nathan Ung	Polytrade Recycling	nathan.ung@polytrade.com.au
Vanessa Seaton	Veolia	Vanessa.seaton@veolia.com
James Perry	WCRA	james.perry@jamesperryconsulting.com.au
Ritchie Venn	IQ Renew	ritchievenn@iqrenew.com
Graham Knowles	IQ Renew	gknowles@stopwaste.com.au
Peter Bruce	Exchange for Change	peter.bruce@exchangeforchange.com.au
Lee Smith	Veolia	lee.smith@veolia.com
Anne Prince	A.Prince Consulting Pty Ltd	admin@aprince.com.au
Miriam Cumming	A.Prince Consulting Pty Ltd	miriam@aprince.com.au
Tony Morrissey	Veolia	Tony.morrissey@veolia.com
Jeff Brandstater	Brandster Services	jeff@brandsterservices.com.au
Stephen Willis	Shoalhaven Recycling	swillis@shoalhavenrecycling.com.au
Ben Hobbs	Shoalhaven Recycling	Via phone

Prior to the consultation session, a survey was sent to the participants to gain their views on which issues are most affecting their business, what they think should be done, and how WCRA can best support them in addressing these issues. The survey was distributed via Survey Monkey and the questions are shown in Appendix F.

4.2 Other stakeholders

The following external stakeholders were identified by APC and WCRA as being important to this project. APC met with these stakeholders and their views have been incorporated into this report.

Table 3 Other stakeholders consulted

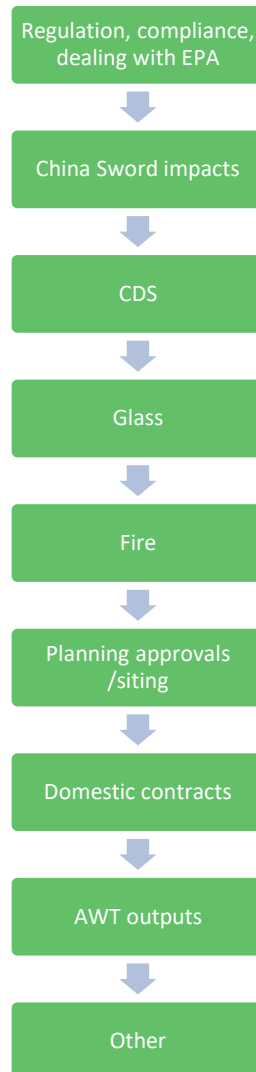
Organisation	Name	Date of meeting
WMRR	Gayle Sloan	Tbd
APCO	Brooke Donnelly	Tbd
NWRIC	Rose Read	17 May
Local Govt NSW	Linda Scott, Susy Cenedese, Liz Quinlan	Tbd
NSW EPA	Various	Tbd
ACOR	Peter Schmigel	When PS back
Wright Corporate Strategy	Tony Wright	1 May
NewsCorp	Tony Wilkins	1 May

5 Views of WCRA members

5.1 Issues most important to WCRA members

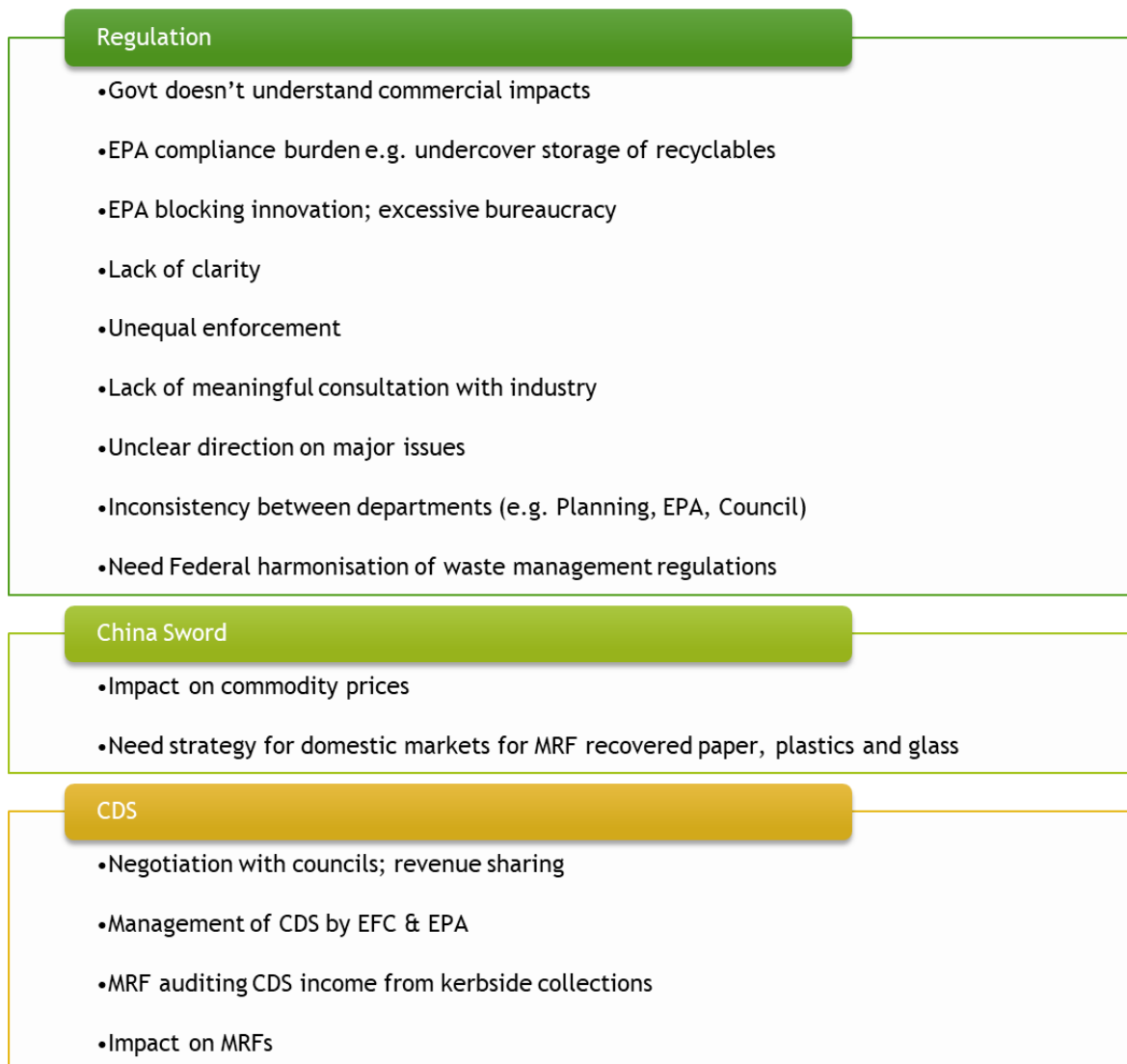
The survey revealed the following issues were the most important to members, shown below in order of importance:

Figure 1 Issues most important to WCRA members, in order of importance



The top three issues affecting members are regulation/compliance/dealing with EPA, impacts of China Sword, and impacts and issues regarding the NSW Container Deposit Scheme (CDS). A breakdown of the primary concerns stated by members on these top three issues are shown below.

Figure 2 Top three issues: primary concerns



A breakdown of the next most important issues, in order of member priority based on the survey results, are shown below:

Figure 3 Prioritised member issues excluding top three

Glass	Fire	Planning/siting	Domestic contracts	AWT outputs	Other
Lack of markets	Fire from rechargeable batteries	Siting new facilities	Lack of drivers	Resource Recovery Orders and Exemptions	Landfill costs
Government failure to act	Fire safety guidelines	Planning approval delays	Unequal risk sharing between Council and waste contractor		Energy costs
Govt and Councils not using recycled glass			Interpretation of contracts in light of China Sword, AWT output ban and CDS		Labour costs
					Insurance costs
					Lack of industry skills and training
					Need local manufacturing in regional areas
					Waste industry doesn't have one united voice



5.2 What do members think should be done?

Members were asked what they think should be done to address these current market issues. Their responses are summarised below:






Figure 4 WCRA members' response: what should be done to address current market issues?

 Engagement	 End markets	 Financial	 EPA culture change
Meaningful engagement with stakeholders	Support use of recycled glass sand	Financial support	Accept knowledge and expertise from industry
Consult	Mandate recycled content	New funding to develop infrastructure	Reduce over-regulation
Collaborate	Promote understanding of requirements of local processors of MRF plastics and paper	Direct additional levy money going to industry	Place people with business and waste experience on EPA board
Show leadership		Halve the landfill levy	Outcomes-based regulation not 'to the letter'
		Funding to develop end markets	Meaningful consultation with industry to model impacts of new regulations
			Equal treatment for all industry participants

5.3 What do members want from WCRA?

Members were asked how WCRA can best support them in addressing current market issues. Their responses, based on the survey results, are summarised below:

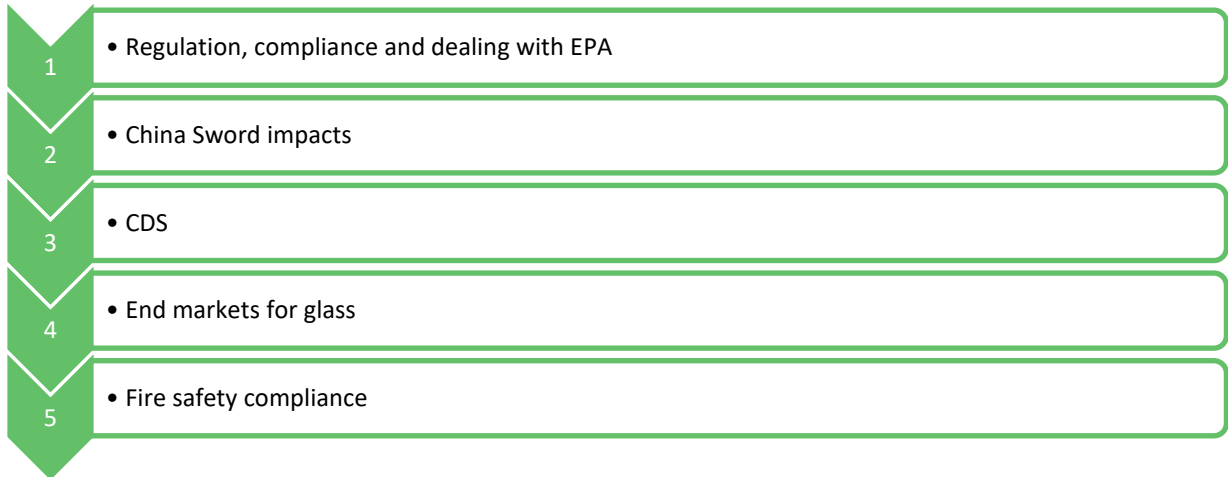
Figure 5 WCRA member views: how can WCRA assist you?

	Be the voice of industry
	Lobby new environment minister; get past the bureaucrats and raise issues with active and engaged politicians
	Seek commitment from leaders in state government that they will work collaboratively with industry
	Get a coalition of stakeholders to plan and take action to address the issues faced by the industry
	Harmonise the messages of key industry groups through common members

6 Exploring WCRA members' top 5 issues

The top five issues that WCRA members identified as most affecting their businesses were:

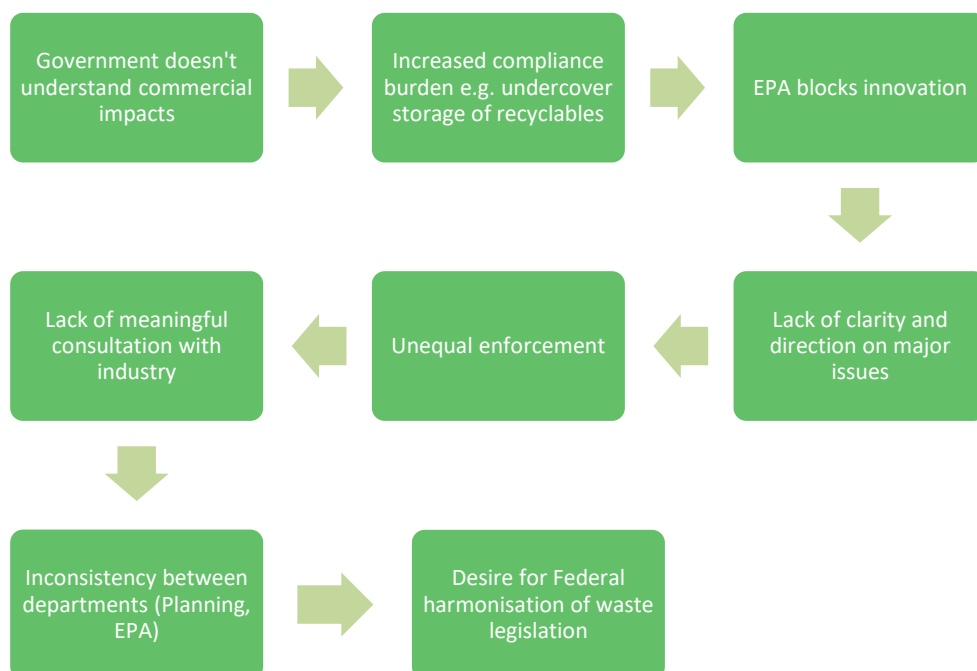
Figure 6 Top 5 WCRA member issues in order of priority



Each of these issues is discussed in more detail below.

6.1 EPA and regulation

WCRA members identified the following issues with implementing regulation and dealing with NSW EPA:



The fundamental issue of WCRA members is the regulator and government's perceived lack of understanding of industry drivers and needs. This underpins members' frustrations in other areas such as planning and siting facilities, the impact of fire regulations and lack of meaningful outcomes from the EPA's responses to China Sword. Since the consultation was undertaken, additional concern has been raised by metal recyclers regarding the possible revocation of the 50% levy rebate on shredder floc.

This section details the key regulators and policy makers in environmental management in NSW, including the overlap with urban planning functions.

6.1.1 NSW EPA

The NSW EPA is an independent body that advises the Minister for the Environment, manages environmental issues, enforces environmental regulations and manages resource recovery functions. The roles of CEO and Chair have recently been separated. Mark Gifford is acting CEO and Carolyn Walsh is acting Chair.

The EPA Board performs the following tasks:

- determines the EPA's policies and long-term strategic plans
- oversees management of the EPA
- determines when the EPA should prosecute for serious environment protection offences under the *Protection of the Environment Administration Act 1991*
- produces guidelines about criminal prosecutions and related legal proceedings
- advises the NSW Minister for the Environment on any matter relating to the protection of the environment
- provides the NSW Minister for the Environment with an annual statement about its performance as the leading NSW environmental regulator.

Under Section 19 of the POEA Act, the Chair is charged with the responsibility of managing and controlling the affairs of the EPA, in accordance with the policies determined by the Board and any other decisions of the Board, but subject to any directions of the Minister under the POEA Act.³ Board members are appointed for 3 year terms.

It is of concern to WCRA members that current Board members have limited or no experience in or exposure to the waste industry. Previously Tony Wright was a Board member for 14 years and held a deep understanding of both strategic and operational matters relevant to the sector. In the past, quarterly meetings were held between the EPA CEO/Chair, an EPA board representative and industry peak bodies, however this has been discontinued.

³ <https://www.epa.nsw.gov.au/about-us/our-organisation/epa-board>

6.1.2 NSW Government environment portfolio

The recently formed NSW Department of Planning and Industry will be re-named as the Department of Planning, Industry and Environment⁴.

This department is responsible for a 'cluster' of portfolios which include planning, environment, housing, regional development, Aboriginal affairs, science and industry, local government and government property. The cluster is headed by 'lead ministers'; these are the Minister for Planning and Public Spaces and the Minister for Regional NSW, Industry and Trade. We assume with Environment being added to the Department's title that Minister for Environment and Energy will also become a 'lead minister'.

The Secretary of the Department of Planning, Industry and environment is Jim Betts. Anissa Levy, formerly acting head of the EPA, is now Co-ordinator General for the Environment, Energy and Science group within the Department.⁵

The stand-alone Office of Environment & Heritage and Office of Local Government no longer exist, with Environment and Local Government absorbed into the Dept of Planning, Industry and Environment described above, and Heritage into the Dept of Premier and Cabinet⁶.

"We won't waste time on pointless bureaucracy. We will be decisive, bold and constantly move forward with the government's agenda"

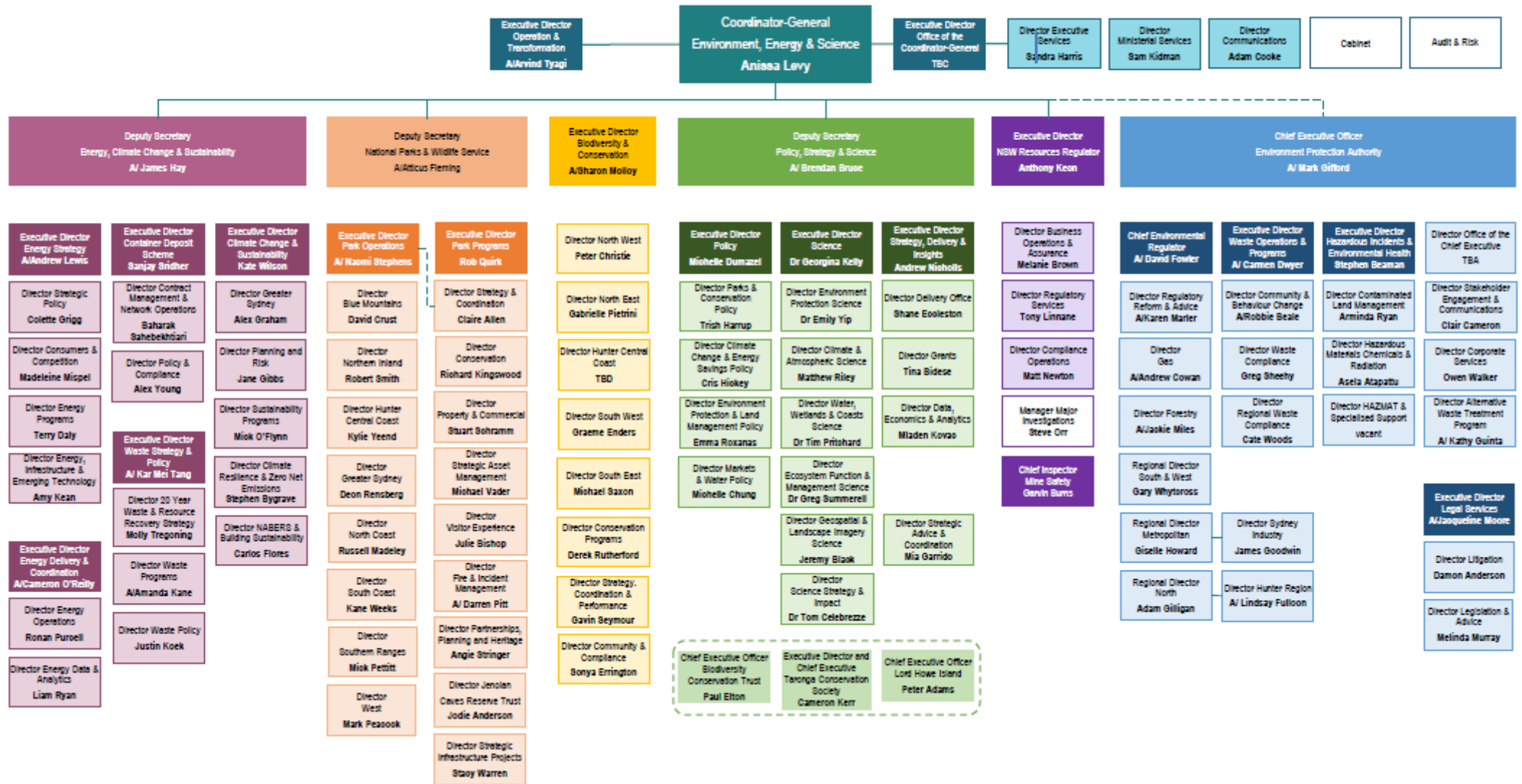
Jim Betts, Secretary of the new NSW Dept of Planning, Industry and Environment (SMH 4-5 May 2019)

⁴ SMH 4-5 May 2019 "Environment gets another bite at the PIE in mega-agency"

⁵ SMH 4-5 May 2019 "Environment gets another bite at the PIE in mega-agency"

⁶ SBS news online, 2 April 2019 "Planning 'king' as NSW enviro dept ditched"

Figure 7 NSW Department of Planning, Industry and Environment: Environment, Energy and Science Group



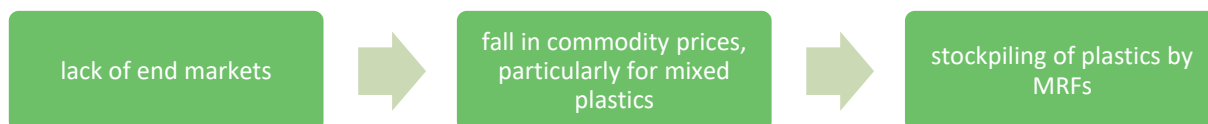
6.2 'China Sword'

Until late 2017, China was a large importer of recovered recyclable materials, accepting more than 30 million tonnes of waste from all over the world every year. At the start of January 2018, in response to environmental concerns, China began to enforce strict contamination limits on the importation of recycled materials under its National Sword policy. This policy has impacted the global market for recyclable material.⁷ Australian kerbside recycling containers contain relatively high levels of contamination, typically over 10%, which the MRFs' current equipment is unable to process to meet these stringent contamination levels in output products. The policy is ongoing and evolving, as shown below:



The Waste Management Association of Australia (WMAA, now WMRR) estimated that the China National Sword 2017 policy affected an annual average of 619,000 tonnes of material generated in Australia, worth \$523 million; estimates range up to 1.25 million tonnes affected. The materials affected are primarily paper and plastics.

No Australian MRFs could meet the 0.5% contamination threshold in recovered materials with their current MRF equipment and processes and therefore export to China was effectively halted, leading to:

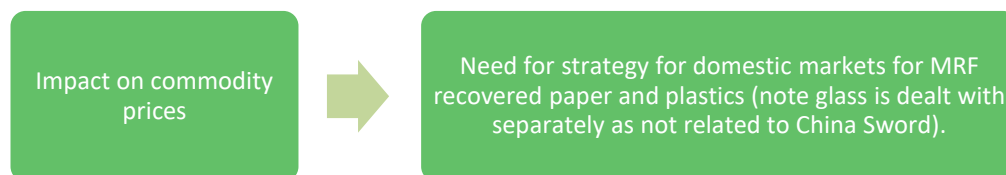


During the recent 'crisis' in end markets for recyclables the National Waste and Recycling Industry Council (NWRIC) warned that without significant market changes, kerbside and commercial recycling contracts could be cancelled, including the collection and recycling of paper, mixed plastics and some metal products. In Victoria, one waste collection company walked away from existing council contracts for recyclables collection, and one major recycler invoked the force majeure clause to justify suspension of acceptance of domestic kerbside recycled material. Ipswich Council in Queensland opted

⁷ <https://www.epa.nsw.gov.au/your-environment/recycling-and-reuse/response-to-china-national-sword>

to send kerbside recyclables to landfill until alternative end markets were found but reversed this decision shortly thereafter due to community backlash. Kerbside recyclables were landfill for a period in both Victoria and ACT.

WCRA members identified the following major issues relating to China Sword:



India, Malaysia, Vietnam, Thailand, Indonesia and the Phillipines have subsequently restricted imports of recycled materials. China is expected to ban paper and cardboard imports by 2021.

Table 4 Summary of effect of recent market changes on MRF outputs

MRF output	Is lack of end markets a problem?	Have commodity prices dropped significantly?	Is it currently being stockpiled?
Glass	YES	YES	YES
Mixed plastics	YES	YES	YES
Separated HDPE	NO	YES but not as much as mixed	NO
Separated PET	NO	YES but not as much as mixed	NO
Paper/cardboard unsorted	YES	YES	YES
Paper/cardboard with further sorting to remove contamination	NO	YES	NO

In August 2019 at the Council of Australian Governments meeting, federal and state environment ministers agreed to work on a timetable to ban the export of recyclable waste from Australia⁸.

6.2.1 Impact on commodity prices

MRFs operate in world markets for some commodities, in local markets for others and in some cases in a combination of both, as summarised below. Commodity prices have always been subject to volatility.

Increases in commodity prices in the 2000s led to some MRF operators offering to buy recyclables from local councils to secure feedstock or buy market share by providing rebates from the sale of some profitable recycled materials, particularly paper and cardboard. A significant proportion of the outputs from MRFs were exported overseas, mainly to China and other Asian nations.

The revision of import standards for waste materials by China also included a reduction of the acceptable contamination levels in paper imports from the current 1.5% to 0.3%, effectively closing export to China as an end market for paper recycled from Australian MRFs. Additionally, it is anticipated that the imported material allowances at Chinese paper mills will be reduced by 25%⁹,

⁸ The Australian newspaper (August 9 2019) *COAG: Scott Morrison clinches deal with states to ban recycling waste exports*

⁹ Recycling International (October 19, 2017) *Recovered paper: 2018 could be a very trying and testing year*

further constraining the import of paper by China as it aims to increase the use of domestic end-of-life paper in its mills.

The Australian Packaging Covenant Organisation (APCO) released the *Market Impact Assessment Report* on 12 July 2018, defining the impact of the China National Sword policy. Findings from the report reveal that the volume of Australian export of scrap paper and plastics has remained largely stable over the past 12 months, however the value has dropped significantly due to global oversupply.¹⁰ The study also notes that mixed scrap paper once valued at \$124 per tonne has dropped approximately 100% and is now close to \$0. Scrap mixed plastic has fallen 76%, from \$325 per tonne to \$75 per tonne and cardboard is now valued at \$125 per tonne, falling 40% from \$210 per tonne.

‘Most indicators suggest prices have fallen substantially. Different MRFs are experiencing very different changes in the prices they receive, depending on which markets they have been focused on, the presence of any long-term contracts and the quality of the products that they are producing.’

Centre for International Economics, 2018

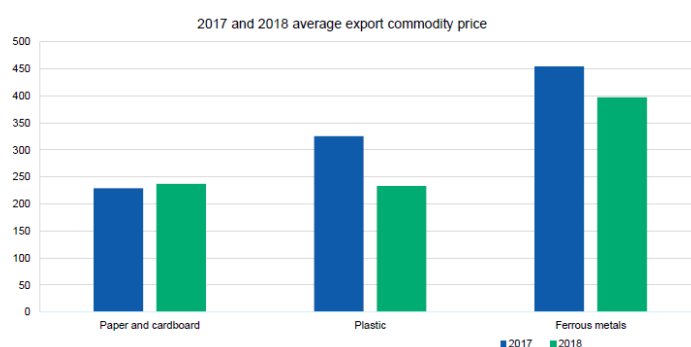
The Inside Waste (2019) *Inside Waste Industry Report: Volumes and Values 2017-18* used the following assumptions regarding current commodity values:

Table 5 Current on-sale value of recovered materials in Australia¹¹

MRF output product	Current value	Compared to pre-China sword
Metals	\$500	Minor decrease in value
Paper and cardboard	\$70	Significant decrease in value
High value plastics	\$322	
Low value plastics	\$26	

NSW EPA reported the following export commodity price values comparing 2017 and 2018:

Figure 8 Average export commodity price for NSW recycled materials¹²



Source: Global Trade Atlas, NSW port data



¹⁰ <https://www.packagingcovenant.org.au/documents/item/1224>

¹¹ Inside Waste (2019) *Inside Waste Industry Report: Volumes and Values 2017-18*

¹² Justin Koek NSW EPA “National Sword and beyond: a NSW perspective” 12 April 2019

Whilst estimates of sale prices vary, it is clear that, to date, the prices for separated PET and HDPE have not declined to the extent of mixed plastic streams¹³. Prices for steel and aluminium have not been affected by recent export restrictions and are subject to usual commodity market volatility. The imposition of trade tariffs by the USA has seen aluminium prices rise to as high as US\$2,000 per tonne; however aluminium is a small percentage output from MRFs and may decrease as aluminium cans are removed via a CDS.

MRF's searches for alternative export markets in response to China Sword are discussed in Section 7.2.1.2.

6.2.2 Lack of domestic markets for MRF outputs

MRFs vary in age, design and equipment and therefore recover materials to different quality standards and are run to optimise recovery based on throughput and end markets. When export markets were lucrative, there was little financial incentive for most MRFs in Australia to sort materials further than 'mixed plastics' or 'mixed paper'. Typically, mixed paper bales contain 10% contamination based on audits conducted by APC.

'The lack of local investment – and incentives to invest – in recycling facilities is another key element, leaving the industry less able to cope with major shocks like the China situation.'

Mark Venhoek, CEO SUEZ Australia and New Zealand, as quoted in Inside Waste June 2018

Most small MRFs recover paper and cardboard as a mixed fibre stream (combined paper and cardboard); larger MRFs sort fibre further into cardboard, newsprint, mixed paper and, less commonly, liquid paperboard.



Image 1 Mixed plastics MRF output

¹³ MRA Consulting Group *China National Sword: The role of Federal Government (October 2018) A discussion paper prepared for the Australian Council of Recycling (ACOR)*

The following end markets exist for MRF products:

Figure 9 Summary of end markets for MRF plastic and paper

Fibre	Plastics
<ul style="list-style-type: none"> • Paper and cardboard have both domestic and overseas markets. • VISY is a major user of MRF paper, with its Smithfield MRF directly feeding into its paper facility at the same location. • Orora purchases cardboard mainly from the commercial sector but also some board from MRFs and directly from a small number of source-separated paper only kerbside collections. 	<ul style="list-style-type: none"> • Plastics have historically been more likely to be exported, although VISY also operates a NSW PET manufacturing facility that uses material from MRFs. • <u>Known mixed plastic export markets</u> • Philippines – perceived short term • Indonesia – perceived short term • Malaysia - perceived short term • <u>Known local reprocessors for mixed plastics:</u> • Replas • Newtecpoly • Plastic Forests • PET and HDPE flakes/resins are sought by companies such as polymer manufacturer Martogg & Company (Minto NSW, Carole Park QLD and Dandenong VIC), and wood composite manufacturer ModWood Technologies (VIC)

Cardboard has a higher domestic demand compared with mixed paper, therefore local markets for sorted cardboard remain robust⁸¹⁴, and local paper mills (such as VISY in NSW and Victoria, and ORORA in NSW) remain an end market for fibre from MRFs, although cannot take the volumes previously exported to China and are now in a position to impose quotas or ‘cherry pick’ recycled inputs.

Mixed plastics lack robust end markets in Australia. Most local plastics remanufacturers in Australia do not want mixed or separated plastics from MRFs as inputs to their process, and are only interested in separated, washed, flaked HDPE and PET products at a minimum, or, preferably, clean extruded pellets of HDPE and PET.

APC is aware of the following local markets for mixed and flexible plastics, however they do not cater for large volumes.

¹⁴ MRA Consulting Group *China National Sword: The role of Federal Government (October 2018) A discussion paper prepared for the Australian Council of Recycling (ACOR)*

Newtech Poly	Re-Plas	Plastic Forest
<ul style="list-style-type: none"> • can take contaminated streams of rigid and soft plastics with high levels of contamination, including coffee cups and cigarette butts and beach clean-up materials • has about 2,000 tonnes capacity but not at full production due to limited local market acceptance and take-up 	<ul style="list-style-type: none"> • take the Redcycle soft plastics/flexibles from Coles and Woolworths but are said to be paying a premium for the positive PR of up to \$4,500/tonne to support the process. • Replas has a plant in Melbourne and one in Brisbane that is now closed 	<ul style="list-style-type: none"> • new plant in Albury that can use clean flexibles only. Markets products under the 'Green Mongrel' label.

Australian MRFs lack the remanufacturing capacity to sort and process plastics into higher value products that are attractive to local buyers.

This is coupled with a lack of demand for recycled products and recycled content, leading to a lack of market 'pull' for these recycled materials from MRFs.

'There is no question that Australia needs to boost both its domestic remanufacturing capabilities and demand for recycled product. The onus is on government and the WARR industry to work together to address these issues quickly and collaboratively.'

2019 Inside Waste Industry Report: Volumes and Values

6.3 CDS

Initially CDS was intended to be a litter reduction measure, however all governments also see the potential to improve resource recovery. South Australia has had CDS in place for over 40 years and the Northern Territory since 2012.

NSW introduced a CDS on 1 December 2017, with eligible beverage containers earning a \$0.10 rebate including GST, which is \$0.0909 + GST. ACT introduced a similar scheme on 30 June 2018, and Queensland on 1 November 2018. Western Australia has announced a delay to the scheme's introduction from 2019 to 2020. Victoria has not announced any intention to implement a scheme, Tasmania has undertaken several studies but has not released any new policy direction. The Federal Government is investigating the potential for a national CDS as a recommendation from the Senate Inquiry.

The Regulatory Framework for the NSW CDS involves four levels:

Act	Regulations	Contractual arrangements	Administrative Guidelines
<ul style="list-style-type: none"> Waste Avoidance and Resource Recovery Amendment Container Deposit Scheme Act 2016 sets out the schemes objectives, refund amounts, performance requirements and provides an appointment, approvals and review process 	<ul style="list-style-type: none"> set out the supplementary details, such as the amount of the refunds, scope of the containers and the refund marking requirements 	<ul style="list-style-type: none"> set out the roles and responsibilities of the Scheme Coordinators and Network Operators include detailed performance obligations and provide the penalties and the incentives 	<ul style="list-style-type: none"> defines standard approved methodologies includes the process for applying the methodologies

Most beverage containers, excluding wine, spirits, plain milk and plain juice, are eligible for a refund under the CDS. The full list of eligible materials is shown in Appendix A.

The NSW CDS redemption points for members of the public consist of reverse vending machines (RVMs) and over-the-counter redemption centres. The NSW and South Australian schemes do not have 'point of sale' return, so you cannot redeem containers at the store where they were purchased. For this reason, the convenience factor is not as high as in Europe. South Australia has had the program for 40 years and it was solidly incorporated well before kerbside recycling and associated behaviours were introduced. In South Australia you can take both eligible and non-eligible containers to collection points and are paid for the eligible containers only in cash. In NSW the redemption locations only accept eligible containers with no cash refunds.

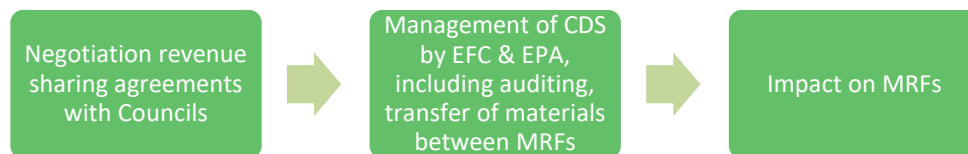
The network operator, a joint venture between Cleanaway and Tomra, was required to establish 550 sites, comprising 330 over-the-counter and 280 reverse vending machines (RVMs), with the roll-out to be completed by August 2018. Currently NSW has 642 collection points, including 316 RVMs and 25 automated return depots. Cleanaway–Tomra has developed an app that shows location of RVMs, how full they are and opening hours. Socio-demographic factors play a big part in both return levels and the amount of scavenging of eligible containers from kerbside bins and other locations. Bin diving is becoming prolific across NSW and is not linked to low socio-demographic areas. Over 2 billion containers have now been redeemed through the CDS.

NSW MRFs can claim a rebate for the eligible beverage containers received through their domestic or commercial recycling inputs, based on state-wide averages. This process is overseen by the NSW EPA who release the eligible container factor each quarter and the money flow managed by Exchange for Change (EFC) representing the beverage industry. The determination of the eligible container factor is governed by the Material Recovery Facility Processing Refund Protocol (known as the MRF Protocol). The Protocol was released in July 2017 and states that it will be reviewed, at a minimum, within 5 years of its publication, but may be reviewed more frequently when considered appropriate by the EPA. A

sampling plan was also developed to outline the data and audit method to inform the determination of the factor;

Recently the EPA has also released a Draft Alternative Waste Treatment (AWT) Processing Refund Protocol for consultation. It is expected that, subject to outcome of industry consultation, that this protocol may come into effect from July 2019. Glass crushers also have a protocol which is paid at the same rate as that of kerbside for all deliveries direct to the beneficiation plant.

WCRA members identified the following major issues relating to the NSW Container Deposit Scheme (CDS):

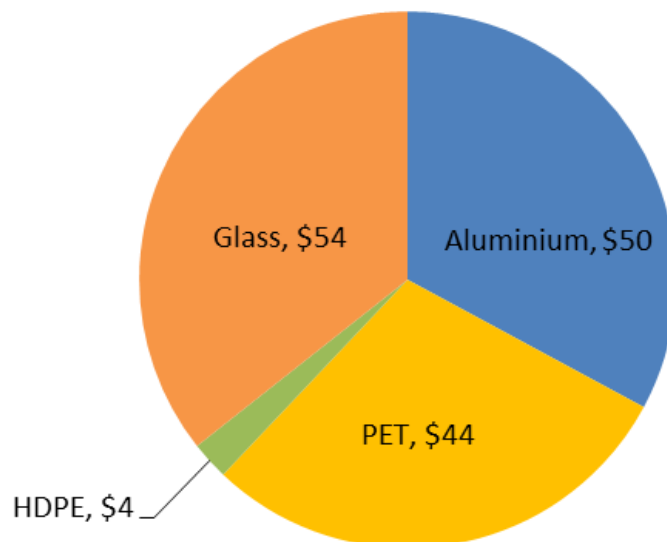


Each of these issues is discussed below.

6.3.1 Revenue sharing agreements with Councils

At CDS commencement, a typical MRF's input material was estimated to generate CDS refunds of \$150 to \$200 per input tonne. A breakdown of the approximate current CDS value for a MRF in one tonne of domestic kerbside recycling is shown below.

Figure 10 Approximate CDS revenue per tonne of kerbside recycling input to a MRF¹⁵



¹⁵ APC kerbside recycling audit data, current EPA state-wide MRF CDS factors and \$0.10 per eligible container

MRFs were required, by 1 December 2018, to enter into a refund-sharing agreement with councils providing MRF feedstock. These refund-sharing agreements are a temporary provision to ensure that a proportion of the refunds for containers deposited in kerbside bins are returned to the community prior to new contracts for processing of kerbside recyclable materials being entered into¹⁶.

‘The extent to which commodity price changes are temporary or permanent is very difficult to know. A council may wish to retain the option to re-examine the CDS refund share as market conditions change.’

Centre for International Economics, 2018

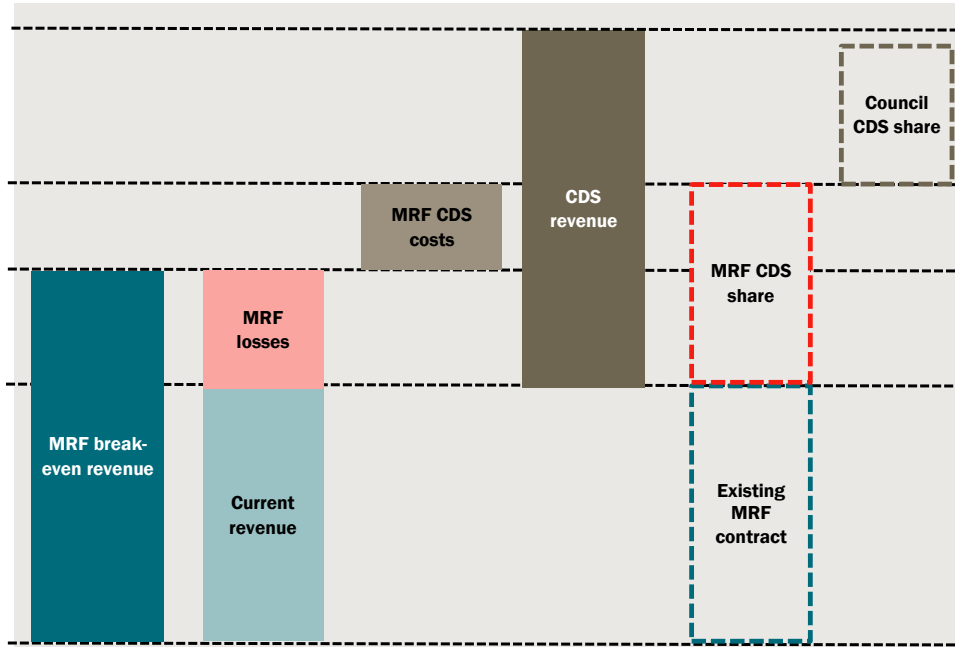
We understand that differing negotiations have been entered into, such as the examples below, though some Councils are asking for 90% - 100% of all CDS revenue.

Figure 11 Examples of MRF and council CDS revenue-sharing agreements



The components of MRF and council revenue sharing are shown in Figure 12.

Figure 12 Components of the CDS refund share for a MRF¹⁷



¹⁶ Centre for International Economics (2018) *Revenue sharing arrangements between MRFs and councils* from the NSW Container Deposit Scheme for NSW Office of Local Government

¹⁷ Centre for International Economics (2018) *Revenue sharing arrangements between MRFs and councils* from the NSW Container Deposit Scheme for NSW Office of Local Government

WCRA members reported that, at April 2019, several Councils have still not agreed to a revenue sharing agreement with the MRF, due to disagreement on risk allocation. It appears that some Councils are concerned that householders will remove CDS containers from the kerbside recycling bin, leaving the MRF with no revenue from CDS but still with the CDS compliance costs (auditing etc), which could potentially expose Council to negative revenue.

From 1 December 2018, Councils and MRFs with no revenue-sharing agreement in place cannot claim any revenue. The lack of revenue sharing agreements means neither the MRF nor the Council is receiving any income from recycling CDS-eligible beverage containers. The lost revenue from lack of revenue-sharing agreements is shown in Table 6 below.

Table 6 Lost revenue due to lack of revenue-sharing agreements¹⁸

	Dec 18	Jan 19	Feb 19	Mar 19	Total
Forfeited revenue due to no revenue sharing agreement	\$2,702,703	\$1,940,523	\$1,616,503	\$1,263,808	\$7,523,536

6.3.2 Management of CDS by EFC & EPA, including auditing and transfer of materials between MRFs

Some WCRA members felt that there is a lack of transparency regarding which MRFs are audited and when. MRFs don't understand the rationale for which MRFs are audited each quarter, how the sampling plan is determined and how the MRF eligible container factor is calculated.

The MRF audit sampling plan is created by EPA's statistician and is approved by the Minister Advisory Committee (MAC). The sampling plan is in the public domain and has been made available to WCRA members.

Some WCRA members felt that data held by Exchange for Change (EFC) and/or EPA regarding the CDS should be shared transparently.

¹⁸ Exchange for Change presentation at *WCRA NSW Industry Update* 13 June 2019



Image 2 State-wide MRF CDS refund factors are based on physical audits of eligible beverage containers in representative MRFs

An issue that was not foreseen in the development of the MRF Protocol is that of transport of CDS-eligible material between MRFs. If a load of kerbside recycling is unloaded at a MRF and processed into output products, the MRF can claim CDS revenue (if it has a revenue sharing agreement in place with the supplier Council) and it can prove the commodities were recovered. However, if due to operational and logistical considerations the unprocessed load is re-loaded and transported to another MRF for processing (for example, as a sub-contracted operational agreement, or due to a shutdown or emergency at the first MRF), the second MRF is not able to claim CDS revenue.

Exchange for Change expressed the view that if no processing occurs at the first MRF, and the second MRF has revenue sharing agreements with Councils, then MRF protocol could possibly be changed to make second MRF able to claim; however if any initial processing occurs at the first MRF, there is potential for inconsistency and double-claiming.

6.3.3 Impact on MRFs

The impacts of a CDS on MRFs include:

Figure 13 Impacts of CDS on MRFs

Direct impact

- administration and compliance costs
- audits of outputs
- ability to claim refunds for eligible containers

Indirect impacts

- consumers remove higher value containers from kerbside recycling into reverse vending or non-MRF collection points

As discussed earlier, MRFs can claim a rebate for the eligible beverage containers received through their domestic or commercial inputs. In NSW, the NSW EPA publishes a quarterly state-wide factor for the average number of eligible beverage containers in outputs from MRFs, based on audits of MRFs over the previous quarter. Currently, MRFs can claim CDS refunds for each output material based on the following state-wide factors:

Table 7 NSW CDS MRF refund factors Q4 2018¹⁹

MRF-separated output material	Number of eligible beverage containers per tonne of MRF output ²⁰	CDS rebate \$ per tonne of MRF output (based on \$0.10 incl GST per eligible container)
Aluminium	50.36	\$5,036
PET segregated	13.3	\$1,330
HDPE segregated	0.52	\$52
Mixed segregated	2.62	\$262
Mixed combined plastics	4.06	\$406
Glass	1.77	\$177

The CIE and APC research for the NSW Office of Local Government (OLG) reported that between 5% and 10% of new CDS income would be needed to offset CDS compliance costs²¹, however this is dependent on the size of the MRF, with smaller MRFs bearing a higher cost of compliance as a proportion of their revenue.

APC audit data suggests that at CDS commencement, 15% by weight of incoming domestic kerbside recycling to a MRF would be eligible for a CDS rebate, as shown in Table 8. APC audit data shows a range of approximately 1,500 to 2,000 eligible containers per input tonne of kerbside recycling, equating to \$150 to \$200 rebate per input tonne.

¹⁹<https://www.epa.nsw.gov.au/your-environment/recycling-and-reuse/return-and-earn/material-recovery-facility-operator>

²⁰<https://www.epa.nsw.gov.au/your-environment/recycling-and-reuse/return-and-earn/material-recovery-facility-operator>

²¹ CIE & APC, Revenue sharing arrangements between MRFs and councils from the NSW Container Deposit Scheme, 2018

Table 8 Estimate of eligible CDS material by weight into MRF

Incoming material in kerbside recycling	% of incoming kerbside recycling	% of that material that is eligible for CDS refund by weight	Eligible CDS containers as % of weight of incoming recycling
Glass	34%	36%	12%
Aluminium	1%	94%	1%
PET	4%	60%	2%
HDPE	3%	4%	0%
Other plastics	1%	0%	0%
Total mixed plastics	8%	28%	2%
Other	57%	0%	0%
Total	100%	n/a	15%

Currently, 22.5% of the revenue raised through the NSW CDS has been returned to MRFs in the form of rebates for recycling of eligible containers²².

There has been a reduction in eligible containers entering MRFs as householders or bin divers become more familiar with the scheme and remove eligible containers from their kerbside recycling.

Removal of eligible containers from MRF inputs can have the following effects on MRFs:

- A change in the volume of materials processed, and particularly higher value materials, as some containers are diverted from kerbside recycling to collection points. This:
 - reduces the gate fees that a MRF collects;
 - reduces the variable costs for MRFs to process material;
 - reduces the materials available for MRFs to sell (in some cases materials are sold at a negative price).
- A potential change in the markets available for MRFs to sell into. For example, higher quality glass collected through the CDS collection points has been prioritised by markets over the lower quality glass collected by MRFs.

The full impact of the CDS on kerbside recycling in NSW remains to be seen, as the scheme only commenced in December 2017. In South Australia, where CDS has been in place for four decades, and commenced prior to kerbside recycling being implemented. An estimated 80% of eligible containers are redeemed through the scheme. The return rate jumped from 70% to 80% soon after the refund was doubled from 5c to 10c in 2008.

The NSW eligible container factor has reduced over time since scheme commencement, reflecting the removal of eligible containers out of the kerbside recycling bins, as shown in Table 9 and Figure 14.

²² Exchange for Change (May 2019) *CDS: Financials, public attitudes and kerbside sampling: NSW & ACT Scheme Co-ordinator's perspective* at Waste 2019 conference

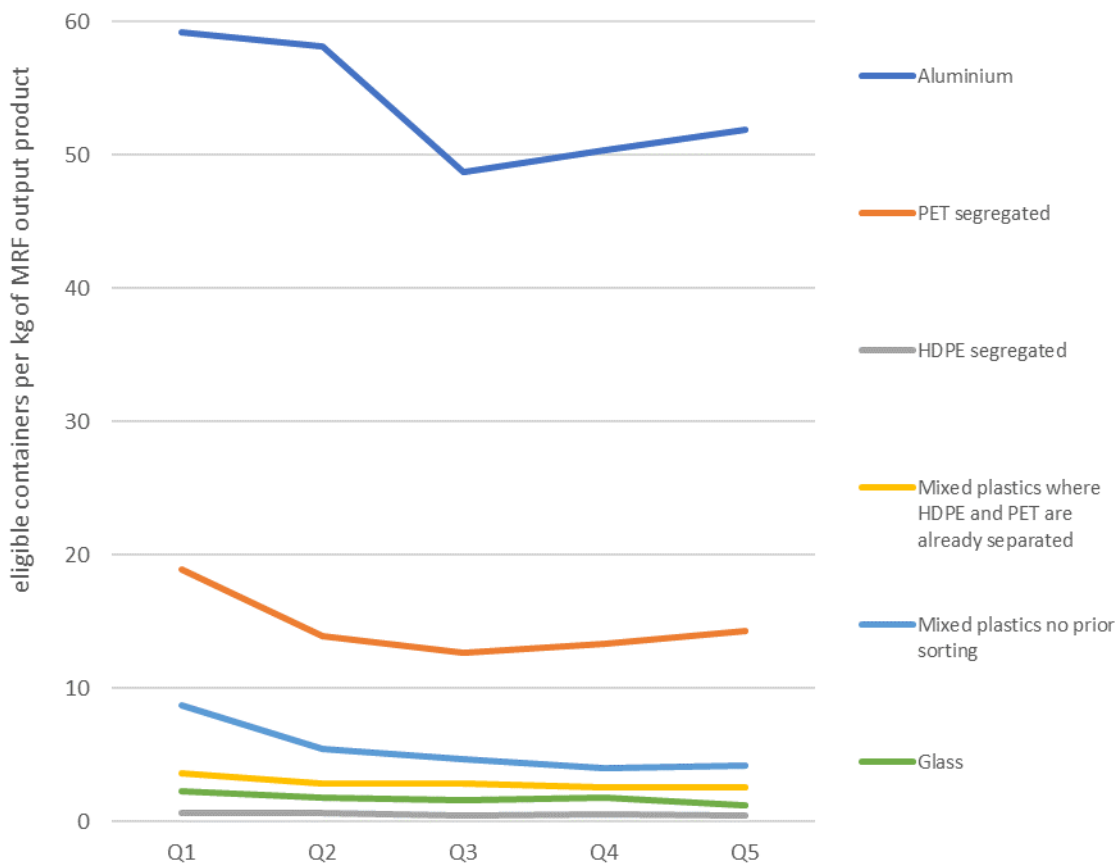
After initial decreases, aluminium, glass, HDPE and PET showed slight increases in the number of eligible containers per tonne in Q4 2018, possible due to higher beverage consumption in summer months, or the start of a plateau in the removal of eligible containers from household bins into reverse vending machines and CDS collection points.

Table 9 Eligible container factor over time²³

Number of CDS eligible containers per kg by material stream	Q1	Q2	Q3	Q4	Q5	% change between Q1 and Q5 factors
	Dec 17 to Mar 18	Apr 18 to Jun 18	Jul 18 to Sep 18	Oct 18 to Dec 18	Jan 19 to Mar 19	
Aluminium	59.17	58.11	48.73	50.36	51.83	-12%
PET segregated	18.96	13.9	12.69	13.3	14.26	-25%
HDPE segregated	0.69	0.64	0.43	0.52	0.51	-26%
Mixed plastics where HDPE and PET are already separated	3.62	2.83	2.82	2.62	2.56	-29%
Mixed plastics no prior sorting	8.74	5.44	4.7	4.06	4.18	-52%
Glass	2.25	1.83	1.57	1.77	1.28	-43%

²³<https://www.epa.nsw.gov.au/your-environment/recycling-and-reuse/return-and-earn/material-recovery-facility-operator>

Figure 14 CDS-eligible containers in MRF outputs over time²⁴



MRFs have reported reduced volumes of kerbside recycling coming into their MRFs since CDS commencement. This is due to residents taking clean, eligible containers to redemption points rather than putting them in the kerbside recycling bin. As the redeemed containers are clean and free from contamination, they can go straight to end markets rather than be processed through MRFs.

Other MRFs have reported reduced volumes in regional areas but less so in the metropolitan areas²⁵.

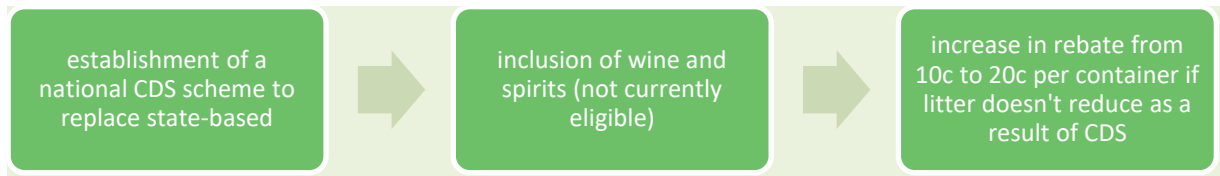
The NSW EPA estimates that MRFs have experienced average reductions of 47% for glass, 26% for mixed plastics and 17% for aluminum cans, and an overall average reduction of 9% in the weight of contents of the yellow-lid recycling bin²⁶. Regional MRFs have reported up to an 18% reduction in kerbside recycling tonnes received, depending on residents' access to reverse vending machines and other collection points.

²⁴<https://www.epa.nsw.gov.au/your-environment/recycling-and-reuse/return-and-earn/material-recovery-facility-operator>

²⁵ APC personal communication with MRF operators

²⁶ NSW EPA *The NSW CDS a year in: Achievements, learnings, challenges and opportunities for the future* at Waste 2019 conference

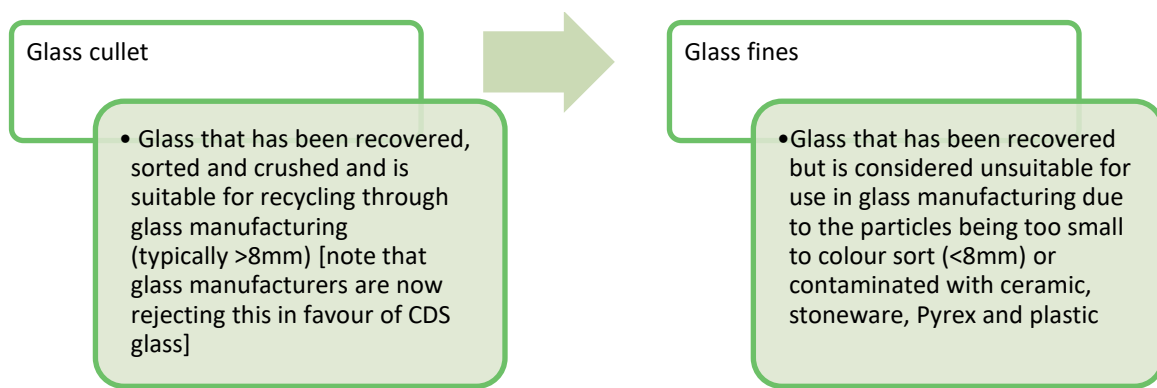
In addition to further removal of eligible containers from household recycling bins, other potential future changes to the CDS scheme that could impact MRFs include:



6.4 End markets for recycled glass

Typically, MRFs produce two main glass products, as explained below:

Figure 15 Glass products usually produced by MRFs²⁷



Traditionally, glass cullet recycled at MRFs in NSW has been used in the manufacture of new glass containers or crushed for use in civil applications such as roadworks. Recently, the sale of recycled glass has faced significant issues, leading to stockpiling of large volumes of glass from MRFs. These issues are:

- Increasingly stringent material specifications imposed by remanufacturers;
- Declining commodity value of glass cullet while operational costs continue to increase;
- Increased competition from cheaper imported glass cullet;
- Closure by the major glass reprocessor in NSW (Owens–Illinois) of two of its four NSW glass furnaces, reducing local production capacity by 50%; and
- Closure of the only glass-fines crushing facility in Sydney that produced crushed glass for use in civil applications.

²⁷ APC Situational Analysis Report on Glass Recovery and Recycling in NSW for NSW WCRA

Coinciding with these unfavourable market conditions in NSW are new compliance standards and licence conditions for MRFs, including stockpile limits, the requirement for undercover storage and the applicability of fines or levy payments where stockpiles exceed 12 months' duration on site.

Until recently, Sydney-based construction and demolition recycling company and quarry operator Benedict operated a glass fines processing plant, which received and processed more than 100,000 tonnes of glass fines annually into GlassSand™. This facility is now closed and has been decommissioned, leaving a large proportion of glass from MRFs across the state without a processing facility to produce any saleable products.

MRFs produce mixed colours of recycled glass product that requires further processing in order to be used in remanufacture. Glass needs to be size-sorted, colour-sorted and cleaned before it is saleable directly to remanufacturers as a virgin material substitute. This process is called beneficiation, taking recycled glass to meet the specification of the virgin materials it is replacing in the manufacturing process. Glass is beneficiated by Glass Recovery Services' (GRS) glass processing facility located adjacent to the Owens-Illinois (OI) glass manufacturing plant at Penrith, NSW. The site does not have a current environment protection licence. We estimate that the facility is currently accepting up to 48,000 tonnes per year and is not seeking further input material. Only two MRFs have contracts to supply this facility and are likely to be displaced by clean glass recovered through the CDS scheme.

In Brisbane, OI's glass plant has stopped accepting MRF glass, preferring the clean CDS glass now available through reverse vending machines and CDS collection points. OI own and operate its own beneficiation plant, a first globally for the company, in Queensland.

Until new markets are developed, stockpiling in NSW is problematic and contravenes regulations. Glass is being shipped interstate for storage at significant cost, with landfilling becoming the last resort. Research undertaken by industry experts in 2016 estimated that more than 86,000 tonnes of recycled glass from NSW is currently stockpiled in Victoria, with 40,000 tonnes per year being added to stockpiles²⁸.

The CIE has previously estimated that the changes to glass markets in NSW were making an impact of \$14–\$32 per input tonne on MRFs. This is a substantial impact given MRF operating costs are around (or more than) \$100 per input tonne (excluding disposal and transport). These costs have been evident for several years. Recent contracts should reflect these changes to glass markets.

Stockpiles of unsorted glass from MRFs still have a value of at least -\$50/tonne, with Inside Waste reporting -\$70/tonne in 2019²⁹. Investment in cleaning and optical sorting equipment to produce cullet usable by OI, and crushing into glass sand, are the only current ways to add value to unprocessed glass. OI do not require additional tonnes in NSW however, we are advised that Orora in South Australia has capacity and is seeking feedstock of around 350,000 tonnes per annum for bottle re-manufacture.

²⁸ A.Prince Consulting Pty Ltd (2017) *Situational analysis report on glass recovery and recycling in NSW* for NSW Waste Contractors and Recyclers Association

²⁹ Inside Waste (2019) *Inside Waste Industry Report: Volumes and Values 2017-18*

Successful large-scale sale of glass sand is subject to further acceptance and market development of recycled glass in construction projects. The recycling sector has worked for many years with governments to develop standards for the use and preparation of recyclates in these 'alternative markets'. For example, there are well-documented guidelines for the use of glass fines in road-base, asphalt and concrete.

Glass crushing equipment is proven technology in both Australia and Europe. The technology for washing and crushing glass is well known. Estimated costs range from \$5.9 to \$7.9 million for a plant capable of reprocessing 60,000 tonnes per year, depending on the quality of the in-feed material.

The limiting factor is not the science around the use of the materials but inertia around the purchasing of these materials. For example, there are few positive procurement policies at federal, state or local government level which preference the use of these materials over their virgin equivalents.³⁰

6.5 Fire safety guidelines

In response to fires in stockpiled materials at waste facilities, Fire and Rescue NSW released the draft *Fire Safety Guideline – Fire Safety in Waste Facilities* on 19 November 2018. It includes requirements for maximum size and minimum separation of stockpiles, stockpile monitoring and movement requirements, access requirements for emergency services vehicles, dedicated quarantine area and installation of fire detection and fighting equipment³¹. WCRA consulted its members about the Guidelines, and members voiced the following concerns:

³⁰ MRA Consulting Group (2018): China National Sword: The role of Federal Government: A discussion paper prepared for the Australian Council of Recycling (ACOR)

³¹ NSW Government and Fire and Rescue (November 2018) *NSW Fire Safety Guideline – Fire Safety in Waste Facilities*

Figure 16 WCRA members' concerns with NSW Fire Safety in Waste Facilities Guidelines

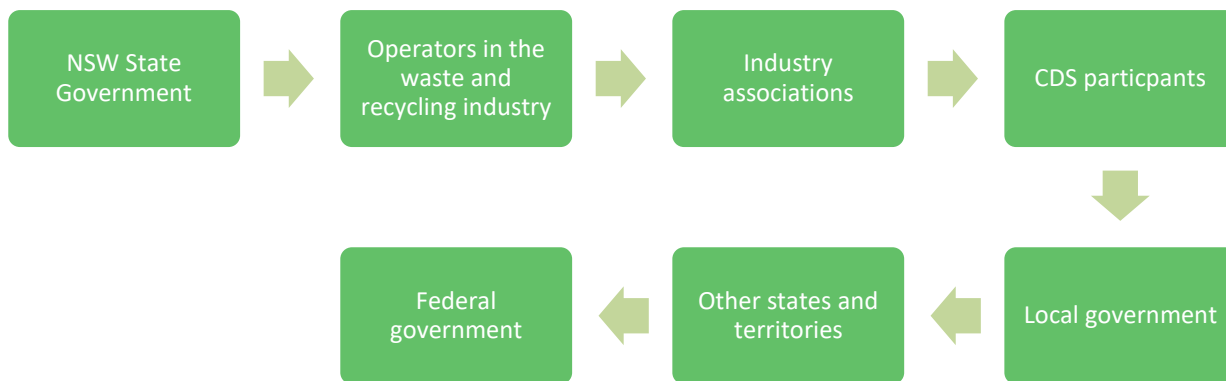


The Guidelines are now in final draft form and are expected to be published imminently.

7 What has already been done?

This section shows the actions and progress that have been made on the issues discussed above that are of importance to WCRA members.

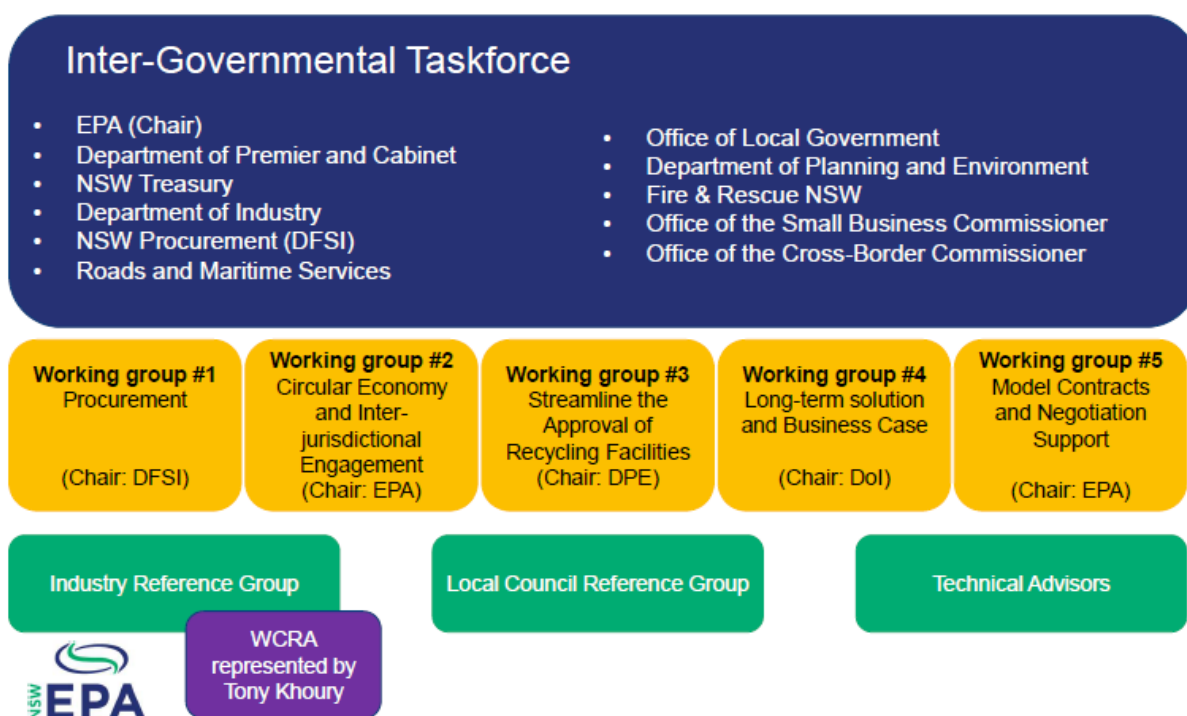
The responses of the following stakeholders and groups are discussed in this section:



7.1 NSW state government response

The NSW government has established the following taskforce and working groups in response to the issues faced by the recycling industry:

Figure 17 NSW government response to market changes



The Reference Groups met separately twice and together four times between June and October 2108 to provide feedback on the work of the Taskforce.

'While industry faces immediate pressures to find alternative markets for recycled materials, this is an opportunity to strengthen local markets and the NSW recycling industry.'

NSW EPA

The next meeting of EPA China Sword taskforce was meant to be before the end of April but has not yet occurred, and industry representatives have expressed concern at the lack of meaningful outcomes from the taskforce.

The NSW government's response to recent waste and recycling issues, which includes outputs from the reference groups, is split into the following:



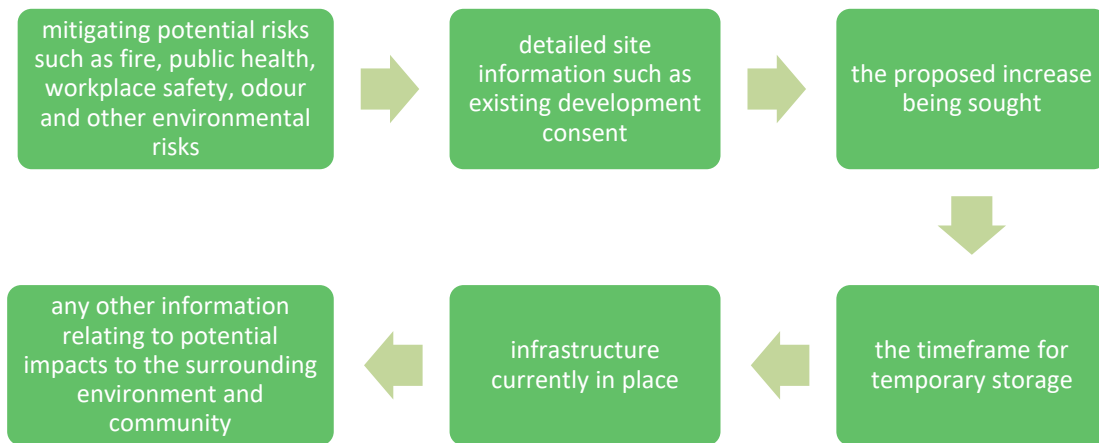
Each aspects' response is detailed below.

7.1.1 Temporary increases to stockpiling limits

To assist industry, and to stop recyclable material from going to landfill, the EPA is considering temporary increases to stockpiling limits on a case-by-case basis.

Some facilities' existing Development Consents allow a certain level of stockpiling, while others without this condition in their development consents must apply through EPA for temporary stockpiling allowances.

Applications for temporary stockpiling increases made to the EPA must contain the following information:

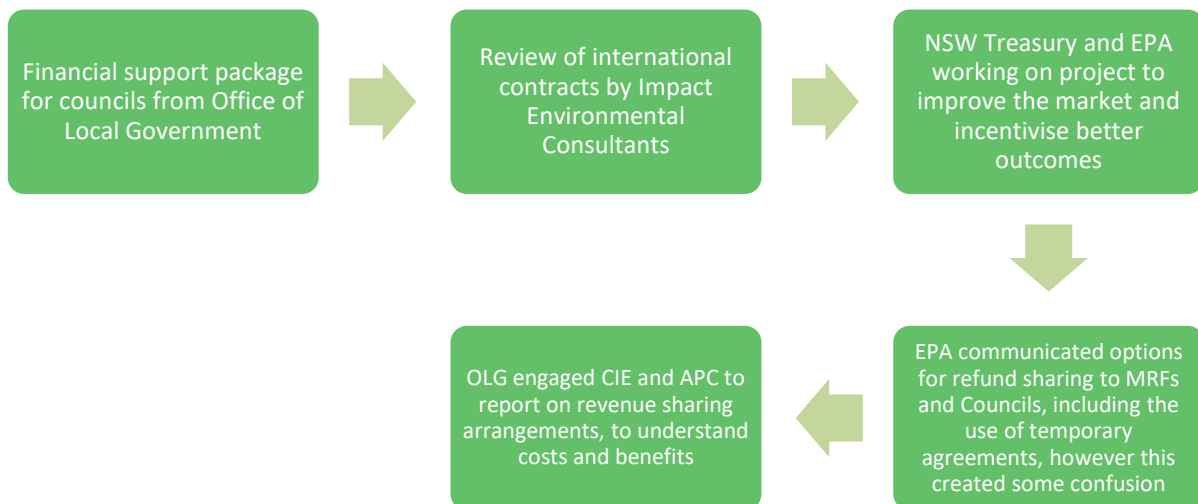


There are some complications with the temporary stockpile limit increases. Some facilities that are below the tonnage input and storage limits for requiring a licence may, once they start extra stockpiling, trigger the requirement for an Environment Protection Licence. Currently there are no known examples of MRFs receiving approval for these stockpile increases.

Fire in stockpiles has been a major concern following incidents in Victoria. NSW EPA, in conjunction with Fire and Rescue NSW (FRNSW) have conducted 30 joint inspections at MRFs, and draft fire safety guidelines were been released by FRNSW in late 2018 adding to compliance costs.

7.1.2 Assistance with recycling and CDS contracts

Actions by EPA, Treasury and Office of Local Government (OLG) to assist local councils and industry include:



7.1.3 Reducing contamination

EPA considers contamination reduction the responsibility of the community, manufacturers, industry and all levels of government. The following projects have been initiated to address contamination across all stages of the supply chain:

Project Yellow Sail
<ul style="list-style-type: none"> • Joint project with EPA and ACOR • targets householders to reduce contamination in kerbside recycling bins through education • Project development underway • Note Liberal federal govt committed \$2m to this project if they won government (election 18 May 2019)

Best practice guides
<ul style="list-style-type: none"> •The Taskforce and Reference Groups are working together to develop best practice guides and specification for collection and processing to reduce contamination across the supply chain

7.1.4 Funding and grants

In March 2018, the NSW Government announced a support package of up to \$47 million to help local government and industry to respond to market changes. The support package is being funded by the *Waste Less, Recycle More* initiative and provides a range of short, medium and long-term initiatives, which aim to ensure that kerbside recycling continues and to promote industry innovation.

The package includes \$4.5 million to support co-investment in infrastructure projects to improve the quality of recycled materials produced by MRFs and reduce the amount of unrecyclable material left at the end of the recycling process, and \$5 million to fund grants and programs that identify new uses for recyclable materials and increase the production and use of recycled products³².

‘[The Australian Council of Recyclers] believes that China National Sword offers a once-in-a-generation opportunity to “reset” Australia’s recycling systems to achieve improved resource efficiency and enhanced economic outcomes.’

MRA Consulting Group (2018): *China National Sword: The role of Federal Government: A discussion paper prepared for the Australian Council of Recycling*

NSW EPA was unable to provide a full list of how the \$47 million has been allocated³³. In effect some of these funds were recycled from existing programs and funds already provided to councils for other programs which could be diverted to new initiatives. The information available is shown in Table 10.

Table 10 \$47 million China Sword response funding

Funding target recipients	Fund name	What is it for	Fund amount	Amount allocated	Amount remaining	% allocated
Councils		Improve council tendering processes to increase the production and use of recycled products	?			
Rural and regional Councils	Recycling Relief Fund	Recycling relief fund to cover a portion of price rises for up to four months, over the period 1 March 2018 to 31 May 2019 directly associated	\$2.5 million	Assume \$2.5 million	Assume \$0	100%

³² <https://www.epa.nsw.gov.au/your-environment/recycling-and-reuse/response-to-china-national-sword>

³³ NSW EPA, personal communication

Funding target recipients	Fund name	What is it for	Fund amount	Amount allocated	Amount remaining	% allocated
		with household recycling services. Regional and rural only. The amount available is capped at \$75 per tonne (excluding GST) of dry recycling received from households				
Councils		Fund community education initiatives to reduce kerbside recycling contamination	?			
Business or not for profit	Product Improvement Program	The program targets waste generated by households (yellow-lid bin) and commercial and industrial premises (mixed paper/cardboard, plastics, glass, tyres, engineered and treated timbers, e-waste and plasterboard), prioritising projects that utilise glass and mixed paper/cardboard and plastics affected by China's National Sword policy.	\$4.5 million	\$3,654,154	\$845,846 Next round applications closed 26 July 2019. Any funding unspent by 1 January 2021 will be returned to other Waste Less Recycle More grant programs.	81%
Business	Circulate Industrial Ecology	Existing program re-prioritised; to fund innovative, commercially oriented industrial ecology projects. Circulate supports projects that will recover materials that would otherwise be sent to landfill, and to instead use them as feedstock for other commercial, industrial or construction processes	\$2.5 million	\$1,390,671	\$1,109,329 Any funding unspent by 1 January 2021 will be returned to other Waste Less Recycle More grant programs	56%
Council or Business or not for profit	Civil construction market program	Existing but re-prioritised; Provides grants to local government, consultants, contractors and waste service providers who can divert construction and demolition (C&D) waste from landfill, and post-consumer recycle from materials recovery facilities (MRFs) through reuse, recycling and industrial ecology projects in the NSW civil construction sector.	\$2.5 million	\$574,136	\$1,925,864 Any funding unspent by 1 January 2021 will be returned to other Waste Less Recycle More grant programs	23%
Council or Business or not for prof	Major Resource Recovery Infrastructure	Existing program but re-prioritised to target China Sword	?		New round open currently with \$22.3m	
Council or Business or not for prof	Resource Recovery Facility	Existing program but re-prioritised to target China Sword	?		Now part of Product Improvement	

Funding target recipients	Fund name	What is it for	Fund amount	Amount allocated	Amount remaining	% allocated
	Expansion and Enhancement					
Councils	Better Recycling Fund	Existing program but updated March 2018 to target China Sword				
EPA	n/a	Funding the Taskforce and Reference Groups	?			
Total			\$47 m			

This funding has given rise to MRF upgrade and end market development projects, co-funded by the proponents. Recent recipients of the China Sword response funding, and other resource recovery funding, are shown in Appendix B and Appendix C.

An associated Waste Less Recycle More Education Strategy 2016-21 has been developed, but the action plan only goes until 2017, with an updated education action plan still to be developed for 2017–21.

7.1.5 Encouraging recycled content through procurement

Procurement NSW, the government purchasing body, are investigating options for improving procurement policies and processes, including developing minimum mandatory environmental and social tender evaluation criteria and enhancing overarching government good and services contracts in 2019, with a view to building on these initiatives from 2020 onwards.³⁴

7.1.6 End markets for glass

In response to the collapse of markets for recycled glass, WCRA funded APC to prepare a “Situational Analysis Report on Glass Recycling in NSW” in April 2017. In response to this report as well as media attention on the issue of glass stockpiling, a NSW Glass Recovery Working Group was established, and NSW EPA commissioned the Centre for International Economics (CIE) to prepare a Glass Recycling Issues and Options report³⁵. The 2017 Centre for International Economics report concluded that:

‘...the glass recycling capacity in NSW...is significantly lower than the level that existed when Benedict Industries was operating, and is not currently sufficient to process all recycled glass.’ The report also stated that ‘... demand for glass cullet from MRFs in NSW is unlikely to improve’.

The development of markets for crushed glass sand was determined to be the best solution, however government departments will need incentives or regulation to specify mandatory procurement and use of crushed glass in large infrastructure construction projects, such as roads, in place of virgin materials. Alternative solutions include the use of glass fines as daily cover at landfills and the development of an extended producer responsibility (EPR) scheme involving glass bottle manufacturers and fillers, to assist the development of new and alternative markets for recycled glass.

³⁴ NSW EPA Feb 2019 *National Sword Joint Reference Groups Update*

³⁵ Centre for International Economics (2017) *NSW Glass Recycling Issues and Options* for NSW EPA

The EPA has subsequently funded MELD to undertake a “Glass recycling behavioural research project” in March 2018 to investigate perceptions and constraints to the use of recovered glass.

In terms of stimulating end markets for recycled glass, the EPA has partnered with RMS and identified nine demonstration projects which will use 13,000 tonnes of crushed glass in road base. If these trials are successful, a potential demand of up to 120,000 tonnes per year of crushed recycled glass is estimated for use in road base³⁶. However, the EPA acknowledged that its role has previously been primarily as a regulator, and that it is relatively new to the function of end market development.³⁷

It was acknowledged by the Reference Groups that ‘re-branding’ of recycled glass would assist in improving public perception and encourage greater use of this resource. The EPA will work with other NSW Govt agencies, industry and councils on this issue.³⁸

APC’s “Situational Analysis Report on Glass Recycling in NSW” contained 28 recommendations for improving the recycling of post-consumer glass but to date little if any real action has occurred. EPA has stated recently to WCRA that recommendations concerning recycled glass are being progressed through the China Sword task force even though glass is not impacted by export restrictions.³⁹

7.1.7 Mixed Waste Organic Outputs

Further to the ban on land application of organic outputs from mixed waste processing, the NSW Chief Scientist is reviewing the research done to date. A Stage 1 report is due for release once approved by the new Minister for Environment and Energy, with a Stage 2 report due after that. EPA is extending levy deduction for landfilling mixed waste processing organic outputs. EPA is also reimbursing the cost of landfilling (excluding transport) for this material, though this is subject to ongoing negotiation between EPA and mixed waste processing facility operators. An ongoing issue is the fate of stockpiles of material on mines and farms that was received prior to the revocation of the Resource Recovery Order and Exemption.

Note that Fishburn Watson O’Brien’s Ross Fox is preparing a position paper on EPA’s ability to change Resource Recovery Orders and Exemptions with no or little notice and the effect this may have on investment in the sector.

As a result of this ban there is great concern within the organics sector regarding the flow on impacts in relation to processing FOGO and evaporation of markets for large scale broad-acre application of compost products certified to AS 4454. The industry has also been stunned by the suddenness of the ban and as a result a distinct lack of appetite by the sector for future investments in innovation.

³⁶ Justin Koek NSW EPA “National Sword and beyond: a NSW perspective” 12 April 2019

³⁷ Justin Koek at Australian Sustainable Business Group *Waste Crisis: Recycling, Infrastructure and QLDs Levy Impacts* - 12 April 2019

³⁸ NSW EPA Feb 2019 *National Sword Joint Reference Groups Update*

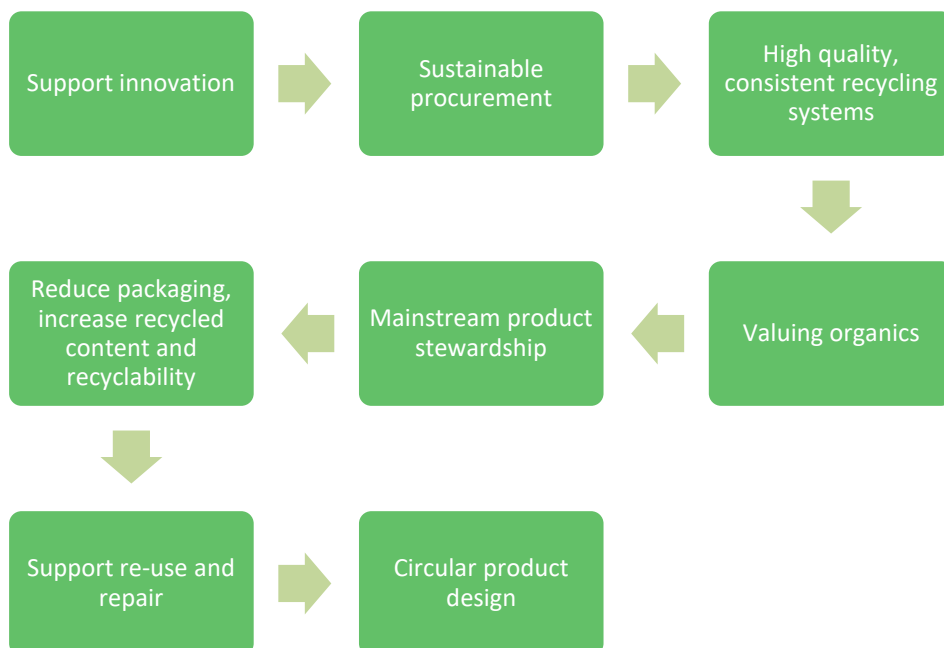
³⁹ WCRA personal communication

7.1.8 Planning and approvals

A current barrier to investment in NSW is the lengthy, protracted and expensive planning approval process for any development from the waste and recycling sector. The EPA Taskforce has set up the Key Agency Liaison Group which includes EPA and what is now the Department of Planning, Industry and Environment, with the aim of promoting early engagement and streamlining the approvals process for new recycling facilities and the expansion of existing facilities. Four proponents have engaged with this group so far however it remains to be seen if approval timelines will decrease.

7.1.9 Strategies and policies

EPA has developed a circular economy policy which aims to strengthen recycling and create markets and demand for recycled products. The focus areas are:



The Circular Economy policy will form the basis for a 20-year Waste Strategy for NSW, which is currently being developed, led by the NSW EPA in partnership with Infrastructure NSW. The Strategy aims to create a long-term vision and roadmap for waste and resource recovery in NSW, and will include the following things:



The development of the 20-year plan is being managed by NSW EPA. EPA will run a series of focus groups in May and June 2019 as part of the consultation and engagement process. The Strategy includes consultation with an alleged 400 stakeholders and was due for completion at the end of 2019 however a more realistic date as indicated by EPA staff at the Coffs Harbour waste conference for release is mid-2020.

‘Through the Strategy we want to provide industry with certainty and set goals and incentives, so the right infrastructure investments are made to meet community needs.’

NSW EPA

7.2 Waste and recycling operators’ response

Participants in the waste and recycling industry have responded to recent market issues in the following ways:



Each of these responses is detailed below.

7.2.1.1 Renegotiate MRF contracts with local councils

MRF gate fees are negotiated based on quality of material, quantity of material and contract length. Ownership of recycled material has traditionally varied within contracts, with some councils retaining ownership of recyclables after collection and some contracts ceding ownership of the recyclables to the waste contractor once they are collected from the kerbside. NSW and several other states have published model contracts for the establishment of the commercial relationship between a council and the collection contractor. However, these not consistently applied and likely to be outdated by recent market changes and the advent of container deposit schemes. No such model contracts exist for the relationship between council and the MRF operator.

Historically, MRF operators have entered into long-term (7–10 year) contracts for the management of recyclables, with fixed prices based on the conditions and market outlook at the time of tender. Most of these existing contracts do not include a ‘Mark to Market’ clause⁴⁰. Councils are typically risk adverse and the MRF carries all the risk. In the early 1990’s when kerbside was being established risk sharing contracts were encouraged and used due to commodity market volatility where benchmark pricing was set, and profit and losses shared equally between the parties. In NSW the Local Government Recycling Cooperative was established as a broker to sell commodities into the market based on economies of scale. At that time material was primarily kerbside sorted without the need for MRFs which arose own comingled services were introduced.

‘Recent issues for MRFs highlight the vulnerability of the existing contracting models to commodity market conditions and overseas regulatory changes. We would expect that MRFs will respond by repricing these risks higher in new contracts.’

Centre for International Economics, 2018

Contracts for processing of kerbside recyclables are currently being renegotiated in response to recent market changes, focusing on improving risk sharing and lowering contamination⁴¹.

The paying of rebates or negative gate fees to councils is no longer viable. Gate fee increases of between \$35 and \$200 per tonne were predicted as a result of recent market changes⁴².

APC’s understanding is that these renegotiated gate fees are in the range of \$60 to \$150 per tonne in NSW, with some MRFs and contractors still debating the impact of China Sword on gate fees. Separated domestic kerbside paper and commercial paper may still be accepted for a zero gate fee; if a council has kerbside separated containers-only bins, the gate fee may be in the range of \$80 to \$100 per tonne⁴³. These fees do not include any CDS revenue, which is negotiated concurrently between MRFs and councils.

⁴⁰ MRA Consulting Group (2018): *China National Sword: The role of Federal Government: A discussion paper prepared for the Australian Council of Recycling (ACOR)*

⁴¹ <https://www.insidewaste.com.au/site/news/1053069/national-sword-urgent-action>

⁴² MRA Consulting Group (2018): *China National Sword: The role of Federal Government: A discussion paper prepared for the Australian Council of Recycling (ACOR)*

⁴³ APC personal communication with MRFs

7.2.1.2 Look for alternative markets

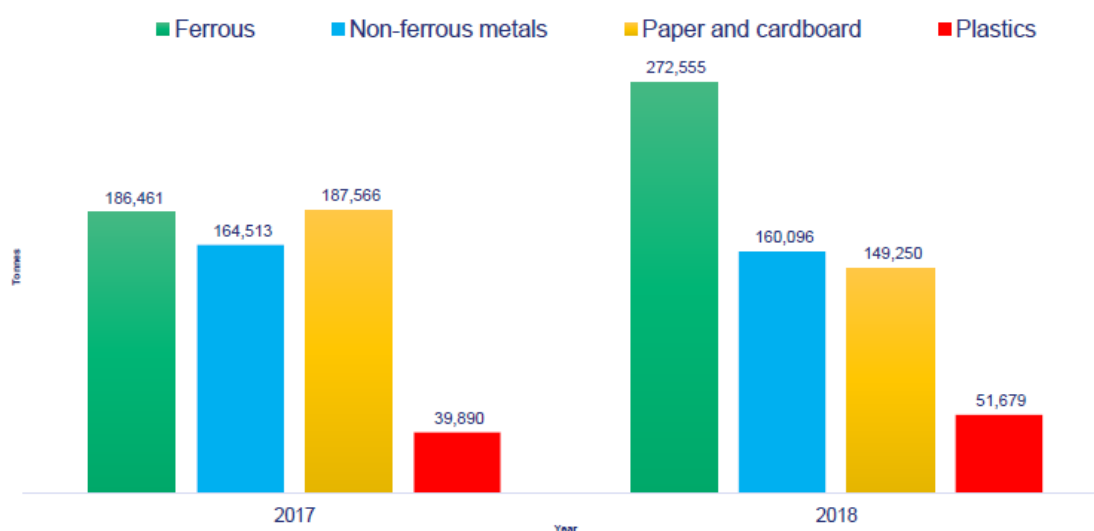
Following China's restrictions on the import of recycled materials, about 30% of all recycled paper and 40% of all recycled plastic has had to find new markets. The shift in destinations for material has differed across commodities. Vietnam and Thailand became targets for the export of recyclables, however following clogging of the ports with containers of recycled products and issues with abandonment of shipments, Vietnam restricted the import of recycled materials⁴⁴, and Thailand has also stopped the import of scrap plastics and electronic waste⁴⁵.

Paper has shifted particularly to Indonesia and India during 2017, while plastic shifted to Malaysia and Indonesia once Vietnam and Thailand's restrictions came into effect.

The saga continues and in 2018, Malaysia stated its intention to phase out imports of all types of plastic, including "clean" plastic, in three years⁴⁶. In March 2019, India banned the import of plastic scrap waste. In May 2019, the Basel convention for trans-boundary movement of wastes was amended to include plastics as a hazardous material, triggering the requirement for exporters to obtain the consent of receiving countries before shipping most contaminated, mixed, or un-recyclable plastic waste.⁴⁷

Export volumes from NSW have remained relatively steady or shown small declines for most recycled material. Between 2017 and 2018, the export of plastics and non-ferrous metals export volumes increased, though prices declined as exporters competed for access⁴⁸. The volume of exports of recyclables from NSW in 2017 and 2018 are shown in Figure 18.

Figure 18 Recyclables exports from NSW by volume⁴⁹



⁴⁴ <https://resource-recycling.com/recycling/2018/06/12/exporter-describes-southeast-asian-shipment-strife>

⁴⁵ Maersk Line A/S (Australia), personal communication

⁴⁶ <https://www.reuters.com/article/us-malaysia-waste-imports/malaysia-to-curb-imports-of-plastic-waste-minister-idUSKCN1N028P>

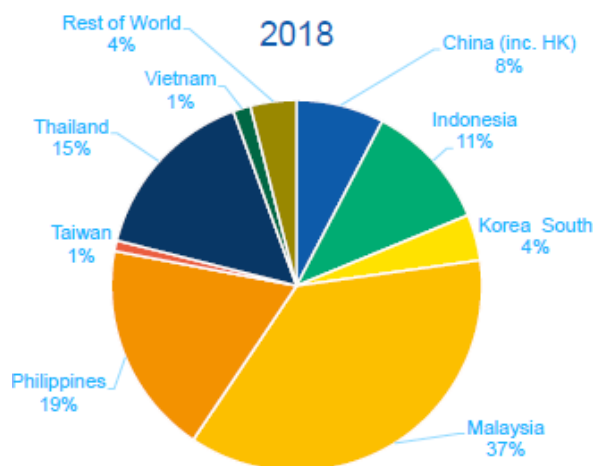
⁴⁷ <https://www.nationalgeographic.com/environment/2019/05/shipping-plastic-waste-to-poor-countires-just-got-harder>

⁴⁸ Justin Koek NSW EPA "National Sword and beyond: a NSW perspective" 12 April 2019

⁴⁹ Justin Koek NSW EPA "National Sword and beyond: a NSW perspective" 12 April 2019

Figure 19 shows the receival countries for plastic exports from NSW in 2018, with Malaysia and the Philippines the primary receivers of plastics. Quality requirements are likely to continue to tighten as buyers pick and choose, with remaining export markets being flooded with the available materials, leading to a continued fall in price.

Figure 19 NSW plastics export receival locations 2018



Local paper mills are now in a position where they can impose quotas and ‘cherry-pick’ recycled paper/cardboard inputs, which is likely to lead to an oversupply of recycled paper and cardboard in NSW.

7.2.1.3 Apply for funding to improve product quality and develop end markets

MRF operators are currently proactively applying for co-contributed government funding to install extra screens, ballistic separators, optical sorters, washing, flaking and extruding equipment to reduce contamination in end products. Others are applying for grants to assist in developing alternative end markets (see next section).

The available grant programs are discussed in Section 7.1.4 . Recent recipients are summarised in Appendix B and Appendix C.

7.2.1.4 Trialling crushed glass

IQ Renew is crushing recycled glass from the Gateshead MRF, sourced from Lake Macquarie Council, to trial in local civil works in partnership with Council, and aims to construct a washing and processing plant on the Central Coast to produce commercial quantities of both sand and drainage aggregate substitute.

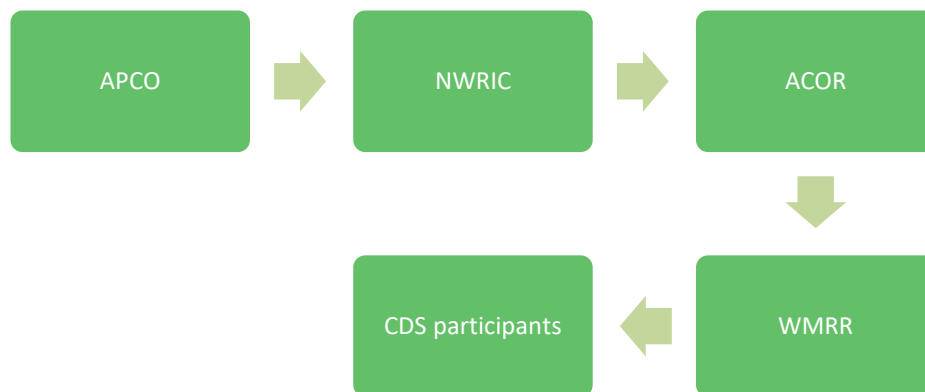
Other MRFs not mentioned above, also have the capability to reprocess glass using similar technologies, for example Coffs Harbour and Wagga Wagga.⁵⁰

⁵⁰ APCO March 2019: *Glass Working Group 2018*

7.3 Industry groups responses and policies

In response to the glass crisis experienced by members WCRA) engaged APC to research and prepare a *Situational Report on Glass Recovery and Recycling in NSW, 2017* and has lobbied government on behalf of its members to little avail.

Apart from WCRA, the following industry groups have been active in responding to current issues in the waste and recycling sector. These groups include:



Recently, ACOR, WMRR and NWRIC released a joint media release in support of the recycling industry response to *60 Minutes'* coverage of exports of recyclables to developing countries of Indonesia and Malaysia.

Each group's responses are detailed below.

7.3.1 APCO

The Australian Packaging Covenant Organisation (APCO) is a co-regulatory, not-for-profit organisation that partners with government and industry to reduce the harmful impact of packaging on the Australian environment. APCO is leading the delivery of the National Packaging Targets and working to create 100% recyclable, reusable or compostable packaging in Australia by 2025 or earlier.

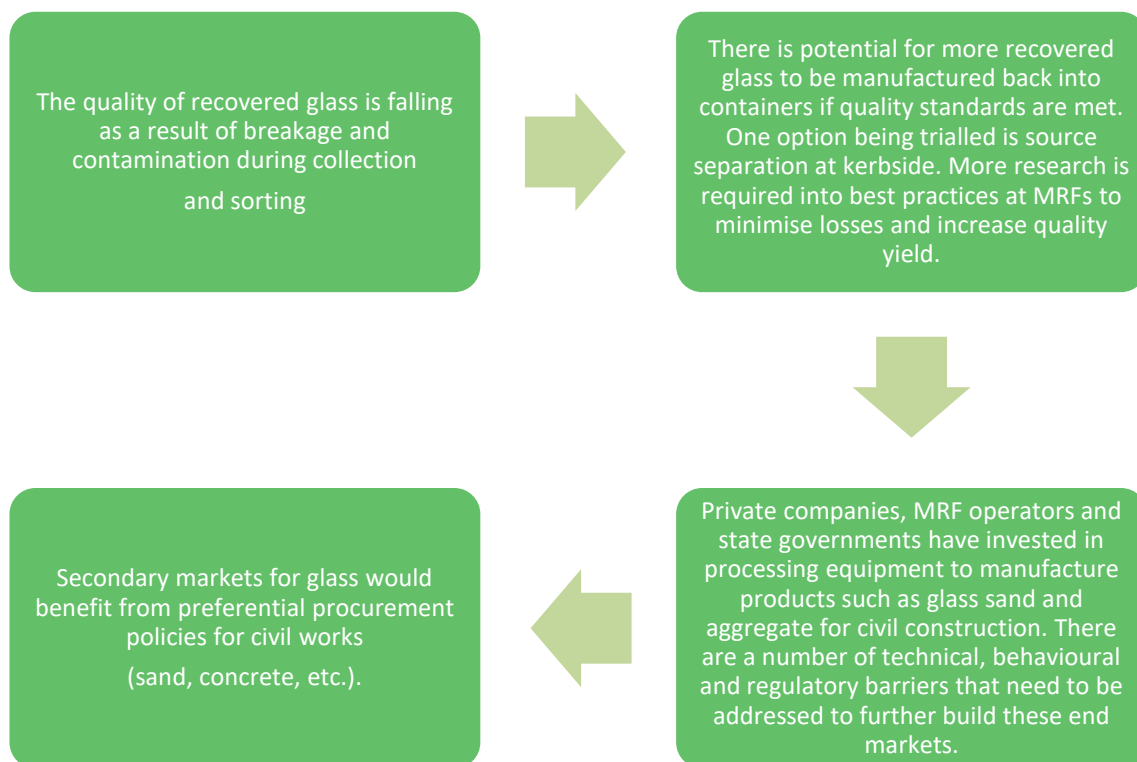
To accelerate this circular approach, APCO formed five Working Groups in May 2018, on the basis that they represent some of the biggest challenges for recovery and recycling in Australia:



Of the above issues, glass is of the most concern to WCRA members. Conclusions of the APCO 2018 glass working group were:⁵¹

⁵¹ APCO March 2019: *Glass Working Group 2018*

Figure 20 Conclusions of the APCO glass working group 2018



The outputs of the 2018 working groups revealed four key themes. The 2018 working groups have been replaced by four new 2019 working groups based on these themes:

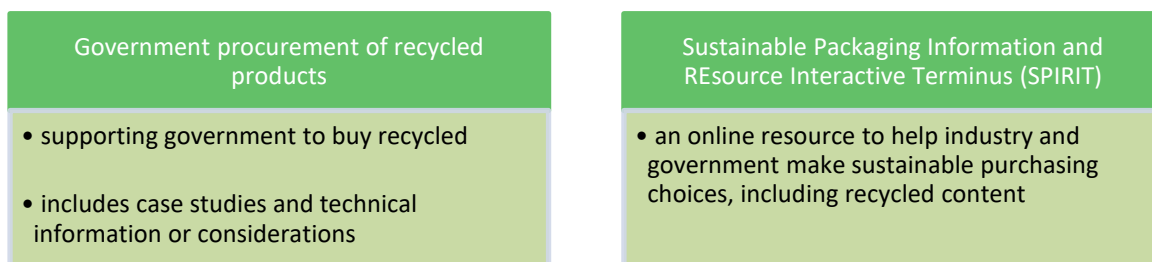
Figure 21 2019 APCO working groups

National Packaging Target Implementation	Design	Systems and education	Materials circularity
<ul style="list-style-type: none"> • Supporting the Collective Action Group (also managed by APCO) in advising the establishment of baselines for the 2025 National Packaging Targets; • Reviewing the development of national recycling, composting and resource recovery infrastructure and capacity mapping; • Analysing and scoping the options available to monitor industry progress towards the 2025 National Packaging Targets; • Ensuring the industry has a holistic view of material flows and recovery to assist in identifying opportunities to improve the value of resources. 	<ul style="list-style-type: none"> • Reviewing the packaging design guidelines for all major material streams; • Facilitating sector collaboration and engagement to guide sustainable design practices; • Contributing to the development for compostable and recycled content labelling capacities; • Advise on the development of a Life Cycle Guide tool. 	<ul style="list-style-type: none"> • Reviewing the establishment and monitoring of key research initiatives that aim to increase the understanding and capability of the recovery, recycling and composting of packaging; • Facilitating collaboration between APCO Members and other key stakeholders in the packaging value chain, including sector specific approaches to drive leadership; • Enabling the sharing of local and global research, innovation and developments to all Members and key stakeholder to advance supply chain capability and education; • Advising on the development of a national consumer education approach to deliver consistent messaging to consumers on the role of sustainable packaging, consumption and recovery. 	<ul style="list-style-type: none"> • Reviewing the guidelines for government and industry procurement of recycled content; • Facilitating research and engagement to drive sustainable local end markets; • Assisting with the evolution of a Sustainable Packaging Information and Resource Integrative Terminus (SPIRIT) to guide industry and consumers on the necessity to close the loop by purchasing recycled content.

The working groups will undertake an ambitious 22 separate projects. These are listed in Appendix E. APC and CIE have been appointed to undertake an economic analysis of alternative collection systems and end markets for used packaging. This project may also have implication for the sector nationally

The projects most aligned with the current concerns of WCRA members fall under the Materials Circularity working group and include:

Figure 22 Extract of 2019 APCO projects



7.3.2 NWRIC

The NWRIC was established in late 2016 by national waste management companies Cleanaway, JJ Richards and Sons, REMONDIS, SUEZ and Veolia with the key purpose of developing a cohesive national approach to industry development and innovation. Its goal is to achieve consistent policy and legislative settings at a federal, state and local government levels that will transform waste into valuable resources for local and global markets.

“Every household and business in the nation purchases waste services, and most purchase recycling services. Therefore, the Commonwealth can cut costs for all Australians by creating national, high quality regulations covering waste and recycling,”

Rose Read, CEO of the NWRIC

Current membership of the NWRIC includes the five founding members, plus Solo Resource Recovery, Alex Fraser, Sims Metals and ResourceCo. It also comprises state and territory affiliates:

- Waste and Recycling Industry Queensland,
- Waste Contractors and Recyclers Association of NSW,
- Victorian Waste Management Association,
- Waste Recycling Industry of South Australia,
- Waste Recycling Industry of Western Australia and
- Waste Recycling Industry Northern Territory.

Collectively, the NWRIC represents the interests of Australia’s 500-plus small, medium and large waste management enterprises.⁵²

NWRIC’s main policy objectives include:

⁵² <https://www.nwric.com.au/the-nwrics-visionary-policy/>



NWRIC will release a Landfill Levy White Paper in late May 2019.

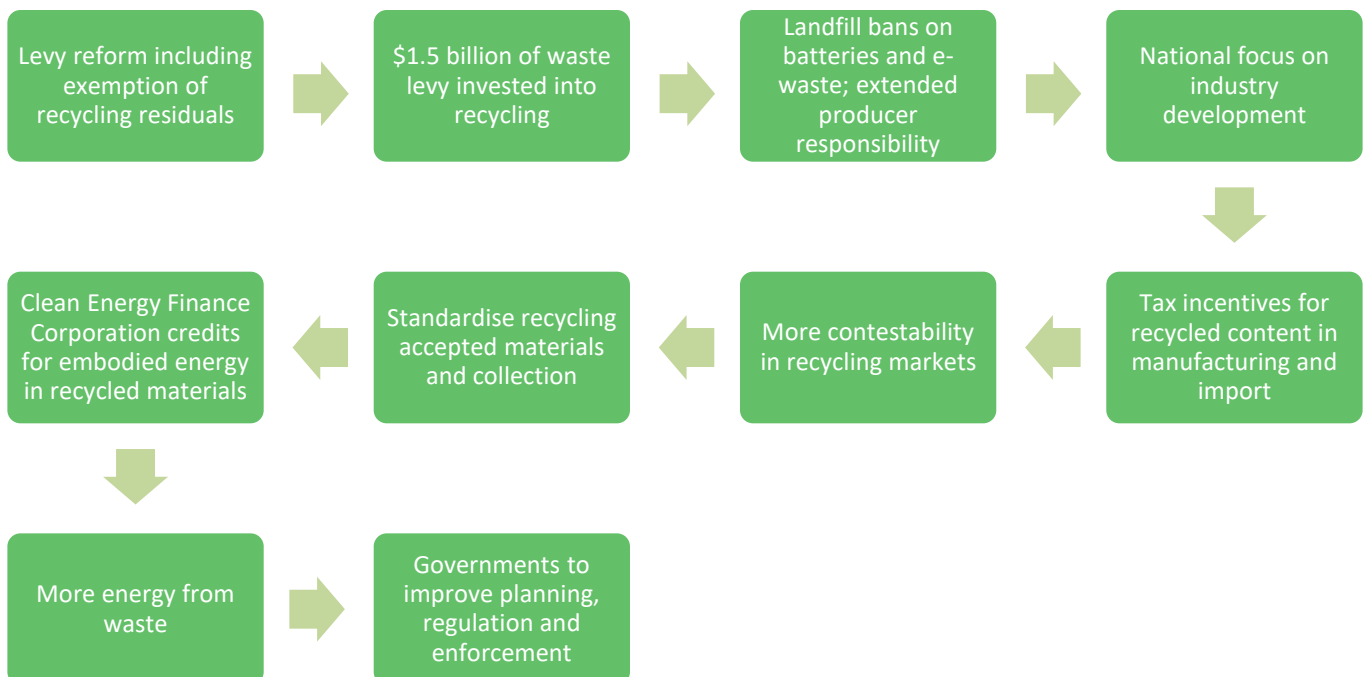
NWRIC hosts a monthly conference call and quarterly face to face meeting with its state affiliates.

7.3.3 ACOR

The Australian Council of Recycling (ACOR), established in 1983, is a peak national industry association representing 70 businesses in the recycling and resource recovery industry of Australia.

ACOR aims to work with governments to develop policies and programs that improve recycling and resource recovery, and support investment in and growth of the Australian recycling industry. ACOR’s “10-point plan” comprises the following:⁵³

Figure 23 Summary of ACOR’s 10-point plan for results-based recycling



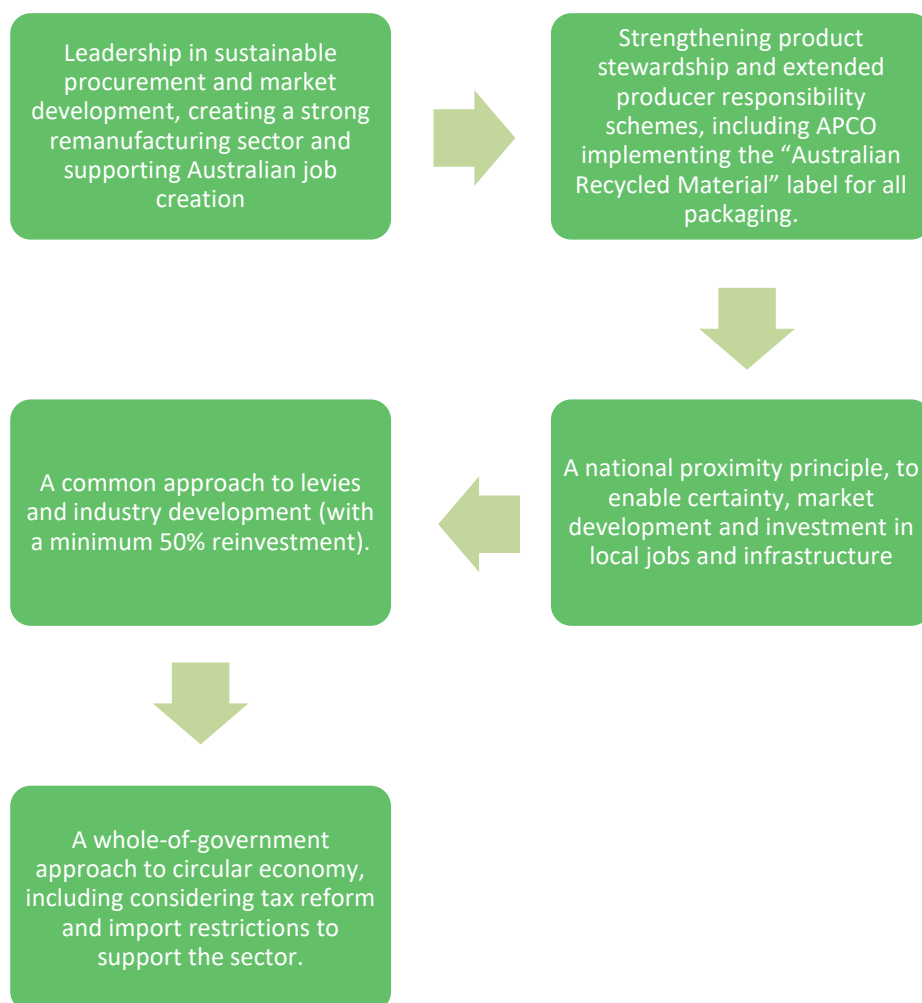
⁵³ Australian Council of Recycling (2018) *10 point plan for results-based recycling*

ACOR has partnered with NSW EPA to develop 'Project Yellow Sail', a contamination education campaign that targets householders to reduce contamination at the kerbside, with an app that tells you whether something is recyclable or not. Project development is underway, and the launch is scheduled for 2019. The program will be extended nationally as a result of the federal election with a pledge of \$2M to extend it nationally.

7.3.4 WMRR

The Waste Management and Resource Recovery Association of Australia (WMRR) is the national peak body for the waste and resource recovery industry. Its activities include advocacy, conferences and networking events, information, learning and training.

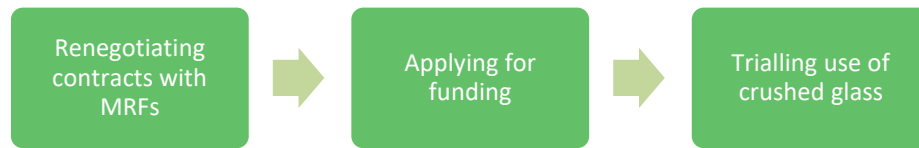
WMRR's five-point plan comprises:



WMRR have launched state-based Resource Recovery and Market Development (RRMD) working groups, coordinated at a national level by Mark Rawson. The NSW state chair is Richard Collins and vice chair is Vanessa Seaton. The focus is on 'connecting the dots' between suppliers and users of recovered materials, with priority on glass, organics and plastics.

7.4 Local government

Local government kerbside recycling services and contracts have been significantly affected by China Sword and the lack of end markets for glass. Local government has responded in the following ways:



In addition, the NSW Local Government Association (LGA) promotes a policy of 100% hypothecation of the landfill levy.

7.4.1 *Re-negotiating contracts with MRFs*

This is covered in Section 7.2.1.1. Regional Organisations of Councils have also supported CDS participants (see Section 7.5 below).

7.4.2 *Applying for funding*

Councils have been the beneficiaries of a portion of the \$47 million in NSW government funding allocated in response to China Sword. Please refer to Section 7.1.4. Recent recipients of the China Sword response funding, and other resource recovery funding, are shown in Appendix B and Appendix C.

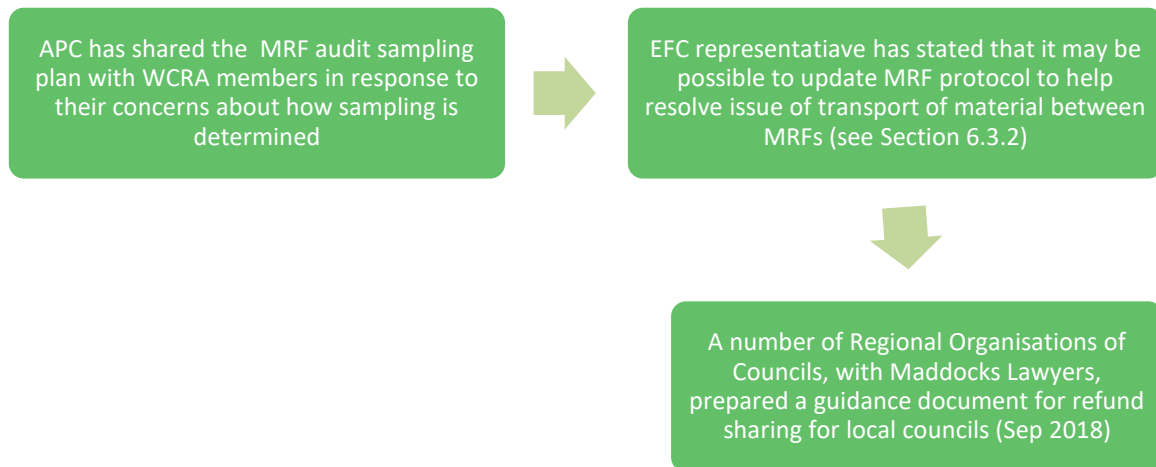
7.4.3 *Trialling use of crushed glass*

Local governments have trialled the use of crushed glass in local applications, often with the help of funding described above. NSW examples include:

Lake Macquarie Council	Lismore City Council	City of Canterbury Bankstown
<ul style="list-style-type: none">• collaborating with their recycling contractor (IQ Renew) to investigate alternate uses of stockpiled glass.• LMCC's contractors are processing glass from the local MRF into glass sand that has been trialled in local civil works.• The contractor is constructing a processing plant on the Central Coast to produce commercial quantities of both sand and drainage aggregate substitute	<ul style="list-style-type: none">• Council operates a regional MRF and glass processing plant• Using new imploder technology to produce glass sand for roadbeds and pipe bedding• The product has gained interest locally, as well as from neighbouring council and private contractors	<ul style="list-style-type: none">• Trialling the use of recycled glass in the production of road base.• The project will test specifications and trial use in the Council's road construction projects.

7.5 CDS participants

In addition to the actions taken by the State Government in regards to assisting councils and MRFs with refund sharing agreements (see Section 7.1.2), the following actions have been taken by others:



7.6 What are other jurisdictions doing?

7.6.1 Victoria

Visy, SKM and Polytrade have been the main MRF operators in Victoria for some time. Prior to China Sword, SKM started to pay a rebate to councils to secure contracts and buy market share, which was matched by VISY to maintain their feedstock for their paper mill. After China Sword, where councils were previously being paid a rebate of \$50 per tonne, the gate fee moved to zero.

In response to China Sword, recycling collections in two Victorian councils northwest of Melbourne was suspended after Wheelie Waste ceased collection of rubbish and recycling bins.

China Sword led to extensive stockpiling by MRFs, resulting in two fires at SKM's MRFs. In February 2019, EPA Victoria banned SKM from accepting waste due to ongoing concerns about fire risk, triggering a recycling crisis across Melbourne as several municipalities were forced to dump thousands of tonnes of recyclable material in landfill.⁵⁴



⁵⁴ The Age April 9, 2019: 'Disrespectful' SKM Recycling fined \$16,000 for dangerous stockpiles

In May 2019, the EPA suspended the licence of a major glass processor (GRS) in Melbourne due to non-compliance, after two recent fires, breaching of stockpile limits and increased fire risk due to contamination of incoming glass with plastic and paper⁵⁵.

In July 2019, SKM was declared insolvent, leading to the closure of its MRF. Forty percent of the kerbside recycling from the 30 Councils contracted to the facility is now being shuffled to other MRFs, with the remainder landfilled⁵⁶.

Two significant policy documents have been developed by the Victorian Government in response to market issues:

Guidelines for management and storage of combustible recyclable and waste materials	Recycling Industry Strategic Plan July 2018
<ul style="list-style-type: none">• in response to stockpile fires• prepared by EPA Vic in conjunction with fire authority• MRFs audited for compliance	<ul style="list-style-type: none">• Goal 1: Stabilise the recycling sector• Goal 2: Increase the quality of recycled materials• Goal 3: Improve the diversity and productivity of the recycling sector• Goal 4: Develop markets for recycled materials

The Recycling Industry Strategic Plan includes the following actions:

⁵⁵ EPA Victoria 16 May 2019 *EPA suspends GRS licence* @ <https://www.epa.vic.gov.au/about-us/news-centre/news-and-updates/news/2019/may/16/epa-suspends-grs-licence>

⁵⁶ The Australian Newspaper 3 August 2019 *Company liquidation sparks recycling crisis in Victoria*

Reducing contamination	Procurement	End markets
<ul style="list-style-type: none"> • improve the quality of recycled material through community education • investigate greater source separation at kerbside • investigate pay as you throw • investigate greater statewide consistency in kerbside collection (eg lid colours, materials) • invest in recycling infrastructure 	<ul style="list-style-type: none"> • categorize Vic Govt procurement spend and identify opportunities to increase the use / purchase of recycled content • work with departments and agencies to set targets, where appropriate, for the inclusion of recycled content • increase knowledge and capability to support sustainable procurement with government • develop guidance materials and tools to support procurement officers • develop a Directory of products and materials containing recycled materials 	<ul style="list-style-type: none"> • support the updating of existing or development of new specifications • support research and development for design and production • support demonstration the commercialisation of recycled content products • invest in secondary and tertiary processing of recycled materials

In response to China Sword, the Victorian Government offered a \$13 million package to support the ongoing collection of household waste (to 30 June 2018). The assistance went towards helping councils and industries affected by the China policy, giving them and their contractors time to develop longer-term solutions, including renegotiating contracts.⁵⁷ The recipients included MRFs and reprocessors, and are shown in Appendix D.

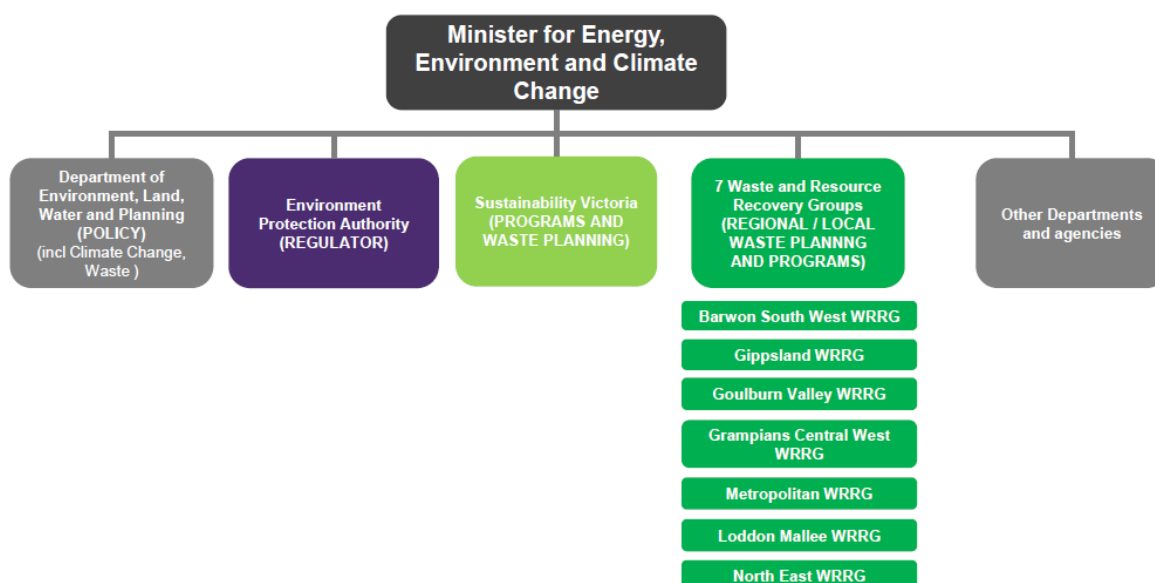


On 3 July 2018, along with the release of the Recycling Industry Strategic Plan, the Victorian Government announced a further \$24 million injection of into recycling to assist in building a resilient sector in Victoria. In May 2019, a further \$35 million was committed.

Victoria has an entity that is separate from the EPA, that oversees policies and programs (Sustainability Victoria (SV)), as well as regional Waste and Resource Recovery Groups. Figure 24 shows the structure.

⁵⁷ <http://wastemanagementreview.com.au/bin-services-stopped-two-victorian-councils/>

Figure 24 Victorian government waste portfolio⁵⁸



In 2016, prior to China Sword, Victoria already had a Market Development Strategy for Recovered Resources and is ahead of NSW in developing and promoting new uses for recycled products, having gained experience through Sustainability Victoria programs.

WMRR and SV provide a monthly bulletin providing an update on markets for recycled materials in Victoria.

Recent market development actions include:

- In October 2018 MTM approved a new recycled glass specification for bedding fill for Combined Services Routes (CSR) and backfill for drainage piping.
- LXP used 900 tonnes of recycled glass sand at the Kororoit Creek site and 410 tonnes at the Aviation Road and Wyndham Vale Stabling projects.
- Testing recycled plastic in railway sleepers.

7.6.2 Queensland

In response to China Sword, Ipswich Council in Queensland opted to send its kerbside recycling to landfill in response to China Sword, prior to a resident backlash and a decision reversal.

Queensland is, in effect, currently playing ‘catch up’ with other states in terms of waste and resource recovery policy. Landfill is cheap the landfill levy was abolished due to a change in government and political will resulting in limited government funds available for investment. A new landfill levy commences on 1 July 2019 at \$75 /tonne with annual increases for the first four years and there after

⁵⁸ Shannon Smyth 12 April 2019 *Current state of play of recycling in Victoria – plans and initiatives*

linked to CPI . However, China Sword and the transport of large quantities of waste to Queensland from NSW, purported to exceed 1 million tonnes per year has prompted renewed interest in the sector and by government.

The Qld government response has been to introduce a landfill levy and to commit \$100 million grant funding over three years to the Resource Recovery Industry Development Program (RRIDP). The Queensland Government is currently developing a new Waste and Resource Recovery Strategy for Queensland.

7.6.3 ACT

The ACT government owns one MRF at Hume in ACT. This MRF was the first to be closed for over a week due to safety concerns and fire risk of stockpiles of processed and unprocessed materials. Whilst plastics only represent a small proportion the MRF operator was seeking new markets for both plastics and mixed paper .⁵⁹

The ACT Government has agreed to its first trial of a suburban road made of recycled materials, using the Downer company’s new type of asphalt, “Reconophalt” which includes soft plastics such as plastic bags, and locally produce recycled glass sand.⁶⁰

“There's one missing ingredient. It's the willingness of our customers — and these are the government organisations — to embrace sustainable materials”

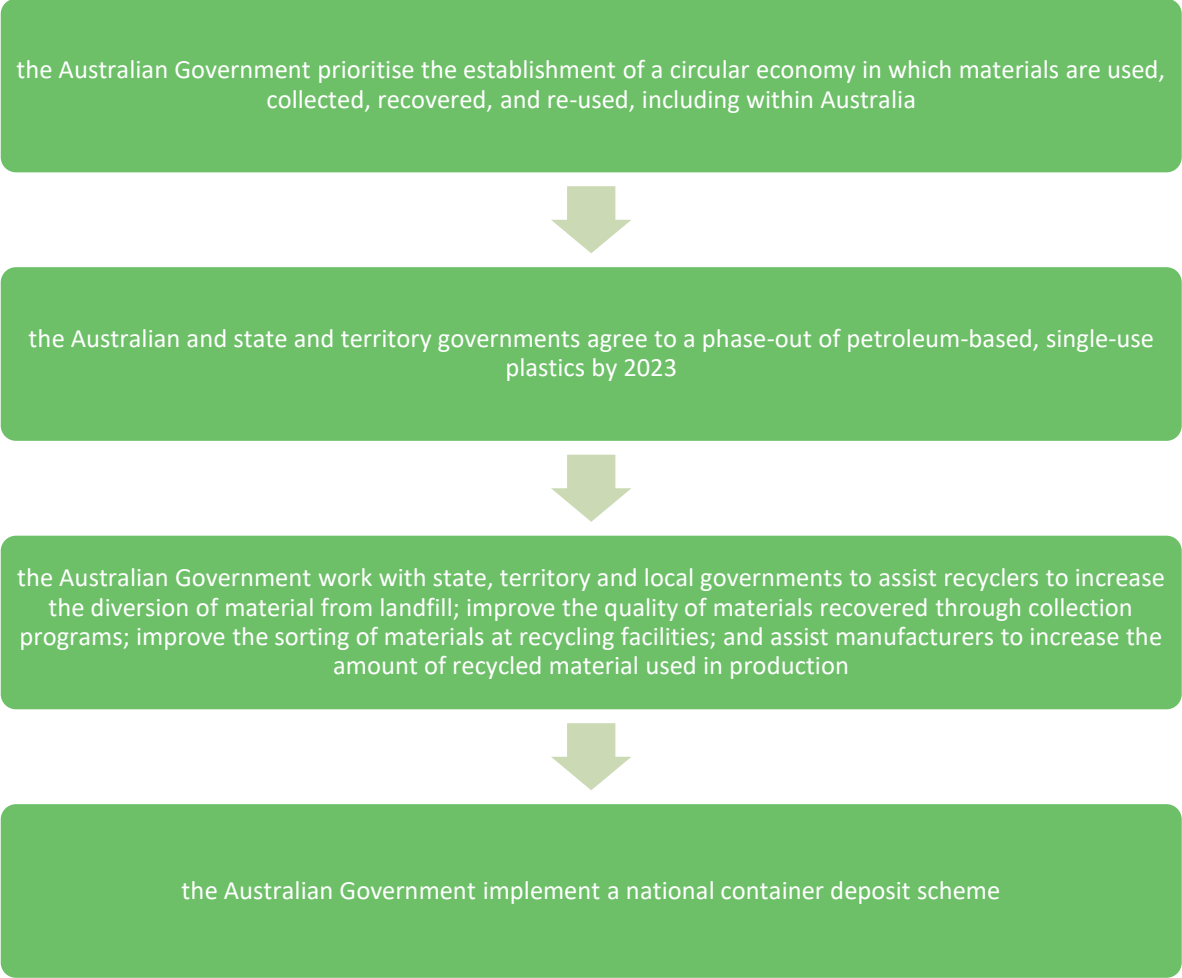
*Dante Cremasco, Executive General Manger,
Downer Roads Division*

7.7 Federal initiatives and policies

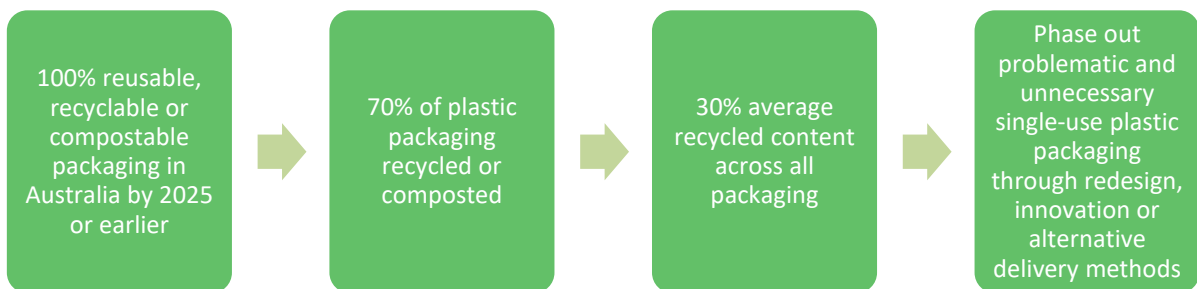
Recently, in response to difficulties faced by the recycling sector, the Federal Government has become more involved in waste, holding a Senate enquiry into the management of waste. Currently, there are no incentives from the Federal Government to encourage states to recycle, however recommendations from the enquiry include that:

⁵⁹ <https://www.canberratimes.com.au/story/6001978/chinas-waste-ban-starts-to-bite-at-acts-largest-recycling-centre/>

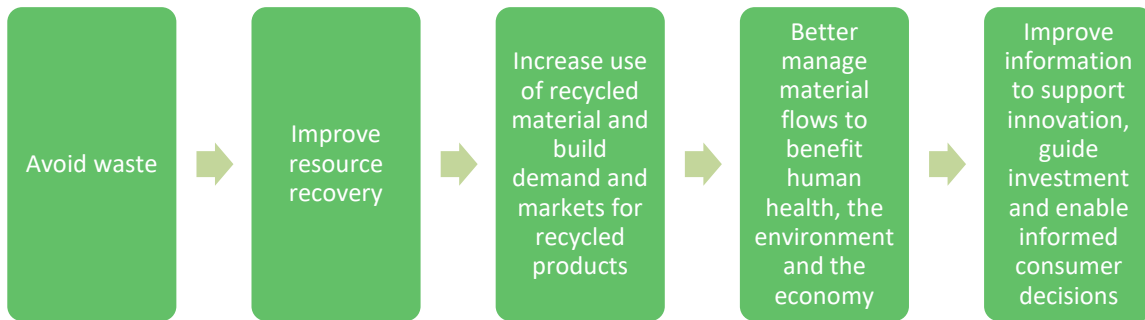
⁶⁰ <https://www.insidewaste.com.au/index.php/2019/03/15/act-trialling-new-asphalt-made-from-recycled-materials/>



National packaging targets have been set, to be met by 2025 and implemented by APCO. These are:



In 2018 the federal Department of Energy and the Environment published a National Waste Policy. The five main areas in the Policy are:

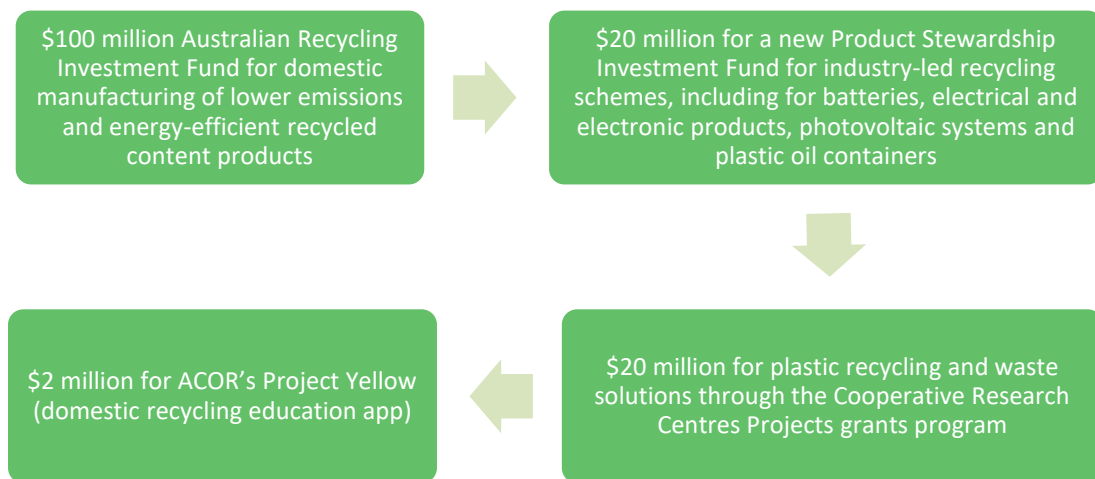


The state and territory Environment Ministers agreed to develop a National Waste Action Plan with associated funding, milestones and targets, including the following:⁶¹



However, agreement on targets could not be reached, and the process appears to have stalled.⁶²

Prior to the 2019 federal election the recently elected Liberal party stated the following policies on waste:



“One of the biggest Federal Government grants is to local councils for roads. If they mandated the use of recycled content, boom — there goes demand increasing overnight”

Gayle Sloan, WMRR CEO

⁶¹ <http://wastemanagementreview.com.au/meeting-of-environment-ministers-dec-2018/>

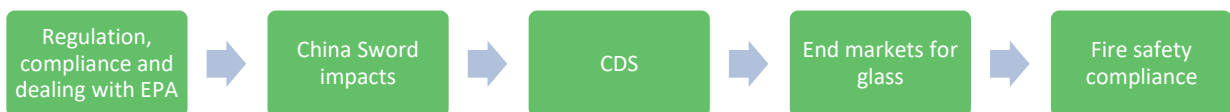
⁶² <http://wastemanagementreview.com.au/meeting-of-environment-ministers-dec-2018/>

After the May 2019 election, Sussan Ley has been appointed as Minister for the Environment and Trevor Evans as Assistant Minister for Waste Reduction. This is the first time a Federal Minister has had direct accountability for waste issues.






In August 2019, the Council of Australian Governments agreed to formulate a timetable to ban the export of recyclable waste from Australia.

8 Recommended actions for WCRA

Forty-one actions are proposed for WCRA in order to assist members with their top five concerns (re-iterated below):



When members were consulted on how best WCRA can assist them, they stated the following:


-  Be the voice of industry
-  Lobby new environment minister; get past the bureaucrats and raise issues with active and engaged politicians
-  Seek commitment from leaders in state government that they will work collaboratively with industry
-  Get a coalition of stakeholders to plan and take action to address the issues faced by the industry
-  Harmonise the messages of key industry groups through common members



The proposed actions, shown in Table 11 below, have been developed with consideration of this input from members.

Table 11 Proposed actions to support members

Theme	WCRA member issue	Summary of issue	Proposed WCRA actions	Action number
CDS	Revenue sharing agreements between MRFs and Councils	<ul style="list-style-type: none"> Significant number of Councils do not have revenue sharing agreements with MRF. Concerned re risk of negative revenue. Lack of transparency on which Councils have and have not signed a revenue sharing agreement 	Establish the number of Councils who have not signed a revenue-sharing agreement (contact EPA as a first point).	1
			Estimate the annual value of CDS rebate available to MRFs (i.e. the amount available for sharing with Councils per year).	2
			Discuss with Local Government NSW (Susy Cenedese And Liz Quinlan) how Councils can be encouraged to sign revenue sharing agreements, and any insights into how to approach Councils regarding this issue. Use this opportunity to reiterate with LGNSW that councils purchasing recycled products will stimulate end markets and ensure kerbside recycling remains viable	3
			Prepare a template Council resolution to assist Councils in expediting the signing of revenue-sharing agreements. Use the guidance document prepared by lawyer Ross Fox.	4
CDS	Transport between MRFs	<ul style="list-style-type: none"> If kerbside recycling is unloaded at a MRF, MRF can claim CDS refund if it has revenue agreement with council. If product re-loaded to another MRF, second MRF is unable to claim refund under MRF protocol. Exchange for Change commented that if nothing is processed at the first MRF and the first MRF doesn't claim, and if the second MRF has revenue sharing agreements with Councils, then MRF protocol could possibly be changed to make second MRF able to claim. The MRF protocol states that "The Protocol will be reviewed, at a minimum, within 5 years of its publication, but may 	Form a mini working group of MRF operators to determine strategy (done).	5
			Once strategy is determined, approach EFC and Ministerial Advisory Committee (MAC) Chair (Tony Wilkins) regarding updating the MRF Protocol, ensuring that their concerns about double dipping are addressed.	6
			Encourage MAC and EFC to jointly approach EPA regarding updating the MRF protocol.	7
			Continue to educate the NSW Minister for Energy and Environment regarding CDS issues affecting the waste and recycling industry.	8

Theme	WCRA member issue	Summary of issue	Proposed WCRA actions	Action number
		be reviewed more frequently when considered appropriate by the EPA”		
CDS	Transparency in CDS data	<ul style="list-style-type: none"> • MRFs, similarly to Councils, feel that data is not shared. • Exchange for Change expressed willingness to share data on trends in beverage container redemption with industry. 	Approach EFC regarding data sharing. Consider subsequent joint representation to EPA with LGNSW and EFC.	9
			Approach EFC regarding setting up a quarterly meeting with EFC and WCRA members at which EFC can explain data trends to members.	10
			Advertise these quarterly sessions to make sure members attend; could include this in existing member forums for efficiency.	11
			Seek release of individual MRF audit data to the MRFs that were sampled. Approach EFC as a first step.	12
CDS	Transparency in CDS data	<ul style="list-style-type: none"> • MRFs don't understand rationale for which MRFs/Council are audited each quarter and how the sampling plan is developed. • APC and EFC explained that the sampling plan is done by EPA's statistician and approved by Ministers Advisory Committee. • Lack of understanding of the method of determining the eligible container factor 	Anne Prince to send sampling plan (already in public domain) to WCRA (done).	13
			WCRA to distribute the sampling plan to members (done).	14
			The first quarterly data-sharing meeting could include an introductory session explaining the sampling regime.	15
			Request from EPA the list of which MRFs and Councils were sampled each quarter (e.g. could be released at the same time as the factor is released).	16
Regulation /compliance /EPA	EPA not commercially focussed	<ul style="list-style-type: none"> • EPA does not understand what is important to the waste and recycling industry • Members feel that EPA stifles innovation • Members feel that EPA has entrenched mentality and culture 	Find out when the next intake of EPA Board members is.	17
			Determine a shortlist of candidates with industry experience (for example, Dr Tony Wilkins) who WCRA thinks would represent industry's industries on the EPA board, approach them to discuss.	18
			Lobby the NSW Minister for Energy and the Environment to diversify the EPA board to include waste industry experience.	19

Theme	WCRA member issue	Summary of issue	Proposed WCRA actions	Action number
		<ul style="list-style-type: none"> No practical waste knowledge on the EPA board. EPA primarily concerned with compliance and licence conditions rather than industry development. Concern that level playing field not applied in the waste sector 	<p>Keep abreast of permanent appointment of CEO or CEO/Chair of EPA (Mark Gifford currently acting in the role), as well as other key appointments and any re-structure.</p>	20
Regulation /compliance /EPA	Resource Recovery Orders and Exemptions	<ul style="list-style-type: none"> The ability for EPA to change Resource Recovery Orders and Exemptions with no notice undermines investor confidence 	Write to the NSW Minister for Energy and Environment to bring members' concerns regarding Resource Recovery Orders and Exemptions to his attention. Refer to Ross Fox position paper on this issue if applicable.	21
Regulation /compliance /EPA19	Delays in approvals for waste and recycling facilities	<ul style="list-style-type: none"> Member frustration at dealing with multiple agencies Member frustration in timeframes for approvals Member dissatisfaction with the new Key Agency Liaison Group, in that applications end up back to individual department with the same barriers Planning assessors have limited waste knowledge, need educating; competing demands. 	<p>Establish an initial meeting with EPA and Planning (the Key Agency Liaison Group), on behalf of all the waste industry groups, to discuss the length of time that waste facility approvals take. Provide examples.</p> <p>Arrange site tours of waste facilities to educate and inform planners on the facilities, operations, impacts. Felicity Greenway in the Planning function of the department has a good understanding of waste and recycling approvals and could be approached as a starting point.</p>	22
			 <p>Felicity Greenway - 2nd Executive Director at NSW Department of Planning and Environment</p>	23
Regulation /compliance /EPA	20-year strategy	<ul style="list-style-type: none"> Lack of consultation with industry regarding the 20-year strategy 	Develop a 'hit list' of the 5 top ideas that all members can support and take them to EPA (Molly Tregoning) directly as well as via upcoming EPA organised consultation sessions. Keep WCRA input simple and specific. Give EPA direct actions rather than vague guidance.	24
Regulation /compliance /EPA	Inability to effectively	<ul style="list-style-type: none"> EPA is difficult to engage and consult with 	Maintain regular fortnightly communication between WCRA, ACOR, WMRR and EPA's Chair/CEO. Establish a formal agenda for these meetings and document minutes and actions (with associated timelines).	25

Theme	WCRA member issue	Summary of issue	Proposed WCRA actions	Action number
	influence state government	<ul style="list-style-type: none"> Multiple industry associations lobbying the same stakeholders creates confusion and dilutes the messages of each group. Groups include WCRA, WMRR, ACOR and NWRIC There is a new environment minister, and everyone will be lobbying him independently. Previously served as the Minister for Innovation and Better Regulation from January 2017 until March 2019. Accounting background. Likes cricket. 	Lobby for re-establishment of quarterly meetings between EPA CEO/Chair, EPA board representative and industry peak bodies (NSW representatives).	26
			<p>Anissa Levy, formerly acting head of the EPA, is now Co-ordinator General for Environment, Energy and Science in the Department of Planning, Industry and Environment; her understanding of waste and EPA makes her a good target for promoting WCRA's message within this new 'mega-agency'.</p> 	27
			<p>Also target the new Minister for Energy and Environment, Matt Kean. Focus on job creation. He is engaged on waste issues, and his Chief of Staff Christian Dunk is also accessible. The Minister has brought three of his former innovation team across from the former Innovation and Better Regulation portfolio.</p> 	28
			Co-ordinate lobbying efforts with other industry groups where interests are aligned, to avoid overloading recipients with multiple messages. Recommend to NWRIC that they regularly engage the NSW representatives of the other industry groups.	29
			Support Project Yellow Sail (EPA, ACOR and Federal Government) by encouraging council customers to sign up/participate.	30
China Sword	Contamination in incoming kerbside recycling hinders product quality	<ul style="list-style-type: none"> Need to lower contamination in incoming recycling Householders need to know what can and can't be placed in the kerbside recycling bin Contamination in recycling bins is costly to remove 	Send a press release and letter to EPA, ACOR and Federal Government congratulating them on funding Project Yellow Sail and their leadership on this project.	31
			Engage with APCO and offer to educate their members on the practical recycling implementation of packaging design. This project has been	32
China Sword	Many products aren't recyclable	<ul style="list-style-type: none"> A product that is made from 2 or more different materials will be difficult to recycle. For example, a plastic water 		

Theme	WCRA member issue	Summary of issue	Proposed WCRA actions	Action number
		<p>bottle is made from PET, the plastic lid and neck are made from a different plastic and there is a stick-on label made from plastic film. Small items such as plastic lids will get caught in recycling screens or end up in mixed paper</p> <ul style="list-style-type: none"> All products should be designed and manufactured so that at the point of disposal all of the raw material in the product can be recovered and recycled. 	<p>undertaken previously aimed at packaging designers, by touring MRFs and explaining the constraints in recycling certain packaging types.</p>	
China Sword	Improving product quality at MRFs is expensive	<ul style="list-style-type: none"> Need to lower contamination in outgoing products Better quality recovered materials will ensure that recycled materials can be better marketed on both the national and international commodity markets Improving product quality in expensive The NSW Government receives an estimated ~\$750 million pa. via the waste levy; Approx. 15% of this waste levy is hypothecated back to the waste management industry whilst the balance (~\$630 million pa) stays with NSW Treasury 	Lobby for sufficient funding for waste and recycling, through levy hypothecation, re-allocation of WLRM funding, or other means.	33
			Encourage members to apply for Waste Less Recycle More funding in equipment to achieve better sorting and recovery quality (funding goes until 2021)	34
			Lobby for regulated minimum quality standards for recycled products produced by MRFs, to be included as a condition of EPA licence.	35
China Sword	Issues are changing and evolving	<ul style="list-style-type: none"> International markets continue to restrict imports of recyclables 	WCRA to form a reference group of MRF operators to monitor issues & re-assess actions and strategy as issues evolve	36

Theme	WCRA member issue	Summary of issue	Proposed WCRA actions	Action number
End markets for glass	Need to create market pull for recycled products	<ul style="list-style-type: none"> Govt wants industry to make markets, not government In promoting recycled glass use in roads, EPA has no authority/influence over RMS. Local Govt already has a specification for recycled product use, but engineers are reluctant to use it due to risk and pre-existing arrangements with suppliers. Local government in NSW has an estimated expenditure of \$10 billion.⁶³ 	Attend the NSW EPA Opportunities and Barriers for Recycled Crushed Glass on Monday 24 June 2019 to determine current status of end uses for recycled glass.	37
			Lobby government at all levels (including Anissa Levy and NSW Premier) to mandate the prioritisation of recycled content in all government purchases. Focus on glass as a first priority. Co-ordinate with other industry groups to ensure consistency of message.	38
Fire safety regulation of waste facilities	Current draft <i>NSW Fire Safety in Waste Facilities Guidelines</i> are too onerous	<ul style="list-style-type: none"> Current draft Guidelines will have high cost of compliance Stockpile size, shape, testing and movement restrictions, and areas required for quarantine, will have high operational burden Good operators will be penalised, unlicensed operators will benefit 	Make a submission of behalf of members to draft guidelines (done).	39
			Provide training for members on the final guidelines. Review the training material already developed by WCRA Victoria to determine if some of this can be re-used for NSW.	40
			Approach Fire and Rescue NSW for clarification on finalised guidelines if required.	41

⁶³ Local Government NSW <https://www.lgnsw.org.au/policy/response-china%E2%80%99s-national-sword>

9 Appendix A NSW CDS eligible containers

Table 12 Eligible beverage containers

	Included in the NSW Container Deposit Scheme							
	Excluded from the NSW Container Deposit Scheme							
MATERIAL CATEGORY	0 –150ml	>150 – 500ml	>500ml – 1L	>1L – 1.5L	>1.5L – 2L	>2 – 2.5L	>2.5L – 3L	>3L
Aluminium								
Alcoholic drinks (including mixers, beer cans and ciders)								
Flavoured water and soft drinks (carbonated/non-carbonated)								
Other								
Steel								
Alcoholic drinks (including mixers, beer cans and ciders)								
Flavoured water and soft drinks (Carbonated/non-carbonated)								
Other								
LPB								
Milk								
Flavoured milk and fruit juice (>90% fruit &/or Veg juice))								
Fruit drink, flav water/sports drink, non carb/carb								
Other								
HDPE								
Milk								
Flavoured milk and fruit juice (>90% fruit &/or Veg juice))								
Flav water/ sports drink etc (non-carb/non carb), plain water, fruit drink								
Drink pouches								
Other								
PET								
Milk								
Flavoured milk and fruit juice (>90% fruit &/or Veg juice))								
Flav water/ sports drink etc (non-carb/non carb), plain water, fruit drink								
Drink pouches								
Other								
Plastic other								
Milk								
Flavoured milk and fruit juice (>90% fruit &/or veg juice))								

MATERIAL CATEGORY	0 –150ml	>150 – 500ml	>500ml – 1L	>1L –1.5L	>1.5L – 2L	>2 – 2.5L	>2.5L – 3L	>3L
Flav water/ sports drink etc (non-carb/non carb), plain water, fruit drink								
Drink pouches								
Wine bladders								
Other								
Glass								
Alcoholic drinks (including mixers, beer cans and ciders)								
Flav water/ sports drink etc (non-carb/non carb), plain water, fruit drink								
Wine (glass only)								
Wine cooler								
Spirit								
Other								

10 Appendix B Grant recipients: NSW \$47m China Sword response package

Program	Recipient	Amount	Description
Civil construction markets	Lendlease Engineering	\$107,636	The project will use recycled glass from Lismore Council in pavement concrete on three trial sites as part of the Woolgoolga to Ballina Pacific Highway Upgrade.
	Canterbury-Bankstown Council	\$179,500	Trialing the use of recycled glass in the production of road base. The project will test specifications and trial use in the Council's road construction projects.
Circulate Industrial Ecology	Cross Connections Consulting Pty Ltd	\$150,000	A regional, Hunter-based pilot which will collect soft plastics from businesses fortnightly. The plastics will be processed and used to make benches, garden beds and fencing.
	Stephen Consulting Group Pty Ltd	\$110,000	This project will commission a customised mobile baler, designed specifically to bale soft plastics. They will be dry cleaned and reprocessed into cable covers, garden edging and root guard.
	Centre for Organic Research and Education	\$97,500	The project will develop methods to substitute the use of sand in the manufacture of biofiltration technology for runoff water treatment, instead using organics, wood, timber and mixed cullet glass fines.
	Pelican Head Resources Pty Ltd	\$150,000	The project will research and demonstrate that paper mill waste can be used to rehabilitate sulfidic mine sites dams where acid drainage can be an issue.
	Bottlecycler Sydney North t/a European Baler Rentals (EBR)	\$125,000	Will establish a network of commercial and industrial sources of plastic milk bottles and develop a logistics network to facilitate recycling the bottles into virgin-replacement resin.
	Closed Loop Environmental Solutions Pty Ltd	\$115,000	Simply Cups is an existing coffee cup recycling program. The project will look to increase the quantity of coffee cups collected for reprocessing from office buildings as well as collection places in public spaces such as shopping centres, entertainment precincts, airports, hospitals and other businesses.
	Life Cykel	\$120,000	Life Cykel will use shredded textile waste, mainly composed of cellulose in cotton and carbon, to grow edible mushrooms and produce a mushroom soil amendment material.
	Good360 Australia Pty Ltd	\$148,446	The project aims to identify and recover unsold non-perishable personal care items, currently stored in warehouses, back into the productive economy. Materials will be redirected for social benefit through refuges and shelters.

Program	Recipient	Amount	Description
	Vinidex Pty Ltd	\$150,000	Residual Polyvinyl chloride from construction and demolition and commercial and industrial waste streams will be collected and processed for use in the production of plastic pipes and fittings - closing the loop on finite resources.
	WastePro 3BL Pty Ltd	\$149,725	This project will establish a model and technology platform to enable the regional collection and processing of Expanded Polystyrene on the Central Coast. It will engage social and disability enterprises to enable meaningful work and revenue streams. It aims to demonstrate a successful platform and business model for state-wide rollout.
	Winya Indigenous Furniture Pty Ltd	\$75,000	Up to 99 percent of used office furniture is currently sent to landfill. Used office furniture will be collected and disassembled, the metal recycled, and the melamine removed. Medium density fibreboard and particleboard will be recycled into e-board for use in new office furniture by Indigenous staff.
Product Improvement Program	Astron Plastics	\$407,500	Astron Plastics' Ingleburn facility processes post-industrial plastic scrap into recycled resin. The facility is seeking to expand its operations to include the reprocessing of kerbside HDPE and PP from MRFs in addition to its current operations and will be able to process an additional 1,200 tonnes per annum of post-consumer plastics into recycled resin. Importantly, this project will enable Pact Group to increase the proportion of locally manufactured recycled resin, replacing imported virgin resin used in packaging manufacture.
	Dunlop Flooring	208,822	Dunlop Flooring will purchase equipment that will help boost the recycling of foam waste materials and increase its reprocessing capacity from 5,000tpa to 10,000tpa. The new equipment will allow additional materials to be reprocessed and reduce current costs to reprocess waste foam.
	Lismore City Council	\$250,000	Lismore City Council will make improvements at its MRF to reduce the cross contamination of recyclables. Improved technology on glass processing and washing will result in a greater marketability of recyclables from this regional MRF that services four Council areas across the Northern Rivers Region of NSW
	Lockhart Shire Council	\$221,850	Lockhart Shire Council's project involves using a Pugmill to reprocess crushed glass from local MRF and blending it with gravel from Councils gravel quarries into manufactured road base materials to use on its local road network
	Pelletek Enviro	\$211,000	This project aims to increase the diversion of HDPE plastics from landfill including materials impacted by China's National Sword policy. Pelletek will purchase extruding equipment for processing granulated recycled HDPE materials and manufacturing extruded pellets for use as a feedstock in agricultural fence products. This guarantees a high-quality feedstock supply to Pelletek's customers, giving them more control over the manufacturing process to achieve efficient processing and expansion of current end markets.
	Plastic Forests	\$499,982	Plastic Forests requires additional equipment at its regional facility to increase its capacity to produce resin by reprocessing distressed and stockpiled plastic films resulting from China's National Sword policy. The installation of a new cutter compactor resin extruder, film pre-sorting station, additional storage for both unprocessed baled

Program	Recipient	Amount	Description
			film and finished resin, and additional materials handling equipment, will see an additional 3,000+ tonnes of plastic film diverted from landfill. The resin will be sold locally, exported or manufactured into a range of value-added sheet products.
	SUEZ	\$355,000	SUEZ's Moruya MRF processes domestic recyclables from Eurobodalla Council. Currently, their paper product contains 6% contamination, some paper is lost to the container line, and the landfilled residual contains up to 30% unrecovered paper. SUEZ proposes to install a ballistic separator to increase the recovery of paper and reduce contamination in the paper and plastic outputs. This will result in higher sale prices for paper and plastic, and greater recovery of material through the process. The paper output will meet the 0.5% contamination level now required for export to China.
	SUEZ	\$1,000,000	SUEZ produces a mixed paper output product from incoming domestic kerbside commingled recycling, at its Spring Farm MRF. The paper product previously exported to China, contains 10% contamination. Since the new 0.5% contamination limit set by China as a result of the National Sword initiative, the mixed paper product is being sold at unsustainably low prices to vulnerable local end markets. This project involves the installation of further paper processing equipment, to reduce the contamination in the paper output from 14% to 3%, to meet quality requirements for profitable sale to local paper mills as well as export to Thailand, Vietnam and Malaysia.
	Unilever	\$500,000	Unilever will accelerate local demand for Australian-sourced recycled HDPE plastic by introducing at least 25% recycled plastic, into its packaging for their home and personal care range, which is manufactured in their North Rocks factory. This will require investment of significant capital expenditure for new bottle moulds that can handle recycled plastic resin, and associated layering technology, and will allow them to achieve even greater recycled content in the future. The new recycled packaging will improve capability and increase demand within NSW for plastics recovered and recycled through households.

11 Appendix C Grant recipients: Other NSW resource recovery grant programs

Table 13 Recent government funding for waste projects

Program	Recipient	Year	Project	\$	Primary source
WLRM Material Recovery Facility Expansion and Enhancement Fund	SUEZ	2018	Spring Farm MRF optical sorters for further recovery of HDPE and mixed plastics	\$260,000	Domestic recycling
WLRM Major Resource Recovery Infrastructure Fund Round 3	Polytrade	2017	Enfield glass beneficiation	\$4,999,039	Domestic recycling
WLRM Major Resource Recovery Infrastructure Fund Round 3	Polytrade	2017	Rydalmere plastics processing into flakes/pellets	\$4,999,173	Domestic recycling
WLRM Major Resource Recovery Infrastructure Fund Round 3	Remondis	2017	Kurnell Resource Recovery Centre RDF production	\$5,000,000	Commercial residual
WLRM Major Resource Recovery Infrastructure Fund Round 2	Genesis / Dial-a-Dump	2014	C&I MRF Eastern Creek	\$5,000,000	Commercial residual
WLRM Major Resource Recovery Infrastructure Fund Round 2	Doyle Bros	2014	C&I MRF	\$1,000,000	Commercial residual
WLRM Major Resource Recovery Infrastructure Fund Round 2	Newcastle Council	2014	Summerhill C&I MRF	\$1,937,500	Commercial residual
WLRM Major Resource Recovery	ResourceCo	2014	Processed Engineered Fuel facility	\$500,000	Commercial residual

Program	Recipient	Year	Project	\$	Primary source
Infrastructure Fund Round 2					
WLRM Major Resource Recovery Infrastructure Fund Round 1	Global Renewables	2013	Eastern Creek UR-3R facility RDF circuit and expansion	\$5,000,000	Domestic residual
WLRM Resource Recovery Expansion and Enhancement Round 4	Byron Shire Council	2017	Enhancement of the Byron Resource Recovery Centre	119,602	Domestic recycling
WLRM Resource Recovery Expansion and Enhancement Round 4	Shoalhaven Recycling	2017	Shoalhaven Recycling MRF Enhancement and Expansion	921,678	Domestic recycling

12 Appendix D Grant recipients: Victoria Recycling Industry Transition Support grants⁶⁴

Applicant	Project overview	Funding
Polymer Processes Pty LTD	<p>The commissioning of plastic washing equipment that can accept a wider range of plastic materials. Upgrading the treatment of wastewater from the wash plant, resulting in the production of higher grade outputs. The new equipment will increase processing capacity by 800kg/hr for plastics.</p> <p>Once operational the upgraded facility will be capable of reprocessing plastics of various polymers into valuable commodities, which can then be used as alternatives to virgin materials in the manufacture of new plastic products both locally and internationally.</p>	\$500,000
Australian Paper Recovery Pty Ltd	<p>Installation of sorting and compaction equipment for waste paper that will have the capacity of processing 39,000 tonnes annually.</p>	\$475,000
Polytrade Recycling	<p>The installation of three plastic sorting machines to reprocess 10,400 tonnes annually of mixed plastics sourced from domestic recycling, into commercially saleable plastic products.</p> <p>The machines will separate the mixed plastics into PE, HDPE, PVC/PP and PS. Unlike mixed plastics, these separated outputs will meet the quality requirements of buyers in Malaysia and Hong Kong, effecting an increase in the ability to process mixed plastics to a commercial grade in Victoria.</p>	\$500,000
Tambo Waste Pty Ltd	<p>Upgrade existing MRF to include equipment to reduce contamination of PPC and increased capacity by 5,000 tonnes annually.</p>	\$130,000
Branin Pty Ltd	<p>Branin is establishing EcoUnpack as an innovative, long term, domestic solution for recycling complex, plastic food packaging. The funding will support the sustainable recycling of over 200,000 tonnes per annum of packaged organic food waste. 7,000 tonnes per annum of plastic will be reprocessed.</p>	\$500,000

⁶⁴ <https://www.sustainability.vic.gov.au/recyclingsupportgrants>

13 Appendix E APCO 2019 projects mapped by working group

Theme	Project	Description	Start Period	APCO Working Group
Data analysis & strategic planning	1. Packaging Baseline data	1.1 Packaging consumption and recycling	Q1 2019	National Packaging Targets Implementation Working Group
		1.2 Infrastructure mapping	Q1 2019	
		1.3 Economic analysis of alternative collection systems and end markets	Q1 2019	
	2. Public statements on specific materials	Five reports and webinars on outcomes of 2018 problematic packaging working groups	Completed	
	3. White paper on problematic and unnecessary packaging	Paper to identify target products/materials and build the case for phase-out	Q1 2019	
4. Scenarios for the future: Options to deliver resource recovery systems for used packaging materials in Australia	Strategic analysis of current resource recovery systems to identify opportunities to nationally align and improve recovery rates for used packaging materials in Australia.	Q2 2019		
Packaging design	5. Resources to support the Sustainable Packaging Guidelines	5.1 Quick Starts: (i) recovery pathways, (ii) glass, (iii) polymer coated paperboard (PCPB), (iv) EPS, (v) PET, (vi) labelling	Q1 2019	Design Working Group
		5.2 Design for soft plastics packaging (build on CEFLEX)	Q3 2019	
		5.3 Design for compostable packaging	Q4 2019	
		5.4 Wine packaging guidelines	Q2 2019	
	6. Food service packaging guidelines	Engagement workshops, guidelines & case studies	Q1 2019	
	7. Compostable packaging labelling program	Verifying composability claims and corresponding on pack label – potential to align with ARL	Q2 2019	
	8. Recycled content Labelling program	Verifying recycled content percentage and corresponding on-pack label – potential to align with ARL	Q2 2019	
	9. Life cycle assessment (LCA) guide	Co-branded training course with AIP, corresponding guideline to support Member	Q1 2019	
	10. Consumer education	Nationally consistent messaging to consumers on 'how to recycle right' – including the ARL	Q2 2019	

Industry engagement	11. Analysis of problematic packaging materials	Trials to investigate specific issues of sorting and recycling materials, including PCPB, composite cans and glass	Q2 2019	Working Group
	12. Pulpability trials	Trials to investigate recyclability/pulpability threshold for fibre-based packaging that has polymer coatings, wet-strength additives, non-wood fibres etc.	Q2 2019	
	13. Packaging supply chain training	Training in collaboration with AIP PREP and the ARL	Q1 2019	
	14. Models for phase out of single use plastics	I. Working with Boomerang Alliance to deliver the Plastic Free Places model to councils / communities to reduce/replace plastics II. Voluntary protocol phase out of heavy weight plastic bags	Q1 2019	
Collection & processing	15. Composting trials	Trials to test compostability of different certified materials under various conditions, addressing regulatory and historical concerns	Q2 2019	
	16. Regional model for soft plastics recycling	Working with Plastic Police to evaluate and promote a regional collection and market development model	Q2 2019	
	17. Remote/ regional waste collection partnerships	Workshop on potential partnership-based solutions to packaging waste collection in remote and regional Australia	Q2 2019	
Procurement	18. Government procurement of recycled products	Supporting government to buy recycled including case studies and technical information or considerations	Q2 2019	Materials Circularity Working Group
	19. Supply chain procurement of recycled plastic products	Case studies and workshop with APCO Members to identify and market opportunities for soft plastics	Q2 2019	
	20. EPS collection and end market pilot	Working with EPSA to document and share models to collect and Reuse/recycle EPS locally	Q3 2019	
	21. Sustainable Packaging Information and Resource Interactive Terminus (SPIRIT)	An online resource to help industry and government make sustainable purchasing choices, including recycling, recycled content, etc.	Q2 2019	
	22. Innovation Hub	Supporting and enabling innovation in Australia to address the future of sustainable packaging	Q2 2019	

14 Appendix F WCRA member survey

Survey

Current issues affecting WCRA members

Consultation with WCRA Executive and invited parties

On behalf of its members, WCRA is undertaking a project to identify the major issues currently affecting members and to formulate an action plan to help resolve these. We will use this action plan in our lobbying of government and other stakeholders for the benefit of WCRA members.

We're identifying current issues, including government responses, under the general categories of:



To help us identify and prioritise the specific issues facing members, we would really appreciate you completing the attached survey, which should take less than 2 minutes of your time.

1.	What business are you in? (tick all that apply)	<input type="checkbox"/>	MRF owner or operator
		<input type="checkbox"/>	Waste or recyclables transporter
		<input type="checkbox"/>	Producer of organic outputs from municipal solid waste
		<input type="checkbox"/>	Consulting/industry association/other
2.	What are the top 5 issues currently affecting your business, in order of priority?	1	<i>Please write issue here</i>
		2	<i>Please write issue here</i>
		3	<i>Please write issue here</i>
		4	<i>Please write issue here</i>
		5	<i>Please write issue here</i>
3.	What would you like to see government, industry or others to resolve these issues?		<i>Please write response here</i>
4.	How can WCRA assist you in resolving these issues?		<i>Please write response here</i>
5.	Any other comments		<i>Please write response here</i>