

# Information Session Outcomes

## Impact of changing international market conditions on recycling



March 2018

### BACKGROUND

In July 2017, the People's Republic of China informed the World Trade Organisation that it would ban imports of scrap plastic, mixed paper, textiles, certain metal recycling residues and all unsorted waste by the end of 2017. This Program, called National Sword, is designed to protect the environment and improve public health and follows on from Operation Green Fence, launched in 2013.

These initiatives have had a direct impact on kerbside recycling systems in Western Australia, as the end destination for much of our recyclable material is currently China and/or South East Asia. With China's implementation of its National Sword program, exporting unprocessed recyclable material directly to China is unlikely to be an ongoing option for Western Australian recyclables. The other markets WA recyclables are currently being sold into are likely to become more limited as material from other nations (previously exporting to China) seek alternative options for their recycling. The cost implications of this development on Local Governments with kerbside recycling systems is potentially significant.

On 28 February 2018 WALGA, in partnership with the Southern Metropolitan Regional Council, held two information sessions for Local Government on the impact of changing market conditions for recyclables. These sessions were attended by nearly 80 representatives from over 30 Local Governments. Information was provided on the economics of operating a Material Recovery Facility (MRF), contractual arrangements, the role of education and behaviour change initiatives and the importance of advocacy to change packaging design to ensure product are recyclable. The session also explored the options available to Local Government in responding to the changing market conditions. This Paper identifies the outcomes of the session, the actions that Local Government can take to respond to these changing market conditions and the advocacy underway to address these issues.

### SESSION OUTCOMES

Key messages from the information sessions included:

- **Keep on Recycling:** It is important for Local Governments to ensure residents continue recycling, with a focus on reducing contamination in the kerbside recycling bin. There are still viable markets for collected material.
- **Examine current Contracts:** Contractual arrangements with service providers are important. Local Governments should consider what pricing mechanism has been agreed in existing contracts and if a supplier is seeking to renegotiate ask them to open their books to justify the increase.
- **Development of Local Markets:** Urgent action is needed to develop local markets for recyclable materials, focusing on adding value to products prior to export and local uses for materials.

As a result of the information sessions, the Association will be undertaking the following advocacy with both the State and Federal Governments:

- **Development of Local Markets:** WALGA has written to the Environment Minister requesting that a Taskforce of State, Local Government and Waste Industry representatives is established to focus on the development of local processing and reprocessing options. The current reliance on international markets has created considerable risks for Local Government. The Association is in discussions with Government on how best to develop sustainable end markets and uses for recoverable material, with an immediate focus on improving the quality of material currently exported. There are also

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opportunities to support the recycling industry through the adoption of sustainable procurement practices. For example, purchasing products that contain recycled material.

- *Changes in packaging design:* WALGA will continue to advocate for changes to packaging design to ensure products are recyclable and that consistent labelling of recyclability is used by the packaging industry to assist residents with source separation.
- *Investment in community education and engagement initiatives:* It is vital that investments are made in community education and engagement initiatives. The State Government is in the process of developing a program that will facilitate the distribution of high level recycling messages to the community. WALGA will continue to support evidence based interventions which lead to measurable behaviour change.

For further information, please contact Rebecca Brown, Manager Waste and Recycling, on 9213 2063, 0407 477 074 or email [rbrown@walga.asn.au](mailto:rbrown@walga.asn.au)

## ECONOMICS OF OPERATING A MATERIAL RECOVERY FACILITY

Local Governments contracts generally include a fixed fee for the collection and processing of their kerbside recycling services. This provides budgetary certainty for the Local Government but assumes that the variables associated with processing the recyclables are operating within a 'normal' range of variation. This section of the paper explains how the economics of material recovery facilities operate to inform Local Government decision making.

### 1. Costs of Material Recovery Facility Operation

A Material Recovery Facility (MRF) has two sources of income, the fixed gate fee and the variable commodity price. The costs to a MRF are the cost of capital (borrowing to set up the facility) and the costs of operating the facility. The operating costs are influenced by the volume of material delivered to the facility, the composition of that material and the level of contamination in the material. Figure 1, shows these costs, sources of income and areas of risk.

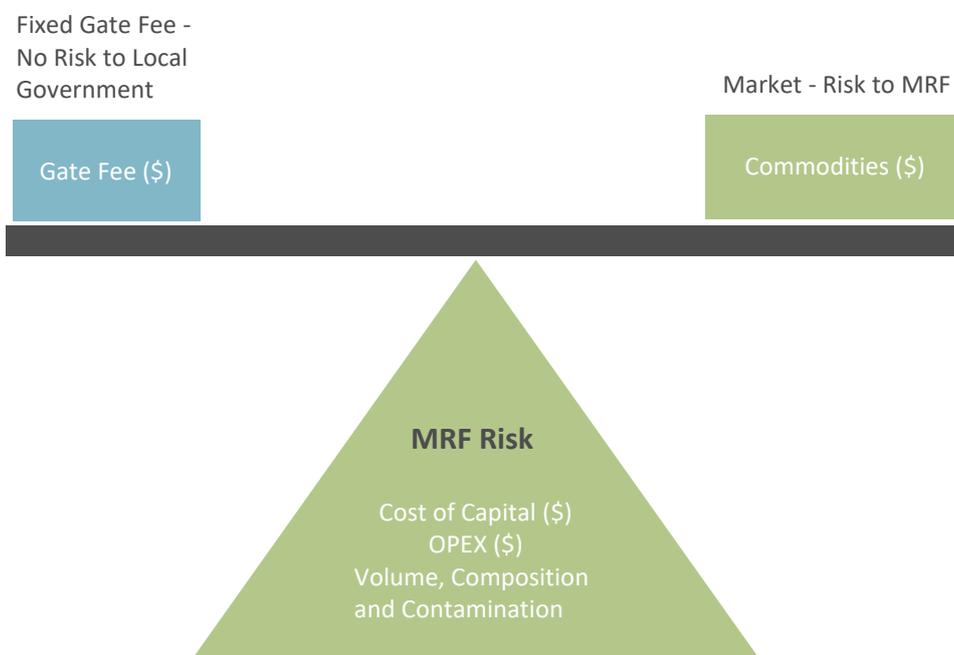


Figure 1: Income, expenditure and risks of operating a Material Recovery Facility.

The gate fee is calculated based on the commodity price operating within a certain 'band' of variation (Figure 2), however under some circumstances the variable commodity fee may drop (or increase) significantly. Which then has the potential to impact the viability of a fixed 'gate fee'.

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## 2. What can impact commodity prices?

Western Australia is dependent on international export markets for recyclable materials such as paper, metal, and plastic. The price that is paid for recyclables from Western Australia is influenced by a range of factors, including:

- The cost of virgin materials: As an example, if the price of oil is low, there will be less demand for recycled plastics when manufacturing new products.
- The cost of shipping: which can vary based on demand for shipping containers, the time of year and other commodities being imported into Australia.
- The performance of other economies: If the US and European economies are performing well, there will be increased demand for boxed products from countries such as China, and a corresponding increase in demand for recycled cardboard.
- The strength of the Australian Dollar: Many commodities are traded in US Dollars. When the AUD is low, MRF operators will receive less of a return on commodities.

All of these factors lead to a fluctuating commodity price, which can have a positive or negative impact on the bottom line of a MRF. Figure 2 shows the fluctuations in commodity prices over time for a 'basket of goods' that is the range of commodities that the MRF was selling onto the market. The 'normal' price variation is indicated by the red lines.

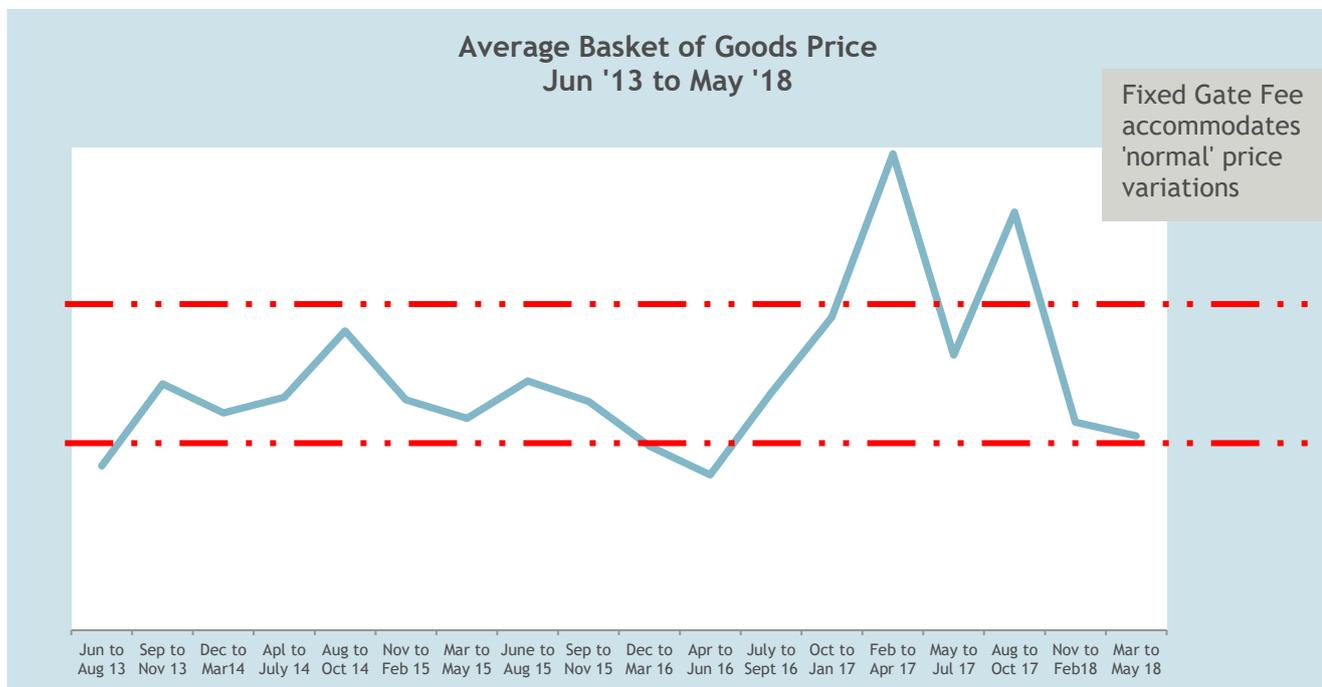


Figure 2: Average variation in commodity prices for 'basket of goods' sold

## 3. What impacts on MRF operating costs?

The other factors which impact on a MRF's operating cost are volume of material processed by the facility, the composition of the material and the contamination levels. Looking at each of the factors their impact on costs include:

- Volume of material: Some of the operational costs of a facility are likely to be relatively fixed, the more material received means costs are distributed over a greater amount of material leading to a lower gate fee. When the volume to the facility reduces, these fixed costs still have to be recovered but are then distributed across fewer tonnes leading to a higher gate fee.
- Composition of material: This has an impact because some material in the recycling bin, for example aluminium cans, have a higher value, while other material has a lower value or is more problematic to find markets for.

- Contamination: The kerbside recycling bin can contain 15-20% (or greater), by weight, of contamination. Items such as disposable nappies, hazardous waste, food and medical waste pose considerable operational risks for MRF operators and contaminate the final product. For example, disposable nappies are difficult & expensive to remove from material received at a MRF. In the event that nappies are present in material destined for export, there is a risk that the entire shipment of material will not be able to enter the destination country, due to biological hazard concerns. Contamination is also related to the design of products collected through the kerbside recycling system. Many household consumables are not easy to recycle, consisting of multiple material types.

#### 4. What is the impact of the Container Deposit Scheme on a MRFs operating costs?

At this stage the exact financial impact of a Container Deposit Scheme (CDS) on the income and expenditure of a MRF is not known. Factors which will influence the income and expenditure include:

- The percentage and type of eligible CDS material that will be diverted to other collection systems: Not all of the material currently collected through the kerbside recycling system will be eligible for a refund. For example, glass collected will include both eligible containers (e.g. beer bottles) and ineligible containers (e.g. wine bottles). In addition, some households may choose take their CDS eligible containers to a refund point, while others will put them in the kerbside recycling bin.
- The percentage of glass material received through the kerbside collection system: Current market realities mean that recycling glass comes at a cost. As a result, glass is predominately used in civil construction applications. Glass fragments are abrasive, costing MRF operators in terms of wear and tear on processing equipment. Reduction of glass in the kerbside system will potentially reduce costs to the MRF.
- The cost of complying with legislative Scheme requirements: The design of the legislative framework will directly impact on the operational costs of a MRF. This could include changes to sorting, counting, audits and administrative processes. In many cases, the recovery rate provided by a MRF to a Local Government is the overall MRF recovery rate. Regular, individual audits are the only way to determine what CDS refund could potentially be provided to an individual Local Government (an additional cost).
- A reduction in the weight of material received through the kerbside system: A reduction in the weight of material received through the kerbside recycling system will impact on MRF gate fees, which are currently based on weight as well as reducing the volume of saleable commodities such as aluminium cans.

It is important that Local Government considers how this issue will be addressed in preparation for the introduction of the CDS. Figure 3, shows the economics of a MRF with CDS included – this offers an opportunity to take a more risk and rewards sharing approach to contracting.



Figure 3: MRF economics, including Container Deposit Scheme Revenue and Operating Costs

## CONTRACTUAL ARRANGEMENTS

The Association strongly recommends that Local Governments examine their existing kerbside recycling contracts to determine what pricing mechanism is in place. Price increases can only occur in accordance with the mechanism that has been agreed to in the contract – or through an agreed change to the contract.

Through the WALGA Preferred Supplier Arrangement (PSA) for Waste Collection Goods and Services, Local Government has the opportunity to use a WALGA Standard Contract (exclusive for use with the PSA). The default price review mechanism for the WALGA Standard Contract is a CPI increase. The only other price mechanisms available in the WALGA Standard Contract relate to a change of law or force majeure, which do not apply in the current situation. Where specific pricing mechanisms have been negotiated with a contractor (e.g. rise and fall) and/or an independent contract is silent on the mechanism for price increases, these terms must be carefully examined.

Any changes to current contract prices need to be agreed to by Local Governments and, dependent on the contract, cannot simply be imposed by the Contractor. In determining whether a price increase is warranted Local Governments can request their contractor 'opens the books' to understand the justification for a proposed price increase. In doing so, it is important that a relationship based approach is used, with consideration of risk sharing arrangements and the overarching objectives and outcomes of the contract/service offering.

In establishing future contracts, opportunities exist to improve the transparency of costs reflected in a proposal by disaggregating quotes and uncoupling the costs of collection and processing. Isolating the component costs of collection and processing recycling on a per tonne basis will allow the impact of any processing cost increases to reflect actual costs and risks to contractors. Separating processing and collection costs could also allow alternative, cost competitive, collection options to be identified for future consideration.

There is also the option of including rise and fall clauses in the contract, so that if the price of commodities rises (and when the CDS is implemented) there would be 'reward sharing' however, if the price of commodities falls below an agreed level there would be a risk sharing element.

**For further information on contracting and procurement options, please contact Dale Chapman, Procurement and Category Manager on 9213 2095 or email [DChapman@walga.asn.au](mailto:DChapman@walga.asn.au).**

## COMMUNITY ENGAGEMENT & BEHAVIOUR CHANGE

To reduce contamination, and increase the value of material received through the kerbside recycling bin, it is vital that both the State and Local Government invest in evidenced based community engagement and behaviour change initiatives. One such initiative that has been extensively used in Western Australia is the Bin Tagging Program. Bin Tagging is a direct, household by household intervention with a proven track record of increasing resource recovery and reducing contamination in the kerbside bin system.

WALGA has worked with a number of Local Governments to implement the Bin Tagging Program, including the Cities of Joondaulp, Rockingham, Cockburn, Kwinana, Towns of Bassendean, Cambridge and Mosman Park and Shires of Capel and Pingelly.

Bin auditors conduct a simple visual assessment of the contents of each bin presented at the kerbside (prior to collection). Information on performance is then captured, with direct feedback provided to residents on the contents of waste, recycling and greenwaste/organics bins by placing a tag on each bin. The tags provide specific feedback on the contents of the bin as well as some general guidance on what can and can't be placed in the kerbside bin.

The Program is structured in such a way that both incentives and enforcement options are used to encourage appropriate source separation practices. Enforcement occurs at the end of the tagging period and is only used when bins are severely contaminated.

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Further information on the Bin Tagging Program is available from the WasteNet Website <http://www.wastenet.net.au/bin-tagging-program.aspx>.

## ADVOCACY FOR PRODUCT CHANGE

Local Government has very limited control on the type of products that are developed, and the primary driver for product design is not likely to be recyclability. To ensure that resources can be recovered long term it is important for products to be redesigned with resource recovery as the foremost consideration.

WALGA will be working to engage the State and Federal Government and the Australian Packaging Covenant (APC) to ensure that design for recyclability is a requirement for their APC members (the major packaging manufacturers). There is also a need to assist the community to understand if material is recyclable through the kerbside recycling system. This could be facilitated by consistent labelling for recyclability. An Australian Recycling Label does exist but is currently only a voluntary labelling system (see Figure 4 for an example of the label). More information is available on the labelling system from the Planet Ark website <http://planetark.org/recyclinglabel/>



Figure 4: Example of the Australian Recyclability Label (from Planet Ark website).

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