Introduction of Flexible Plastic Packaging in Kerbside Recycling Services

Funded through the Metropolitan Local Government Waste and Resource Recovery Fund

Final report

Prepared by
Boroondara City Council
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The Metropolitan Local Government Waste and Resource Recovery Fund

The Metropolitan Local Government Waste and Resource Recovery Fund (Metro Fund) is a Victorian Government initiative aimed at assisting councils in metropolitan Melbourne to implement best practice waste collection and management systems in line with the 2009 Metropolitan Waste and Resource Recovery Strategic Plan (Strategic Plan).

The Metro Fund is administered by the Metropolitan Waste and Resource Recovery Group (MWRRG). For more information please visit www.mwrrg.vic.gov.au.
1 Executive summary

In Australia, flexible plastic packaging use is estimated by industry sources at 300,000 tonnes annually\(^1\). Most of this is imported around products or as packaging film. It is used for freight packaging, retail carry bags and for product packaging ranging from bread, rice, fruit and vegetables to computers, mattresses, potting mix and pet food.

In 2012, the Metropolitan Local Government Waste and Resource Recovery Fund (Metro Fund) funded a 20-week flexible plastics trial across 900 households in the City of Darebin. This project tested whether kerbside recycling of plastic bags consolidated by the householder can overcome collection and sorting barriers to recovery of flexible plastic products. The results showed strong participation, low contamination and efficient sorting. The recorded participation rate was 30% each week with over 60% of households indicating that they had participated at some time in the trial. Bags collected weighed between 150-200g, indicating that participating households would recycle 8-10kg of packaging annually.

In 2016, flexible plastics recycling was introduced across four council municipalities in metropolitan Melbourne with funding again provided from the Metro Fund. This introduction, across Boroondara City Council, Nillumbik Shire Council, Cardinia Shire Council and Hobsons Bay City Council, allowed 170,000 households to consolidate flexible plastics into a plastic bag for disposal into their kerbside recycling bins. Post-project audits reported that flexible packaging made up 22% of the general waste stream and 9% of the recycling stream by volume.

Councils, industry and State Government collaborated on the project and a project steering committee was formed. The committee included representatives from each of the four councils involved plus the Metropolitan Waste and Resource Recovery Group (MWRGG), Sustainable Resource Use (SRU) and SKM Recycling. The Australian Packaging Covenant (APC) was actively involved in the steering committee until June 2016.

The flexible plastics kerbside recycling service was launched in the municipalities of Cardinia, Hobsons Bay and Nillumbik in November 2016 and in Boroondara in February 2017 via a municipality-wide household education campaign. The staged launch corresponded with timing for Council elections and involved the distribution of household information packs.

The packs included an introductory letter from Council outlining the initiative and provided details on the scope of the collection. Each household was also provided with 10 sample bags that could be used initially to get residents started in bagging their flexible packaging. The message displayed on the provided bags was an important educational tool. The new service was enthusiastically welcomed by the community with unprecedented social media activity and direct positive feedback to councils.

The post-project audits found that an average of 28% of the 400 audited households participated in the kerbside flexible plastics recycling program. At this level of householder recycling, an estimated 47,600 households were participating each week. Audits indicated 10-20% of households presented more than one bag of material with each fortnightly recycling collection. Audits also showed an average of 16 items per bag recycled. Based on this, an estimated 25 million items of plastic packaging will be recycled in the first year from these four councils.

The material recycled was a broad mix of packaging: HDPE carry bags (25%), LDPE carry bags (5%), fresh produce bags (10%), product packaging (40%), trays and punnets (10%) and other film such as stretch wrap and bubble wrap (10%).

Based on an average 28% recycling rate and an annual yield per household of 6.5 kg, the estimated yield of recycling of flexible plastic packaging is 371 tonnes. Participation is expected to build over time backed by further reinforcement of messages by Councils and retailers. As participation grows over the near future, the total yield over the first three years is anticipated to increase to 1,700 tonnes (year 1-28%, year 2-40%, year 3-60%).
MWRGG leveraged the post-project audits by developing a flexible plastics survey to distribute to households to coincide with the bin audits. The survey found that 60% of households participated in the flexible plastics project, which is more than the 28% participation rate estimated through the post-audits. This difference could be attributed to when households present their bagged flexible plastics for collection. The full household survey results, analysis and discussion are included as an Addendum to this final report.

2 Project details

Flexible Plastics

There is a broad range of packaging materials, from glass and metals to paper and rigid plastic, and most of these are included in kerbside recycling systems across Australia. Steel packaging and the full range of rigid plastics were the most recent additions to this packaging recycling effort. There has been little change to kerbside packaging recycling in the past decade.

One of the fastest growing group of packaging materials is flexible plastics. In general, this includes Low Density Polyethylene (LDPE), High Density Polyethylene (HDPE), PET or Polypropylene (PP). The recycling of these polymers is shown here:

Flexible plastic packaging recycling rates

<table>
<thead>
<tr>
<th>Polymer</th>
<th>Plastics identification code</th>
<th>Flexible packaging recovery (tonnes)</th>
<th>Flexible packaging recycling rate (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>PET</td>
<td>1</td>
<td>300</td>
<td>2%</td>
</tr>
<tr>
<td>PE-HD</td>
<td>2</td>
<td>5,700</td>
<td>37%</td>
</tr>
<tr>
<td>PE-L/LLD</td>
<td>4</td>
<td>46,400</td>
<td>48%</td>
</tr>
<tr>
<td>PP</td>
<td>5</td>
<td>1,200</td>
<td>6%</td>
</tr>
</tbody>
</table>

Source: National Recycling and Recovery Survey (NRRS) 2015–16 for plastics packaging

In Australia, flexible plastic packaging use is estimated by industry sources at 300,000 tonnes annually\(^1\). Most of this is imported as product packaging or as packaging film. It is also used for freight packaging, retail carry bags and for product packaging types ranging from bread, rice, fruit and vegetables to computers, mattresses, potting mix and pet food. It is also used for postal packs and infill packaging such as bubble wrap.

In 2015/16 only 54,000 tonnes of flexible plastic packing waste was collected and recycled\(^4\). Most of this recycled material came from commercial sources, where collections from major warehouse and retailer sites are increasingly widespread. Much of the disposed flexible plastic packaging material is in the household waste stream and is readily recyclable if it can be collected and sorted efficiently. Audits taken as part of this project showed flexible packaging made up 22% of the general waste stream by volume. In addition, flexible plastics put loose into the recycling stream accounted for 9% by volume of the recycling, even though it was not designated for collection.

Part of the challenge for recycling flexible plastics is that the lightweight nature of the material makes it both difficult to sort and of low value per item. While the material is readily recyclable, the challenge has always been how to practically collect and sort the material. Currently, loose flexible plastic in the recycling stream often gets sorted into the light paper stream and contaminates it, causing a price reduction. Alternatively, it runs off the end of the sorting line and goes to landfill, at considerable cost to the recycling system.

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\(^1\) National Recycling and Recovery Survey (NRRS) 2015–16 for plastics packaging /APCO forum on plastics packaging 2017
Collection Trial

In 2012, Darebin City Council, MWRRG and Australian Packaging Covenant collaborated with SRU, Replas and SKM Recycling to conduct a 20-week trial of a practical approach to flexible plastic recycling. The trial tested whether kerbside recycling of plastic bags sorted and consolidated by the household can overcome the collection and sorting barriers to recovery of flexible plastic products. The primary purpose of this trial was to test whether it is possible to overcome 'handling difficulty' with a shift towards consolidation of multiple flexible plastic items into a single unit – in other words, by asking householders to place these items into a bag before placing them in their recycling bin.

In this trial, 900 households within Thornbury (Darebin Council area) were asked to store flexible plastic packaging for collection each fortnight in their regular recycling collection. As stated, to overcome the barriers to recovery, householders were asked to consolidate their flexible plastics into a separate bag. Householders from the collection zones were surveyed at the completion of the trial.

The recorded participation rate was 30% each week with over 60% indicating that they had participated at some time in the trial. Bags collected weighed between 150-200 grams. This means that those households participating weekly would recycle 8-10 kg of packaging each year. Householders who participated were asked if they would need the bag supplied in the longer term and 100% felt it would be possible to utilise their own bag once the system was established. Householder compliance was also positive with a very high quality of material disposed of through this system.

At the sorting facility, an additional two staff were positioned near the start of the sorting line to recover the bags and to capture any other loose flexible packaging. While the trial was not permanent in Darebin, four other councils used the results—strong participation, low contamination and efficient sorting to introduce the system municipality wide.

Municipality-wide Introduction

In 2016, flexible plastics recycling was introduced into four councils across Melbourne. This was supported by Metropolitan Waste and Resource Recovery Group (MWRRG). Funding of $300,000 was provided from the Metropolitan Local Government Waste and Resource Recovery Fund (Metro Fund). The four councils of Boroondara City Council, Nillumbik Shire Council, Cardinia Shire Council, and Hobsons Bay City Council each contributed $20,000, providing a combined total of $80,000. SKM Recycling committed $280,000 towards the project for the implementation of optical sorting equipment purchase. The Australian Packaging Covenant also backed the introduction, providing $10,000 to SKM Recycling for optical sorting equipment. SKM Recycling are yet to install the optical sorting equipment, however they are committed to receiving and manually sorting the flexible plastics until the equipment is installed and fully commissioned at their new materials recovery facility (currently under construction).

Through this project, half a million residents in 170,000 households are bagging all forms of flexible plastic packaging into a bag for disposal into their kerbside recycling bin. The initiative addresses a significant component of household waste that could be recycled. The collection utilised the existing kerbside recycling system and was introduced with the cooperation of SKM Recycling, the sorting destination for these four councils. SKM Recycling was motivated by the potential to turn a current contaminant material, loose flexible plastic, into a practically sorted material, bagged flexible plastic. The bagged material would typically weigh 200-250 grams. SKM Recycling is currently building a major new sorting facility at Laverton that will include equipment designed to sort the bagged flexible plastics by automated optical sorting technology. In the meantime, the sorting line at Coolaroo has staff designated to sort flexible plastic material manually.
Project Governance

A project steering committee led by MWRRG was formed to manage the project. This included representatives from each of the councils involved plus SRU and SKM Recycling. The APC was also represented in the formative stages. The steering committee remained consistent throughout the project and this was a strong positive aspect as all were well informed and active. Key personnel from each council spent a considerable amount of time on the project across its formation and implementation phases. Others within each council and partner organisation also were involved with communication and customer service aspects.

The project scope was agreed with SKM Recycling who were receiving the material and have identified local and overseas market outlets for the material. A summary of flexible plastic packaging and what was accepted into the kerbside collection was developed by SRU in consultation with the council representatives, MWRRG and SKM Recycling (see Project Resources).

Collection Arrangements

The flexible plastics collected were sent to SKM Recycling (Australia’s largest recycling sorting facility) where the material is sorted, compacted and baled for recycling either locally or overseas. The exact end products that are made from the recycled material are not known but are likely to include a mix of packaging and durable products.

Flexible plastics can be sent for recycling either through export to China or other destinations, or to one of 75 Australian plastics recyclers. Currently half of all plastics collected are recycled in Australia and half exported\(^2\). As Australia purchases most flexible plastic from overseas and trades a range of recyclables globally, it is not surprising that plastics are exported for recycling. The majority of the material that is collected from the four council areas is exported for recycling.

The main contaminant issues in this project are metals and food residue and these materials need to be kept out of the recycling bags. Neither of these were detected in audits of bagged material. Some of the material will be recycled into products made from mixed polymer plastics. Some will be sorted either mechanically or manually, into specific polymers. In Australia and globally, recycled flexible plastic resin is used in the manufacture of many products from flexible and rigid plastic packaging through to street furniture and building materials.

Householder Packs

A householder information pack was developed to introduce the new recycling opportunity, provide information on what can and can’t be collected, and clearly explain how flexible plastics need to be presented for collection. This pack included an introductory letter from Council outlining the initiative and providing details on the scope of the collection. Each household was also provided with 10 sample bags that could be used initially to get residents started in bagging their flexible packaging. These provided bags, which had the list of accepted materials printed on them, were shown to boost participation and reduce contaminants in the trial. Each household received the letter and sample bags in a council identified envelope (see Photos). These householder packs were provided to all residents across the four councils.

The message displayed on the provided bags was an important educational tool in communicating the new service to residents. A great deal of attention went into the clear language, specific wording and images used. SRU, with guidance from the steering committee, was responsible for the design, artwork and printing of the material and the assembling and distribution of the householder packs.

\(^2\) National Recycling and Recovery Survey (NRRS) 2015–16 for plastics packaging /APCO forum on plastics packaging 2017
The householder packs were assembled by a range of commercial and community based organisations. The scale of packs (170,000) required a significant labour input. These were then delivered to distribution companies who arranged for delivery into household letterboxes.

The bags were printed and folded by two different manufacturers in China and locally. The timing of the project meant the initial order was delayed slightly by the Chinese New Year. At a later stage, additional bags were required and once again the Chinese New Year caused a delay, so a Melbourne based supplier was found.

The project steering committee developed the final wording for the letters and these were approved through each council, MWRRG and SKM Recycling before printing. The letters and envelopes were both printed on recycled paper stock using a waterless process that also eliminates harmful volatile organic compounds.

**Householder Education**

Councils provided educational support for householders in many ways. While the householder pack was the primary method of communicating the change, several other avenues were pursued with success. These include social media, council newsletters, e-newsletters, websites, local media and press releases.

Customer service staff at each council were briefed by the waste education officers on the changes to collection. The steering committee anticipated what questions would be asked by residents and developed a series of frequently asked questions. These FAQs meant that the four councils provided a consistent message to all residents across the project areas. Staff were provided with information on these questions to assist in responding to inquiries (see Supporting Documentation). This information included a detailed listing of what materials were accepted in the flexible plastics collection and why a bag was being provided to get householders started.

All councils included information on the changes in their resident newsletters and waste calendars and used local media to raise awareness. Staff also attended community festivals and other forums that provided a chance to introduce the system and respond to any questions. The project has also led to councils updating bin-related material such as contaminant stickers, bin information stickers and hot stamping of bin lids.

The householder packs were found to be the main way that householders learned about the project. In addition, one of the most successful aspects of the householder education was the use of social media. The response on social media from householders was stronger than achieved for other issues in the past and led to residents sharing the initiative with many others. Social media played an important role in allowing residents to submit feedback to councils. An outline of some of the Facebook response is included in Section 3 of the Project Resources.

In producing material for residents, councils shared their approaches and content which created efficiencies and led to a consistent message across the four municipalities.

**Challenges and learning**

As with all pioneering projects, a range of challenges were encountered and these will not be as significant for those councils who wish to implement this service at a later stage. There was a key learning around project timing for all stakeholders when implementing new projects. Aligning the collection and sorting caused some delay in implementation, which then pushed the project into the council election cycle, adding to further delays as the service could not be promoted during the election caretaker period. It also required the material to be warehoused until the go ahead was given for delivery, with councils required to cover the additional storage costs.
Project timing and contracts - There were challenges for councils in relation to their waste contracts and needing to come to an agreement with SKM Recycling to ensure that the flexible plastics were not regarded as contaminants.

Letters and bags - There were delays associated with the initial development of the communication materials as it was important to make sure that all parties (council communications team, SKM, MWRRG) approved of the final version for print.

Communications - To ensure that all resources and media were approved by all relevant parties, MWRRG played a central role in distributing communication materials within the steering committee and seeking final approval from all parties. Some problems occurred with distribution of the household information packs. A key learning from the problems encountered is to work closely with reputable distribution contractors to ensure clear communication and agreement is reached around delivery times/schedules, locations and requirements for undelivered product. Despite the challenges outlined above, the council staff on the steering committee worked cooperatively to ensure information about the program was communicated to householders.

3 Project outcomes and findings

Householder response

The service has been enthusiastically welcomed by the community with unprecedented social media reaction and direct positive feedback to mayors and councils. Many residents responded positively to the initiative either by social media or through communication back to councillors and council staff. A summary of community response to council Facebook page posts on the initiative is included in Project Resources.

Several householders wrote specific letters of congratulation to the mayor and councillors and some of these are also included in the project resources. There was also some negative feedback received in relation to the project, particularly in relation to the provision of the printed plastic bags. Councils were proactive in clarifying the reasons for the provided bags and it was beneficial that the councils had FAQs already prepared and had educated their customer service teams in order to provide a clear and consistent message.

Effects on the waste stream

The recycling and general waste streams were audited before and after the introduction. Before the project commenced, most flexible plastics were in the general waste stream with a small amount floating loose in the recycling stream and causing issues at the sorting facility.

Pre-project audit results

Audits of general waste bins across all four councils prior to the introduction of the project showed that flexible plastic in all forms made up 7% by weight and 22% by volume of the general waste stream. This highlighted the lightweight bulky nature of the material.

The audits also showed that, despite it being not designated for recycling, flexible plastic made up 4% by weight and 9% by volume of the recycling stream. In both the general waste and recycling, the flexible plastic material was loose and not aggregated within a bag. The flexible plastic material presented a more significant proportion of the waste stream in Nillumbik as they have diverted food waste from their general waste stream.

As flexible plastics accounted for almost a quarter of general waste bin capacity, its diversion was attractive to councils and offered an opportunity for bin capacity reductions in the future.
General waste stream

<table>
<thead>
<tr>
<th>Composition by mass</th>
<th>General waste (% composition kg/wk.)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Overall</td>
</tr>
<tr>
<td>Flexibles (aggregated)</td>
<td>0%</td>
</tr>
<tr>
<td>Flex. Packaging</td>
<td>5%</td>
</tr>
<tr>
<td>Plastic bags</td>
<td>2%</td>
</tr>
<tr>
<td>Flex. Other</td>
<td>0%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Composition by volume</th>
<th>General waste (% composition m3/wk.)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Overall</td>
</tr>
<tr>
<td>Flexibles (aggregated)</td>
<td>1%</td>
</tr>
<tr>
<td>Flex. Packaging</td>
<td>16%</td>
</tr>
<tr>
<td>Plastic bags</td>
<td>3%</td>
</tr>
<tr>
<td>Flex. Other</td>
<td>2%</td>
</tr>
</tbody>
</table>

Recycling Stream

<table>
<thead>
<tr>
<th>Composition by mass</th>
<th>Recycling (% composition kg/wk.)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Overall</td>
</tr>
<tr>
<td>Flexibles (aggregated)</td>
<td>0%</td>
</tr>
<tr>
<td>Flex. Packaging</td>
<td>2%</td>
</tr>
<tr>
<td>Plastic bags</td>
<td>2%</td>
</tr>
<tr>
<td>Flex. Other</td>
<td>0%</td>
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<tbody>
<tr>
<td></td>
<td>Overall</td>
</tr>
<tr>
<td>Flexibles (aggregated)</td>
<td>0%</td>
</tr>
<tr>
<td>Flex. Packaging</td>
<td>6%</td>
</tr>
<tr>
<td>Plastic bags</td>
<td>2%</td>
</tr>
<tr>
<td>Flex. Other</td>
<td>1%</td>
</tr>
</tbody>
</table>

Post-project audit results

Participation rate

The post-project audits found that an average of 28% of the 400 audited households participated in the kerbside flexible plastics recycling program.

<table>
<thead>
<tr>
<th>Council</th>
<th>Pre-project aggregated in bags in recycling</th>
<th>Post project aggregated in bags in recycling</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cardinia</td>
<td>0%</td>
<td>23%</td>
</tr>
<tr>
<td>Nillumbik</td>
<td>0%</td>
<td>27%</td>
</tr>
<tr>
<td>Boroondara</td>
<td>0%</td>
<td>30%</td>
</tr>
<tr>
<td>Hobsons Bay</td>
<td>0%</td>
<td>31%</td>
</tr>
<tr>
<td>Overall</td>
<td>0%</td>
<td>28%</td>
</tr>
</tbody>
</table>
For those households participating, there was almost no flexible plastic remaining in their general waste bin or loose in their recycling bin. The participation is expected to build over time backed by further reinforcement of message by councils and retailers.

Profile and yield

After introduction, the post project audits showed participation in the recycling to be undertaken by an average 28% of the 400 households that were surveyed. At this level of household recycling, an estimated 47,600 households were participating each week. Audits indicated 10-20% of households generated more than one bag of material each collection fortnight. Audits also showed an average of 16 items per bag recycled. Based on this, an estimated 25 million items of plastic packaging will be recycled in the first year from these four councils.

Based on an average 28% recycling rate and a yield per household of 6.5 kg per year, the yield of recycling of flexible plastic packaging is an estimated 371 tonnes. The participation is expected to build over time backed by further reinforcement of messages by councils and retailers. As participation grows over the near future, the total yield over the first three years is anticipated to be 1696 tonnes (year 1-28%, year 2-40%, year 3-60%).

The material recycled was a broad mix of packaging: HDPE carry bags (25%), LDPE carry bags (5%), fresh produce bags (10%), product packaging (40%), trays and punnets (10%) and other film such as stretch wrap and bubble wrap (10%).

Profile of flexibles recycled

-it demonstrates that while bags are significant, the largest volume of material is product packaging. This reflects household consumption levels, where product packaging is a more significant volume than bags or other film.

MWRRG leveraged the post-project audits by developing a flexible plastics survey to distribute to households to coincide with the bin audits. The survey found that 60% of households participated in the flexible plastics project, which is more than the 28% participation rate estimated through the post-audits. This difference could be attributed to when households present their bagged flexible plastics for collection. The full household survey results, analysis and discussion are included as an Addendum to this final report.
4 Project highlights

The introduction of flexible plastic packaging was the result of a dedicated effort by MWRRG, council staff, SRU and SKM Recycling across each of the development and implement stages. The project highlights have been:

- Collaboration between councils, industry and state government
- Energy and cooperation of the Project Steering Committee
- The commitment of the recycler to receive and sort the collected material
- The quality of the educational material developed and being supplied including the collection bags
- The response of householders to the initiative

The quality and supply arrangements from the bag and printing suppliers was also of the highest quality and contributed to key project outcomes.

5 Conclusions and recommendations

Conclusions

By population, the four pioneering councils represent 9.3% of Melbourne’s households and 2.1% of households nationally, so there is enormous scope for further expansion. Already a range of councils are known to be watching the development, have inquired about the initiative and may wish to join the four councils with an extended service.

The recyclables collected from the four councils are all sent to SKM Recycling for sorting. SKM Recycling has systems in place to capture and recycle the material, turning a contaminant into a potential revenue generation product. The SKM sorting facility also accepts material from other councils in Melbourne, presenting opportunities for expanding the flexible plastics collection to these councils. Councils not using SKM Recycling as the recycling contractor and their sorting partners may also be willing to introduce this service in partnership with their contractor.

The rollout of the innovative recycling service across the four councils in Stage 1 broke new ground. Stage 1 involved the development of the specifically printed information starter bags and support material for households, and subsequently putting the mechanics of production and distribution in place. It will undoubtedly be much easier and quicker for other councils to introduce a similar service in the future.

In moving to a second stage rollout of the program, the following aspects will be easier:

- The sample bags are designed and suppliers and costs identified
- The introductory letters from councils can be easily modified for adoption and printing by other councils
- A range of community education support collateral and materials is available for adoption by others
- Reliable householder pack assembly and delivery contractors have been identified
- The sorting facility is now geared to accept and recycle the material collected
- The required project management tasks are well known
- Audit methods are established

Based on these reasons, the task of extending the system to additional councils in Stage 2 will be more straightforward and at a lower cost per household. The program is now well known and supported by key stakeholders.
Recommendations

1. It is recommended that a steering committee of relevant parties be formed to consider options for further expansion and for continued delivery of an efficient and coordinated program.

2. All councils involved in Stage 1 are of the view that consistency in scope and messaging is essential for the success of the program as additional councils introduce the system. This includes a consistent, overarching communication toolkit with branding and consistent wording included. The ongoing commitment of the sorting facility operators is essential.
Dear Resident

Re: You can now recycle flexible plastics in your kerbside recycling

Boroondara households can now recycle plastic bags and other ‘flexible plastics’ by consolidating them in a plastic bag that goes into the (yellow lidded) kerbside recycling bin.

Consolidating or ‘bagging’ all of your plastic packaging together makes it possible for the recycling facility to separate them for recycling into new products.

To do this:

1. Collect all of your unwanted plastic bags and other flexible plastic (see over page for a list of items).
2. Place them into one of the bags provided with this letter.
3. Tie the bag when full and put it in your recycling bin.
4. Continue to leave your hard/rigid plastics and other recyclables loose in your recycling bin as usual.
5. When you run out of the bags provided, simply use any similar plastic bag instead.

If you reuse your plastic shopping bags for other things, or avoid plastic bags/packaging when shopping, please continue to do this as it is even better than recycling.

The City of Boroondara is one of the first councils in Melbourne to introduce this best practice waste and recycling service. Flexible plastic packaging is one of the last remaining materials in our waste stream that can be recycled. This exciting change takes us one step closer to eliminating waste sent to landfill.

This project has been made possible through the Metropolitan Fund provided by the Victorian Government from the Sustainability Fund in partnership with Nillumbik, Cardinia and Hobsons Bay councils.

For more information, please visit our website – www.boroondara.vic.gov.au/waste-recycling – or contact our Customer Service team on 9278 4444.

Yours sincerely

[Signature]

Sam Di Giovanni
Coordinator Waste Management

Enc: Instructional plastic bags to get you started
Recycling flexible plastics and plastic bags in your recycling bin

Collect plastic bags and flexible plastic packaging and put them in a plastic bag

Tie bag when full

Place in your recycling bin

Continue to place your hard/rigid plastics and other recyclables loose in your recycling bin as usual. When you run out of the bags provided, simply use a similar plastic bag. Thank you for helping our planet!

✔ Yes
- plastic shopping bags
- plastic packaging from groceries: e.g. bread, rice, pasta, toilet paper, frozen foods
- inner cereal/biscuit wraps
- clean cling wrap and freezer bags
- plastic wrapping from appliances
- plastic postal bags and document sleeves
- bubble wrap

✗ No
- silver-lined packaging e.g. chip, chocolate bar and ice-cream wrappers
- paper
- garbage
- rapsoles
- food
- polystyrene
Flexible Plastics in Kerbside – Frequently Asked Questions

What is changing?
Until now residents have been asked not to put flexible (soft) plastics into their recycling bins. Council now has a way of handling flexible plastics to ensure they can be sorted and recycled. Households are able to include this material in a bag in their yellow lidded recycling bin.

Why is there a change?
Flexible (or soft) plastic is used in many forms of packaging, from checkout bags to packaging of bread, rice, frozen products and durable goods (like appliances and computers). For many households, it is one of the few remaining materials in their garbage bin. By transferring flexible plastic from waste to recycling we reduce waste to landfill and save valuable resources.

Why are we given bags?
Because flexible plastic is so light it is very difficult to sort from other materials for recycling. This is overcome if the bags and other flexible plastic material (including bubble wrap) are put inside a bag and then tied. This gives us a ‘bags in a bag’ collection that is easy to sort for recycling. To get you started, Council has provided some bags for you to use with a listing of what to include printed on the bag. After you have used up these bags, simply use a supermarket carry bag to contain your ‘bags in a bag’. Remember other non-flexible plastic items for recycling should never be placed in plastic bags as the sorting process for these materials is different.

Isn’t this a lot of plastic being supplied by Council?
The bags supplied are very light: they contribute only 50 grams of plastic for each household. Our Council expects to collect and recycle over one hundred times this amount from participating households each year. Our trials showed that providing sample bags helped householders to get started.

What happens to the bags and packaging we collect?
Collecting your plastic bags and flexible plastics in a bag makes them easy to sort at the recycling facility. All of our recycling goes to SKM Recycling, Australia’s largest recycling sorting facility. The flexible plastics are sorted, compacted, baled and sent to a plastic recycler either locally or overseas.

Does this cost more?
The inclusion of flexible plastics in the recycling bin doesn’t add to the cost of recycling but it will slightly reduce the cost of our garbage disposal. As a result, this improved service will not cost ratepayers at all. The Victorian Government has contributed to the project through the Metropolitan Local Government Waste and Resource Recovery Fund. The Australian Packaging Covenant and SKM Recycling Pty Ltd have helped fund optical sorting equipment at SKM Recycling’s sorting facility.

How clean does the plastic have to be?
As much as practical, the plastic should be free of food residue. It is also important to ensure the bags are empty when recycling them. The material is washed at the recycler so stickers will be removed there.
Does this change the rest of our recycling?
Nothing else changes to your recycling. Remember to recycle all paper, cardboard, rigid plastic packaging, glass packaging, aluminium and steel packaging. It is helpful if cardboard boxes are squashed to fit in the bin and it is important that no bottles, cans etc are in your bin inside a bag as these will not be sorted and recycled. Remember to recycle in your bathroom and laundry as well! Ensure no food or other general waste goes into your recycling bin.

Shouldn't we use less plastic packaging?
This recycling of flexible plastic should not stop any efforts to reduce the amount of packaging we generate. Using a reusable carry bag or avoiding excessively packaged goods is still important.

What about thicker, heavier printed bags?
All flexible plastic can be included. Thicker bags used by department stores and empty packaging for products such as potting mix can all be included.

Do I put the bag out every collection if it isn’t full?
There is no need to put the bag out until it is full. For some households, this may be several bags each collection, others may generate less packaging and put the bag out less frequently.

What are we achieving?
Plastic recycling enables us to make new products (from packaging to toys to cars) from the recycled material rather than making new plastic from oil or gas. This recycling contributes to greenhouse gas reduction on a significant scale. Did you know that over 27 million tonnes of different materials (from plastics to paper to concrete) is recycled each year in Australia? This stops this material entering landfills or becoming litter. All of our individual efforts each week combine to a fantastic outcome. Keep up your great work.

Will I have room in my recycling bin?
The bags shouldn't take up too much space as they are squashed together in the bag. If you are filling your recycling bin (well done!) try squashing plastic bottles and cardboard boxes and this should help to get it all in and ensure your bin lid is properly closed.

Materials accepted/not accepted
By polymer

Accepted
High density polyethylene (HDPE)
Low density polyethylene (LDPE)
Polypropylene (PP)
Polyethylene Terephthalate (PET)

Not accepted
Poly Vinyl Chloride (PVC) (used for some ‘rigid’ punnets and blister packs)
Metallised biaxially-oriented polypropylene (Met BOPP) (used for chip, confectionery and ice-cream wrappers)
Expanded polystyrene (EPS) (beads and peanut sized infill packaging)
By product

Accepted
Supermarket checkout bags
Fruit and veg bags
Bread bags
Rice packaging
Cereal bags/box liners
Cheese wraps
Cling wrap (clean and dry)
Department store bags
Potting mix bags (no residue)
Netting bags for oranges/onions/garlic
Frozen food bags (chips, peas etc)
Postal bags
Courier bags
Reusable checkout bags
Pasta packets
Biscuit packets
Animal feed sacks (no residue or metal clips)
Plastic wrap/packaging from furniture and appliances
Protective foamed wrap packaging from appliances/computers/electronics
Pallet stretch wrap
Shrink wrap around multi-packs of cans
Newspaper plastic wrap
Plastic air pillow protective packaging (protecting appliances etc)
Bubble wrap
Toilet paper plastic packaging
Plastic pockets/sleeves
Tree/plant protector sleeves/guards
Cellophane
Freezer bags
Zip lock bags (clean and dry)
Old reusable ‘green’ bags
Plastic six-pack rings
Dry cleaning bags
Dry animal food packaging

Not accepted
Meat packaging
Food packaging with residue
Wet animal food packaging with residue
Wet wipes
Chip, confectionery and ice-cream packaging (if shiny, metalised)
Blister packs (for batteries, tablets etc)
Punnets (can go in recycling with other rigid plastics)
Shade cloth

All colours are acceptable but black should be avoided as an outer bag as it can be confused with dumped rubbish

Labels and stickers and printing are not a problem
Metal ties and clips should be removed from items such as garden product packaging
### Community feedback

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<tr>
<th>Message</th>
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<tbody>
<tr>
<td>Hi,</td>
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<td>Just wanted to say well done to the waste and recycling team for introducing the new plastic bag recycling. We’re putting about 2 shopping bags full of plastic bags and wrappers into our recycling now each week, which would otherwise be going to landfill. Please pass this on to the team.</td>
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<tr>
<td>Cheers,</td>
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<td>(Name withheld)</td>
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<tr>
<td>I just wanted to express MY PROFOUND thanks to you and your department and whoever it was who was instrumental in bringing in the recycling of flexible plastics at kerbside!!!</td>
</tr>
<tr>
<td>It’s FANTASTIC that this terrible problem of plastics in the environment is being addressed by my council! And to think Boroondara is one of the first councils to do so... WOW!! Proud to be a rate payer!!</td>
</tr>
<tr>
<td>MANY THANKS</td>
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<td>I am so thrilled by your new initiative! I would love to be able to share this news with friends who live in other councils and overseas and would love a Facebook share button! I have copied and posted anyway, but just a suggestion.</td>
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<tr>
<td>Streets ahead! Thank you!</td>
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<tr>
<td>(Name withheld)</td>
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<tr>
<td>I am writing to congratulate you on the latest initiative in waste management by the council - the recycling of flexible plastics. I do hope this service is taken up enthusiastically by Boroondara residents. It is very timely given the alarming information that was revealed on ABC’s Four Corners programme on Monday night.</td>
</tr>
<tr>
<td>Although we are not a coastal suburb I wonder if your colleagues in Hobsons Bay are aware of a process being developed to allow mixed plastic waste from beach clean-ups to be recycled without the need for sorting. Once again congratulations.</td>
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<td>(Name withheld)</td>
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<tr>
<td>I was delighted to receive your letter and the bags for recycling flexible plastics. Plastic bags are a significant environmental problem and it is wonderful to see the council taking such a proactive step in helping households in the council area take proactive measures in reducing landfill and dealing with this scourge. A hearty well-done from me and my household!</td>
</tr>
<tr>
<td>(Name withheld)</td>
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Social Media Snapshot

Hobsons Bay

228 Likes 80 shares as at 24 Jan 2017

- This is such a great step forward well about time this can happen
- I hope Maribyrnong follows suit.
- Fantastic!!! At last 😊
- That's great. I must admit I got a little too excited when I read this... Highlight of my day 😊😊.
- 50 points to Gryffindor... I mean, Hobsons Bay.
- Wyndham City Council get on this
- Good work HBCC!
- I hope it spreads to other councils.
- this is great!! 🙌 Yaay Hobsons Bay!
- So pleased to see this! 80% of my weekly garbage is soft plastic.
- Awesome news. No more filling my car with bags of bags to take to the supermarket!

Nillumbik

141 likes 53 shares as at 24 Jan 2017

- Do you think Monash could implement this system? My family currently recycle our plastic bags and packaging through Coles supermarkets, but it would be so much easier if we were able to do it in the kerbside collection.
- At last!!!! Bundle your plastic bags and put out in your recycling.
- Awesome I have a bag full of plastic bags keep forgetting to take in to supermarket
- Hooray!!!!
- YAY ! Thanks Council!
- Woohooooooool
- Finally.
- Sadly, I am in Banyule 😞:(

Cardinia

128 likes 46 shares as at 24 January 2017

- Great foresight from Council officer’s, fantastic to have Cardinia as one of these 4 Councils doing the trial.
- I am so excited by this!
- Yay 😊)
- can up my recycling game
- Fantastic initiative! Well done Cardinia shire and all involved. I am actually excited about my bins
- How about, City of Casey council do the same😊😊😊😊
Boroondara

164 likes; 84 shares (as at 24 Feb 2017)

- no more schlepping bags to Coles for us!
- Omg I am so excited!
- Fantastic!!!!
- thank god!
- Yay yay yay! Great news!!
- This is great! Does anyone know if Whitehorse City Council are following suit?
- Props to the sustainability team at Boroondara! Next step for City of Boroondara to become a partner council of the Sustain Me app 😊)
- Other local councils should get in on this - come on City of Whitehorse!
- I know Moreland city council recycles plastic bags. Hopefully this will be the norm for all councils soon!
- Great work Boroondara! No more slinging bags to woolys & coles
- Excellent. Progress!
- Wonderful news!
- Great news! Now please work with Victoria to charge for plastic shopping bags or outright ban them to decrease plastic bag pollution!
- Catching up with the Shire of Nillumbik!
- maybe our turn is coming
- High time
- We really are sick of throwing it all away.
- Great news. I used to take this plastic recycling to my local Coles, but it's great to have this option available as well.
- Oh cool! I just started a plastics bin and then put them in the car to take them to Coles. Darebin, step up!!
- Thank you Boroondara! Other councils are also recycling food scraps into their green waste, and have apparently reduced their landfill by 50% - can you please consider this also?
- I was planning to take them to the drop off point but now we can do it at home!

The only negative responses received by households were a few complaints that bags were being issued to reduce plastic waste and that this seemed counter-intuitive. A response was prepared as part of the FAQs outlining why the bags were distributed and the relative impact of the bags provided compared to the increased volume of material recycled.
Photos

The householder packs were delivered to 170,000 households across the four municipalities.

The householder packs included some bags to introduce the service and show what could be recycled.
Householders used their own bags once the provided bags were used.

The participation of householders was strong across all councils.
Bags contained an average of sixteen items of packaging.

The material recycled was broad across bags, product packaging and other flexible formats.
HDPE carry bags accounted for 25% of material recycled.

Trays and punnets were included and accounted for 10% of material.
Contamination was minimal and mostly rigid plastic packaging.

Collateral

Sample Bag Text

**How to recycle plastic bags and packaging:**

1. Collect them in this bag.
2. Tie the bag when full and put it in your recycling bin.
3. **Do not** put individual or loose plastic bags in your recycling bin.

✅ 😊 **Yes**

**Bags and flexible plastics**

- Plastic shopping bags
- Plastic packaging from groceries (e.g. bread, rice, pasta, toilet paper, frozen foods)
- Inner cereal/biscuit wraps
- Clean cling wrap and freezer bags
- Appliance/large plastic wrap
- Plastic postal bags and document sleeves
- Reusable checkout bags
- Bubble wrap

⚠️ 😞 **No**

**Do not include**

- Paper dockets or labels
- Garbage
- Nappies
- Food
- Chip, chocolate bar and ice-cream wrappers
Media releases

Plastic bag recycling is here

From February all households can put plastic bags and other flexible plastic items in their recycling bin. All recycling bin liners are made from recycled plastic, so all recycling bins are part of a recycling system. Experts from Positive Charge will give a presentation about the benefits of reducing plastic use and the importance of recycling, join us for this free workshop. Our popular workshop on flexible plastic recycling is here, with businesses and community organisations using flexible plastics everyday. Join us for this free workshop.

Join our sustainable living workshops

Want to live a more sustainable life? Then sign up to our free workshops to learn how.

Shine a light on solar electricity

Our popular workshop on flexible plastics recycling is here, with businesses and community organisations using flexible plastics everyday. Join us for this free workshop.

Learn to keep backyard chickens

Our popular workshop on flexible plastics recycling is here, with businesses and community organisations using flexible plastics everyday. Join us for this free workshop.

Backyard biodiversity—introductory workshop

Interested in having your own backyard farm? Our popular workshop on flexible plastics recycling is here, with businesses and community organisations using flexible plastics everyday. Join us for this free workshop.

For more information about solar electricity, visit www.positivecharge.com.au.

Free sustainability advice for home and garden renovators

Are you looking to make some changes to your home or garden, or are you building or renovating? Could you do with some expert sustainability advice?

Have you been recycling flexible plastics?

Since January, local households have been able to recycle flexible plastics as part of their weekly collection.

Reduce waste with new plastics program

Brisbane residents can now recycle more plastics as part of their weekly collection.

Opportunities for local artists

Are you a local artist or creative community group? Check out these opportunities to present your work with Brisbane City Arts.

Brisbane Arts is a creative arts organisation that provides support and development opportunities for artists and groups interested in the arts. Brisbane Arts is a State Government of Queensland and City of Brisbane Council supported organisation.

For more information visit www.brisbanecityarts.com.au or call 3303 3303.
Post – 6 May
Hear the good news? 65,000 Boroondara households can now recycle flexible plastics as part of their weekly collection. Find out more: www.boroondara.vic.gov.au/plastics.

Post – 20 May

Post - 3 June
The trailblazing flexible plastics recycling program could see 10 million items per year diverted from landfill. Get involved and spread the word amongst family, friends and neighbours. Find out here: www.boroondara.vic.gov.au/plastics.

Post - 17 June
What exactly are these so-called “flexible plastics”? It’s plastic shopping bags, plastic packaging from groceries like bread, rice, pasta, toilet paper, frozen food, or cereal and biscuit wraps. Find out more: www.boroondara.vic.gov.au/plastics.

Post - 1 July
Have you been recycling flexible plastics every week? Just put it all in a plastic bag, tie it closed when full and place in the recycle bin. Find out more: www.boroondara.vic.gov.au/plastics.

Post - 15 July
Why have we introduced flexible plastics recycling across the City? Because it’s the fastest growing form of packaging and accounts for hundreds of thousands of tonnes annually that end up in landfill. Find out more: www.boroondara.vic.gov.au/plastics.

Post - 29 July
What happens to flexible plastics once you recycle them? They’re sorted, compacted and baled at SKM Recycling, where the material is then sent for recycling either locally or overseas. Find out more: www.boroondara.vic.gov.au/plastics.

Post - 12 August
When you dispose of flexible plastics in your weekly collection, make sure the rest of your recycling – paper, plastic and glass – is placed loose directly in the bin, not in a plastic bag. Find out more: www.boroondara.vic.gov.au/plastics.

Post - 26 August
Excited about flexible packaging recyclable?! We are too! Just make sure you don’t include silver or foil-lined packaging including potato chip, chocolate bar or ice cream wrappers, or plastic bags labelled as degradable or compostable. Find out more: www.boroondara.vic.gov.au/plastics.
Final report sign off

The sign off of the final report is required from the project manager and department director/manager prior to submission.

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