The City of Canterbury Bankstown ran a trial to recover and recycle problem wastes including polystyrene, soft plastic, cardboard, e-waste, clothing and mattresses at 16 residential flat buildings (RFBs); ranging in size from 48 to 299 units. Following the trial, this program has now been expanded to include 19 RFBs, containing a total of 2,698 units.

In 2015, Council carried out a visual audit and inspection of waste bins in large apartment complexes in Canterbury to identify opportunities to increase recycling. These audits showed that the problem materials were either ending up in general waste bins or were being dumped in common areas. Council’s contractor also reported that large volumes of cardboard and polystyrene were being generated as new tenants moved into newly open buildings.

Council consulted with building managers, cleaners and waste contractors and decided to trial the effectiveness of collecting individual waste streams in separate bins and cages.
Collection Infrastructure

Council worked with building managers to install the following equipment and collection services:

- E-waste is collected in a 660 litre bulky waste bin (on four wheels) and recycled by Reverse E-Waste.
- Clothing/Textiles is collected in a metal cage and recycled by King Cotton.
- Soft plastics are collected in a metal frame with a clear plastic bag by Cleanaway.
- Polystyrene is collected in a metal frame with a clear plastic bag initially by Cleanaway and now is collected by IS Recycling where it is heat compressed.
- Cardboard was initially collected in 1100 litre bins by Cleanaway however, the size of the bins proved to be problematic. They were replaced with designated, dry, stacking areas which are serviced by HY-Gene, who recycle them through Visy and other recyclers.

Source separating materials meant that buildings were able to reduce the number of red bins, creating additional space for the infrastructure used in the trial.

Education

The first stage of the trial was face to face meetings with building managers, cleaners and strata to get them engaged in the project. Subsequent meetings were held to determine the types of bins to be used, storage and collection requirements and education materials for each building.

Graphic stickers and signage were installed in the bin rooms, common areas and lifts, flyers dropped in letterboxes and onsite recycling workshops were also provided. In some cases, building managers pro-actively communicated with residents, mostly via e-mails.
Results

Diverted From Landfill

From 16 Unit Blocks

- 10,660kg of cardboard
- 9,300kg of e-waste
- 1980kg of polystyrene
- 1695kg of soft plastic
- 4,210kg of clothing
- 50 mattresses

A high proportion of the cardboard, soft plastics and polystyrene was collected from 10 of the 16 buildings during the move-in phase.

Building managers and waste collectors reported easier access to the bin bays due to an organised bin area. Compaction rates of trucks were also more manageable because bulky items like cardboard, polystyrene and mattresses were collected separately.

Canterbury Bankstown Council has continued to run this program which has now expanded to 19 unit blocks, containing a total of 2,698 units. However, some buildings don’t have all collection streams due to lack of space. The volumes of source separated waste has continued to increase for most buildings particularly the number of mattresses and textiles.
Source separation of problem waste is possible in RFBs if it is supported by fit for purpose infrastructure and high engagement with building managers, cleaners, strata, residents and waste collectors.

Building managers are more willing to engage with the program when they can see examples of the potential benefits to their building. Having relevant case studies and referrals through their colleagues helps generate interest and support in the program.

Finding the right contractors can be a challenge as there is no single business providing the full range of services.

During procurement of collection services, Councils should include the requirement for collection services to weigh each stream and provide that reporting to Councils.

The City of Canterbury Bankstown focuses this program on buildings with 75 or more units to ensure economies of scale. To run a similar program in smaller buildings may require changes to the services offered.

The biggest individual collection and processing cost in the program is the mattress recycling, with some buildings presenting 30 plus mattresses for recycling per month. Having alternative arrangements for them may be advisable.

**Learnings**

1. Source separation of problem waste is possible in RFBs if it is supported by fit for purpose infrastructure and high engagement with building managers, cleaners, strata, residents and waste collectors.

2. Building managers are more willing to engage with the program when they can see examples of the potential benefits to their building. Having relevant case studies and referrals through their colleagues helps generate interest and support in the program.

3. Finding the right contractors can be a challenge as there is no single business providing the full range of services.

4. During procurement of collection services, Councils should include the requirement for collection services to weigh each stream and provide that reporting to Councils.

5. The City of Canterbury Bankstown focuses this program on buildings with 75 or more units to ensure economies of scale. To run a similar program in smaller buildings may require changes to the services offered.

6. The biggest individual collection and processing cost in the program is the mattress recycling, with some buildings presenting 30 plus mattresses for recycling per month. Having alternative arrangements for them may be advisable.

**Costs**

Approximately between $1000 – 1500 per building annually, or $10 per apartment unit. This amount varies according to the building, number of units, bin sizes and services offered. The trial and continued program is funded through the NSW EPA Better Waste and Recycling Funds.

“*The trial is going well, we get a lot of e-waste and polystyrene in the local community and it is good to have a place to recycle it*”.

Denise & Margaret (community members)
Useful Resources on Waste Systems in Apartments

Western Sydney Regional Organisation of Councils (WSROC) Fact Sheets -
On different types of Waste Infrastructure for Residential Flat Buildings, including single and dual chute systems, chute divertor systems, underground bins, underground compactors, above ground compactors, stationary vacuum systems, mobile vacuum systems, turntables, food organics dehydrators and bulky household waste solutions.  
Visit: wsroc.com.au/media-a-resources/reports

Green Strata - More case studies on waste and sustainability initiatives in apartments are available on Green Strata’s website. Visit: greenstrata.com.au/case-studies#

Cultivating Community’s Report ‘Exploring In-Vessel Food Waste Processing Units’ -
This Report Includes a number of case studies of food processing units used in larger urban developments including universities, zoos and restaurant areas. Some of the learnings may be applicable for mixed residential and commercial developments.  

Swinbourne University’s Report on the City of Melbourne’s Trial of onsite composting in two residential apartment blocks - This report looks at residential engagement in the trial and compares the two technologies used (Hungry Bin Worm Farm and a Closed Loop In-Vessel Composter).  

City of Stonnington Apartment Composting Program - This factsheet provides an overview of their composting program for apartments and the results of their pilot programs. This program provides apartment buildings with up to three Hungry Bin Worm Farms at a reduced 40% discount (buildings have to contribute the remaining $444 per system), an onsite workshop, kitchen caddies, signage and online training for new residents. Visit: stonnington.vic.gov.au/Live/Waste/Other-Waste-and-Recycling-Opportunities/Food-Waste-Recycling/Apartment-Composting-Program