

8.20. Residential Food Scraps Collection and Processing Trial

AUTHOR: Bo Karaula, Waste Management Coordinator

ENDORSED BY: Rob Emerson, Director Open Space and Environmental Services

ATTACHMENTS: Nil

PURPOSE:

This report was prepared in response to Mayoral Minute MM03 Diverting Food Waste from Landfill considered by Council at its meeting on 24 February 2020.

EXECUTIVE SUMMARY:

At its meeting on 24 February 2020, resolved:

- 1. THAT staff prepare a report on the options for conducting a food waste diversion trial that:*
 - a. includes information on costs and likely community interest to participate in a trial; and*
 - b. includes details on any smart phone applications that could be used to allow residents to express an interest in food waste collection in their street.*

The report outlines an estimation of costs and options (including use of an online / smart phone booking system) for implementing a food waste collection trial involving the separate collection and recycling of food scraps from residential Multi-Unit Dwellings (MUDs) in the Local Government Area (LGA) of North Sydney.

FINANCIAL IMPLICATIONS:

The project will be funded from the Domestic Waste Management Budget.

RECOMMENDATION:

- 1. THAT** the Residential Food Scraps Collection and Processing Trial report be received.
- 2. THAT** the Food Waste Collection Trial is progressed in accordance with the budget and methodologies and timeframes proposed in the details outlined in this report.
- 3. THAT** Council seeks three quotations from waste consultancies listed in the Local Government Approved Panel to assist Council in the planning, management and implementation of the trial.
- 4 THAT** a final report is provided to Council on the results of the Food Waste Collection Trial.

LINK TO COMMUNITY STRATEGIC PLAN

The relationship with the Community Strategic Plan is as follows:

1. Our Living Environment
- 1.2 North Sydney is sustainable and resilient

BACKGROUND

Food waste collected with household waste makes up to 35% of the red lid rubbish bin content in the North Sydney LGA.

In order to capture this material and divert it from landfill, Council entered into a contract in 2006 to have all waste processed at SUEZ's resource recovery facility at Eastern Creek. From there, food waste was separated to produce compost for mine remediation and a variety of other applications. This facility was designed to maximise the recovery of resources and divert waste from landfill. Council, under contract with SUEZ, utilized this technology from 2006 to 2018, achieving a 60% recovery rate from the contents of the red bin with food waste and recyclables (plastics, paper and glass) being recovered.

In October 2018, the EPA revoked the general and specific Resource Recovery Orders (RRO) and Resource Recovery Exemptions (RRE) for the application of Mixed Waste Organics Outputs (MWO) to land due to risks associated with chemical and physical contaminants. Councillors may recall that this occurred when Council was seeking tenders for waste processing and disposal including the recovery of resources in the general waste stream.

Council, following the EPA's direction, entered into a contract with SUEZ on 1 July 2019 to dispose of Council's general waste to landfill (Lucas Heights) via the Artarmon transfer station, with an option to process waste through Eastern Creek only should the restrictions be lifted. Council would be required to make a decision to either (i) remain on a landfill contract or (ii) exercise the option and transition to a waste processing contract should the restrictions be lifted. The term of this contract is five years with Council having the option to extend the contract for a further five-year term.

In the lead up to both waste collection and disposal tenders being called in 2018, Council sought feedback from the community on ways to enhance the waste services offered. The theme of organics collection and composting was part of the consultation process. Submissions from the community indicating a preference for a food waste collection for composting purposes made up only 5% of all submissions received.

With respect to greenwaste, a fortnightly collection service takes greenwaste to the Belrose transfer station for subsequent processing into compost. Notably, due to the large proportion of high density dwellings with the North Sydney LGA, the volumes of

greenwaste generated is not sufficient to warrant a trial for a combined Food Waste and Greenwaste Collection (FOGO) service. The FOGO service is another resource recovery option for those councils that produce large volumes of greenwaste.

CONSULTATION REQUIREMENTS

Community engagement will be undertaken in accordance with Council's Community Engagement Protocol.

DETAIL

This report was prepared in response to Mayoral Minute MM03 Diverting Food Waste from Landfill, considered by Council at its meeting on 24 February 2020, where it resolved:

- 1. THAT staff prepare a report on the options for conducting a food waste diversion trial that:*
 - a. includes information on costs and likely community interest to participate in a trial; and*
 - b. includes details on any smart phone applications that could be used to allow residents to express an interest in food waste collection in their street.*

Purpose of a Food Waste Diversion Trial

The purpose of such a trial is to test the demand and to gather data (cost and operational) of implementing a food scraps recycling collection service for residents in Multi Unit Dwellings (MUDs). Such data is required for Council to make long-term strategic decisions on resource recovery options.

Overview of Proposed Implementation Methodology

Whilst many of the trial design parameters are yet to be determined, residents will be asked to separate their food waste via kitchen caddies in each individual dwelling and place this food waste in a separate food-only Mobile Garbage Bin (MGB) on a shared basis in an allocated waste disposal area on site for collection. This method is consistent with standard practice adopted at other councils that have undertaken similar food waste trials. Any trial will need to be supported by an education campaign. It is proposed that our current waste collection contractor, URM, would undertake the MGB collection service with all collected food waste delivered to an anaerobic digestion processing facility at Camelia (EarthPower Technologies) for conversion to compost / fertiliser with the added benefit of green electricity being generated. This facility is currently closed for refurbishment and is expected to reopen July 2021.

To gain a realistic understanding of how the residents and the wider community will respond to such an initiative, it is recommended that the trial should run for a period of six (6) months.

Given that small, medium and high-density apartments represent almost 90% of the housing stock in the LGA, it is proposed to target the multi-unit dwelling (MUD) community in the trial. It is proposed to exclude single unit houses from the trial (representing 7% of the housing stock) because the results from food waste trials at other councils indicates this group consistently performs significantly better than MUDs in their participation and contamination rates. Individual waste disposal facilities are a contributing factor why houses outperform MUDs in food waste trials.

The trial's intention would be to target residents residing in MUD's that display a diversity of features, such as number of units, demographics including mix of owner occupied and tenanted households, whether waste chutes are present and general access considerations. Consideration must also be given to potential bias in the data and results obtained from the trial, if the resident sample are only those that are motivated by behavioural change and are willing participants as this sample group is unlikely to reflect a longer term commitment from the wider LGA if the service was to become permanent.

Planning and implementation of this trial will require Council to engage a suitably experienced waste consultant listed on the LG Approved panel, to support and assist Council with the planning, design, recruitment of participants, audits, data collection, surveys and reporting functions. Consultants who have performed similar food waste collection trials for other Sydney councils have expressed interest to date in being involved in such a trial.

Further details on the intended approach and considerations required for the trial's implementation are provided below.

Food Organics Garden Organics (FOGO)

A FOGO service is not viable for North Sydney as previously stated, as the North Sydney LGA generates low volumes of household greenwaste. A FOGO service also requires a dedicated weekly greenwaste collection service, such being an increase on Council's current fortnightly service. Anything other than a weekly service will lead to odour issues due to the food scraps decomposing as well as vermin issues.

Food Scraps Collections in Multi Unit Dwellings (MUDs)

The selection of MUDs as stated above is intended to comprise of a range of small, medium and high-rise developments, including those with garbage chutes to ensure a good representation of the area is captured and the results are representative. The objective is to generate a sample of MUDs large enough to generate robust data. It should be noted that MUDs are inherently more difficult to manage due their high

transient population. The 2016 ABS census data revealed that of the entire housing stock in the LGA, 46% are owner occupiers and 51% are tenanted. Other variables to consider include building age, size (number of units), presence/absence of a building manager/caretaker and site conditions i.e. location of garbage bin room, internal/external access and bin bay capacity for additional food scrap wheelie bins.

Recruitment of Trial Participants / Smart Phone Interface

To gauge the community's interest in the participation of the trial, a number of community engagement methods can be deployed including a combination of Expression of Interests (EOI's) and direct random sampling to reduce risk of the results being biased or distorted. Council's current community engagement protocols include:

- web page and 'YourSay North Sydney'- accessible via mobile hand held devices with residents having easy access via their smart phones, tablets or equivalent;
- letter box drops or direct letter of invitations to all owner corporations/body corporates, strata agencies;
- survey/questionnaire or Poll/Survey (i.e. Monkey) to also include questions for baseline information about the features of MUDs; and
- use of 3rd party service providers (i.e. trybooking/eventsbrite) – via a registration online process this is also accessible via mobile hand held devices. This would also allow enable enhanced communication with residents and better access to measurements of participation rates,

Recruitment would require Owners Corporation approvals for the entire apartment block to become eligible to participate. Key learning from other Councils having conducted similar trials include consideration of how it is to be determined if residents are participating fully or poorly, as efforts can sometimes only be measured in aggregate for an entire building (given the shared bin and services model that exists in MUDs). In this instance, learnings have shown that it is imperative for the Owners Corporation or Strata Managers to support such an initiative and to ensure data collection is accurate, a commitment from the building to actively take part is required. Other Councils have attempted with varying degrees of success to appoint Point of Contacts (PoC) that include building managers, cleaners and nominated building champions.

Consideration of the location of wheelie bins for resident disposal and contractor collection, access and other associated site assessment activities of pre-selected properties would be also be required.

Similar food waste collection trials conducted by other Councils has shown that the recruitment phase of the project is one of the most labour-intensive part of the exercise, requiring about three months of dedicated effort before the collection trial can commence.

Equipment and Educational Materials

To make separating food scraps for processing simple, registered participating households will be provided with:

- a small seven (7) litre kitchen caddy;
- one off supply of compostable caddy liner bags;
- food scraps recycling wheelie bins, 120 L size with a burgundy lid as per industry standards;
- wall poster for lobby noticeboard, fridge sticker, bin sticker, bin bay signage, FAQs information booklets; and
- ongoing support from Council in managing the likely contamination of the food scrap bins.

URM will carry out delivery of kitchen caddies as well as the delivery, repair and replacement of the food scraps wheelie bins. This would need to be arranged per building. Collection services will be undertaken by URM on a once per week basis preferably on Mondays using a dedicated 6- 8 cubic metre rear loader truck. The existing waste services will continue to be provided as per normal.

Cost Estimate

The following is an estimation of the likely costs associated with the trial.

To offset costs, it is proposed that Council enquire / negotiate with the EPA to partially fund the trial via their current grants program.

		Low End	High End
1	External Costs		
1.1	Collection/MGB Supply/Processing	90,000	120,000
1.2	Consultants	100,000	140,000
1.3	Household Kitchen Caddy (URM)	5,200	15,600
1.4	Caddy Biodegradable Bin Liners	4, 000	10,000
2	Internal Costs (Council)		
2.1	Communication Materials	20,000	30,000
	TOTAL Estimate	219,200	315,600

Notes:

1. All amounts exclusive of GST.
2. Trial based on 6 months duration with collections based on approximately 400 to 1200 individual dwellings.
3. Food Scraps Mobile Bin allocation is based on a suggested 1x 120 mobile garbage bin (MGB) L bin shared amongst 25 occupancies .

4. The generation rate of food scraps for MUDs is expected to be approximately 1.5-2 kg/household/week.
5. URM have provided indicative prices, although they have emphasised that it is difficult to estimate costs until further details are known. There may be further price changes once the collection zones and scope of works is finalized.
6. Consultants tasks would include:
 - trial project design;
 - initial community engagement;
 - selection of households representative of the area and statistically valid, if possible, via the development of a selection matrix to assist in determining parameters including but not limited to approval from owners corporation/body corporate, building features;
 - assist with ongoing community engagement and education (Council to produce all the educational materials);
 - undertake audits of the food scraps bin;
 - preparation of final report with recommendations for council consideration:
 - including results of audits
 - residents feedback
 - contractors and processor feedback on feedstock quality and quantity
 - cost benefit analysis on budget implications of avoided waste disposal fees vs additional infrastructure and service costs.

Potential Challenges/ Issues and Risks

Contamination of loads, as seen from other Council trials will be the major risk issue.

Contamination at the processing facility may incur additional costs. Councils that have conducted similar trials have reported increases in processing costs as well as declining interest (between 30% to 50%) with a fall-off in participation after the initial period of engagement.

Not all MUD residences will participate in the service, as indicated by the estimated food waste being generated from the households and the actual tonnages collected via food scraps trials conducted by other Councils. The reasons for this vary from the perceived 'yuck factor' due to odour, vermin, insects such as fruit fly or maggots, to not producing enough food waste in smaller households, due to either regularly eating out or purchasing takeaways or simply preparing meals for only one or two occupants.

Apathy, the 'inconvenience', being 'too busy', an additional waste task, is also a prevalent additional barrier evidenced by other councils under such trials. Other issues raised include the requirement for regular updates in the form of newsletters to address the transiency of tenants and MUDs with garbage chutes requiring residents to take food scraps to the basement of buildings for collection.

Regarding the trial, it is important to support households in a manner which would be consistent if the trial was made permanent. If engagement is kept realistic and to the level that Council can provide to the entire area, then the trial results will be more

realistic with what can be achieved. Extensive engagement and support over and above realistic service levels may lead to false community expectation is another key learning from other council trials.

The results of this trial could possibly shape whether future food scraps recycling services would be viable across the North Sydney LGA. However, the true ongoing running method and cost is not clear as it would require a full-scale trial with a significant uptake of participants.