

FOGO Evaluation Report

Food Organics Garden Organics Community Trial



1. Executive Summary

Keeping food and organics waste out of landfill is considered best practice, and regarded as a priority under the Northern Territory Government Waste Strategy. Recovering organic waste reduces the volume of waste entering landfill, reduces greenhouse gases and increases the use of organic material as a valuable resource.

The Alice Springs Food Organics Garden Organics trial involved 86 participants and the Alice Springs Hospital. Each property received a 240L kerbside organics bin with a neon-green lid. To assist households to separate their food waste, a 8L kitchen caddy and compostable bin liners were supplied to assist with odour and mess. The bins were collected on a weekly basis, and fortnightly collection was also trialled to determine impacts of odour and vermin in hotter summer months.

The trial met its objectives of: recovering food waste from landfill; trialling different service models; testing the educational approach; and, identifying cost, challenges and logistics in delivering a community wide FOGO service. One aspect of the trial which wasn't explored was the use of multi-lingual communications resources.

Based on responses from participants, there was great support for the service. A recommendation will be made to Council to consider expanding the FOGO service to all households within the municipality.

2. Background

2.1. Alice Springs Town Council Strategic Plan 2018-2021

Under the theme of Sustainability, the *Strategic Plan 2018-2021* outlines Council's commitment to protecting the natural environment, reducing waste, and diverting materials from landfill for reuse and recycling.

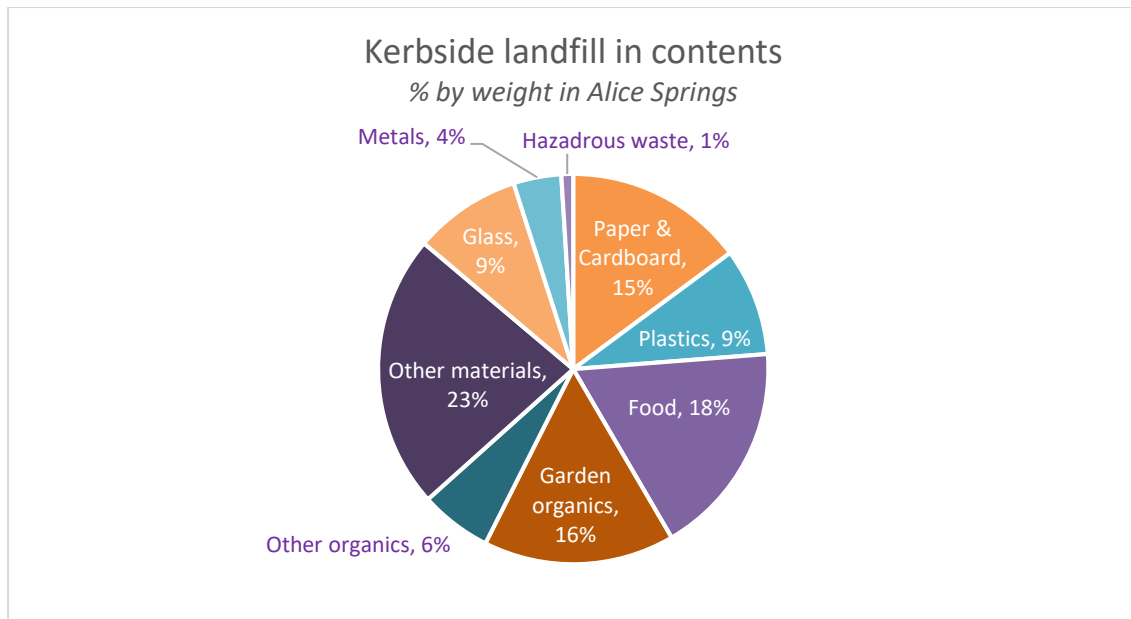
2.2. Alice Springs Landfill Future Options Assessment

Council operates a landfill in Alice Springs that accepts kerbside and commercial waste.

Recognising the environmental impacts and costs associated with operating, developing and rehabilitating a landfill, Council strives to extend the lifespan of the landfill by diverting as much waste as possible. The benefits of removing food waste and other organic materials from landfill include reduced volume, reduced greenhouse gas emissions, and increased recovery of food to use as a resource-compost.

2.3. Alice Springs Kerbside Waste Audit 2015

Alice Springs Town Council commissioned a kerbside waste audit in November 2015. Results revealed that, in Alice Springs, approximately 38% of waste entering landfill from kerbside collections was compostable organic material, with 23% being food waste.



Other materials included nappies, textiles, building materials, e-waste, vehicle batteries, paints and chemicals.

3. Project details

3.1. Objectives

The main objectives of the FOGO Community Trial were to:

1. Recover food waste currently going into landfill;
2. Test composting methodologies;
3. Test the service model and educational approach (multi-lingual communications resources); and
4. Identify costs, challenges and concerns associated with delivering a FOGO service (including contamination and impact of seasonal fluctuations in weather) to inform future plans to roll out a FOGO service to the wider community.

3.2. Budget and resourcing

The project was funded via the Climate Action Plan budget. The FOGO team consisted of Council Officers from the Regional Waste Management Facility, Environment, Media, and Customer Service teams.

3.3. Household selection process

Households were selected via an Expression of Interest. Suburbs and streets with the highest submissions were selected. The trial was narrowed down to four suburbs and four streets in each suburb. The trial was capped at 200 households.

3.4. Collection model

Using research from other councils' FOGO trials, the following collection model was adopted for our trial:

1. Weekly 240L FOGO (organics) bin collection
2. Provision of an 8 litre kitchen caddy and two rolls of 52 compostable bin liners

No changes were made to the collection frequency of general waste bins.

A kitchen caddy and compostable bin liners, along with a collection calendar, were delivered to each participating household the week before the trial began.

Ratepayers and residents incurred no extra cost for participating in Council's FOGO Trial.



Kitchen caddies and liners provided to households

3.5. Organics processing

Council staff currently process greenwaste into a mulch product at the Regional Waste Management Facility (RWMF). Part of the trial was to test if RWMF staff could achieve producing a compost product that met Australian Standard 4454-2012.

During the trial meat, bones, seafood, shells, paper, cardboard and garden cuttings were accepted. Brands of compostable liners (AS 4736-2006) that have been proven to compost at facilities include: Cardia, Mastec, Biopak, Compost-a-pak, and Bio Tuff.



3.6. Communications and community engagement

With a desire to communicate clearly to participants about the trial and avoid confusing the broader community, Council elected to use only channels that allowed direct communication with participants, e.g. email and e-newsletters.

Mail-outs, as part of the Expression of Interest process, involved posting *"To the Resident"* letters to ensure that tenants also received information about the trial. The letters also worked

to remind ratepayers, who may have an alternative primary address in Alice Springs, about the service.

Information about the trial, including FAQs, was made available on Council's website to create a central hub for further details and resources for use by the community and Council's customer service team. In addition to planned communications, several media enquiries were received about the trial resulting in news stories in video and radio formats.

All additional educational materials are included in the Appendix A.

3.6.1. Branding

Though the trial was formally known as the Alice Springs Food Organics Garden Organics Trial, Council adopted the industry term of 'FOGO' to communicate about the new service. All current kerbside waste bins in Alice Springs have dark green lids. In order to clearly distinguish between landfill waste bins and FOGO organics bins, all participants were issued a bin with a neon-lime green lid, and FOGO stickers to apply to their bins. This assisted further with distinguishing between the two kerbside bins. A *Collection Day & 'How To' booklet*, incorporating a fridge magnet, was produced and issued to all participants.

Branding for the trial



4. Evaluation Methodology

4.1. Data sources

Council was keen to gather data about the impacts of the trial in terms of waste diversion and community experience. The methods used were:

1. **Community surveys** – conducted before the FOGO trial commenced, during the service delivery, and at the conclusion of the service.
2. **Direct feedback from community** – including emails and phone calls
3. **Kerbside bin visual audits** – at the start and end of the service
4. **Waste disposal data** – including weights; and
5. **Waste processing data** – including weights, costs and contamination rates

4.2. Performance measures

The key performance measure for evaluating the FOGO trial were:

1. Amount (%) of waste diverted from landfill;
2. Amount (%) contamination in kerbside FOGO bins; and
3. Community acceptance and satisfaction

4.3. Limitations

The following limitations were noted in regard to data sources and performance measures used to evaluate the trial:

- Responses received to the surveys were assumed to reflect the broader community's opinions and experience of the FOGO service.
- Bin audits results may not be a true representation of community contamination due to the opt-in design of the trial and the demographic captured during the trial.
- Council staff found challenges in meeting Australian Standards compost during the trial due to limitations in resources and staff capacity.

5. Findings

5.1. Surveys

5.1.1. Pre-trial Expression of Interest survey

A link to an online survey was emailed out to all community members that submitted an Expression of Interest. The purpose of this survey was to gain an understanding of how Alice Springs residents managed waste in their homes, and to hear their thoughts about the FOGO service before it commenced. From 179 Expressions of Interest, 123 surveys were returned.

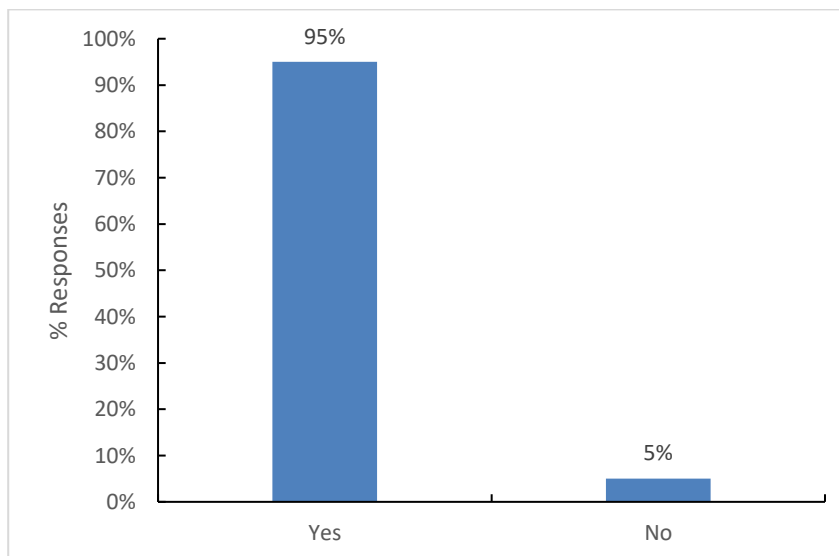
Key findings:

- 35% of households use a compost bin, worm farm, pets or other method/s to manage food waste.
- The majority of respondents said they know what goes into the FOGO bin.
- The majority of respondents understood the benefits of FOGO such as a reduction of waste to landfill, composting benefits and an overall positive effect on the environment.

5.1.2. Mid-trial and Evaluation surveys

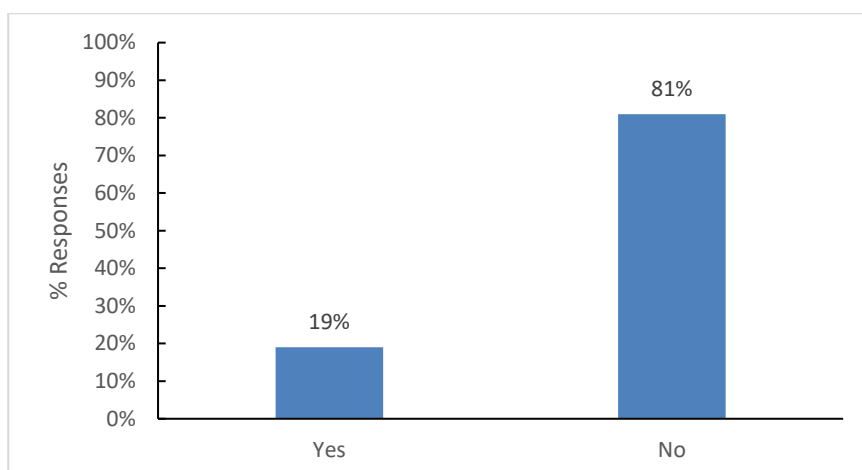
Several mid-trial surveys were conducted with participants, this was to obtain feedback on specific aspects of the FOGO service and to learn of how waste was being managed in the home. All surveys were received via Mail Chimp. The following graphs show some key findings:

Do you feel communication about the trial has been clear?



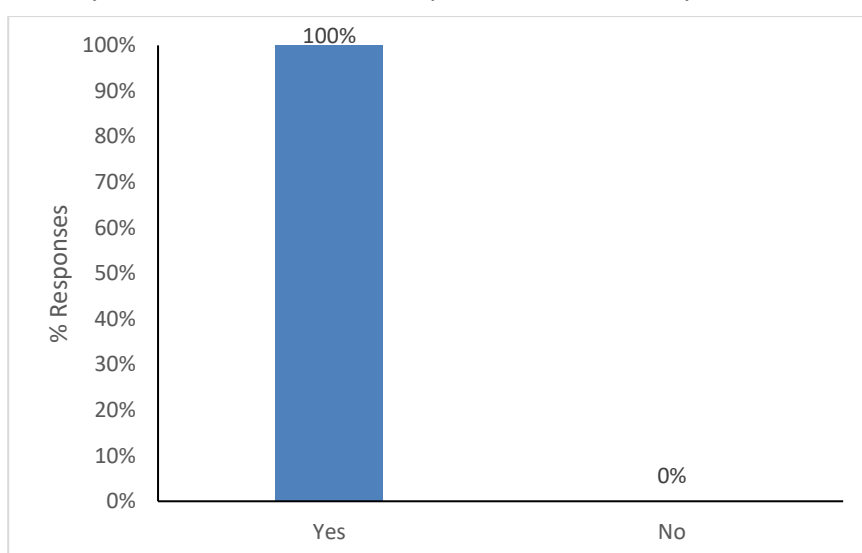
| Answer choices | Responses | |
|----------------|-----------|----|
| Yes | 95% | 38 |
| No | 5% | 2 |

Do you think a fortnightly collection is suitable in summer?



| Answer choices | Responses | |
|----------------|-----------|----|
| Yes | 19% | 6 |
| No | 81% | 25 |

Would you like to see the service implemented community-wide?



| Answer choices | Responses | |
|----------------|-----------|----|
| Yes | 100% | 42 |
| No | 0% | 0 |

Some other findings:

- 56% of multi-unit dwelling respondents said they would be happy to share their FOGO bin with residents in their complex.
- Respondents noted a 240L kerbside bin was too large for a weekly FOGO collection.
- 45% participants supported a fortnightly collection to reduce the waste services fee included in their rates notice.
- Respondents were happy with the kitchen caddy and bin liners supplied by Council.

- Many people expressed their enthusiasm for using and retaining the FOGO service and hoped to see it introduced community-wide.

5.2. Waste audits

The purpose of conducting audits during the trial was to understand how much food was going into FOGO bins, and the volume of contaminants. The data provided an indication of how well Council was communicating about how to use the service, and what outcomes were being achieved in waste diversion.

Bin inspections occurred at randomly-selected properties over two single weeks – the first in August 2020, early in the trial, and a second in February 2021, near the end of the trial. A total number of 35 properties were inspected in each audit. Audits involved removing material from the kerbside bins and weighing FOGO and contaminants. A summary of the audit findings follows.

| August Audit | Audit 1 | Audit 2 | Difference |
|--|---------|---------|------------|
| Presentation rate (number of bins on the kerb) | 71% | 69% | |
| Contamination (Litres) | 1.1% | 0.1% | -1.0% |
| Cardboard (Litres) | 17.9% | 14.3% | -3.60% |

5.3. Diversion from landfill

Data over the period of the trial showed a 0.06% (29.18 tonne) reduction in waste sent to landfill. This equates to a greenhouse gas emission saving of 62 tonnes CO²-e for waste diverted from landfill over the trial period (National Greenhouse Account Factors (Department of Industry, Science, Energy and Resources, September 2020).

5.4 Organics Processing

While Council staff were able to produce compost, there were challenges reaching Australian Standards 4454-2012 due to limitations in resources and staff capacity. However, the quality of the compost was still suitable as a nutrient source for soils.

Contamination during the trial was acceptable at 2% – the industry acceptable standard ranges between 1-5%. Early during the trial, there were contamination issues with cardboard. While cardboard was originally accepted for the trial, it became clear that heavy-duty cardboard was difficult to compost without having shredding machinery available to reduce it into finer pieces for effective composting. Educational material was urgently revised to exclude heavy-duty cardboard.

5.5 Communication material

Based on feedback received through surveys and direct feedback, educational collateral and Council's communication strategy provided an appropriate level of detail and clarity about the trial. The communication collateral was tested on speakers of English-as-a-first-language only and therefore did not reach other demographics within Alice Springs. A multi-lingual video in Arrernte, Warlpiri and Pitjantjatjara was produced. However, due to logistical reasons, no Town Camps or Department of Housing residents participated in the FOGO trial.

5.5.1 Direct Contact

Council's customer service team was the first point of contact for all queries, and throughout the trial, numerous emails and phone calls were received directly by Council Officers. Another 20

community members expressed an interest in participating in the FOGO trial after it had commenced. Participant queries ranged from basic queries to more detailed discussions. Council Officers were able to advise participants that were having issues with what items could and couldn't go into their FOGO bin.

5.5.2 Council website and e-newsletter

A participants' email database was compiled for subscribers to receive updates about the trial in a FOGO e-newsletter, issued via Mail Chimp. This was the main form of communication for updates about the trial. All 86 participants were subscribed throughout the trial period.

5.5.3 Delivery of FOGO kerbside bin and kitchen caddies

Delivery and pick up dates were communicated using the FOGO e-newsletter. Participants were notified several weeks prior to the commencement of the kerbside bin collection. Upon delivery to participants' properties, kerbside FOGO bins contained kitchen caddies, bin liners, and education material.

5.5.4 Addressing issues and concerns

Due to the opt-in nature of the FOGO trial, many participants were already passionate supporters of the trial before it commenced. Additional educational resources were sent out to participants during the trial due to some confusion around acceptable types of cardboard. However, this was resolved quickly and satisfactorily for the remainder of the trial. All comments and feedback provided by participants has been highly valuable and will be used to inform a potential future FOGO program.

5.6 Costs and resourcing

Council's FOGO Community Trial cost \$250,000 to deliver, not including time given by Council staff involved in the project. The project was planned and delivered by Council Officers from the Regional Waste Management Facility, Depot, Media, Customer Service, and Environment teams. Contractors were selected in accordance with Council's local Procurement Policy to deliver kerbside bins, kitchen caddies, and to undertake routine bin inspections.

Apart from Council staff time, the highest project cost was \$113,873.90 paid to a consultant to assist and train RWMF staff on the composting process. The next highest cost was \$41,558.80 to employ a FOGO operator responsible for managing the processing of compost. The processing cost per kilogram for food and garden waste was \$2.96.

7. Conclusion and recommendations

Council's community FOGO trial met the project objectives of: recovering food waste from landfill; testing the composting methodology; service modelling; educational approach; and, identifying costs, challenges and logistics associated with delivery of such a service to the Alice Springs municipality.

Shortfalls of the trial included: not testing multi-lingual educational resources; and, determining the program's acceptance by a wider demographic of the community. Due to the opt-in nature of the trial, only a certain pro-active group within the community was captured.

Based on the documented outcomes of the trial, a report is to be presented to Council.

The following considerations will be highlighted and considered in planning the future of a larger scale FOGO service for the Alice Springs community:

- food waste avoidance and diversion from landfill remain key priorities;
- the kerbside bin configurations and schedules trialled were appropriate for the majority of households;
- communications and community engagement must be appropriately planned and resourced to support a viable service;
- RWMF staff and machinery must be appropriately resourced to support a viable service;
- the community is generally highly receptive to a FOGO service, is committed to using it correctly, and is well engaged with good waste management practices;
- some ratepayers have expressed concern that their waste fees may increase as a result of the FOGO service;
- implementing the service across town in a staggered approach, i.e. 1) residential, 2) multi-dwelling units, is likely to be the more efficient method for expanding the service within the municipality; and
- extending the FOGO service will require budget and resourcing in addition to current operational costs.

Appendix A



Your FOGO collection days

Weekly FOGO collection day – please place your bin on the kerb before 7am on the scheduled collection day

| | |
|----------------|--|
| East Side | Friday |
| Desert Springs | Thursday |
| Gillen | Tuesday, Milner Road (south side Larapinta Drive only) |
| Larapinta | Monday |

What goes in the FOGO bin?

These items **CAN** go into your FOGO bin



food scraps + fruit + vegetables + egg shells + bread + dairy + poultry + fish + meat + bones + teabags + coffee grounds + pizza boxes + egg cartons + shredded paper + tissues + napkins + paper towels + small clippings (grass, hair) + small prunings + bark + weeds + plants + flowers

These items **CAN'T** go into your FOGO bin



NO... plastic (no biodegradable bags, food containers, straws, cutlery, cups), nappies, sanitary items, pet litter, textiles (clothing, fabric bags, band-aids), metal, glass, crockery, hazardous waste (asbestos, oils, paints), large branches, palm fronds

How food waste is recycled

Benefits of food waste recycling

Here in Alice Springs, we currently send 38% of our food waste to landfill.

How food waste is recycled



Handy FOGO bin tips!

We understand that, to achieve great compost, our sense of smell may be challenged along the way! Here's a few tips to reduce potential odours from your FOGO bin:

- With each layer of food waste that goes into your FOGO bin, add a layer of paper, leaves, garden or grass clippings
- Wrap very smelly foods (e.g. shellfish, cheese, meat) in paper and place in the freezer until your FOGO collection day.
- Sprinkle bicarbonate of soda inside your bin for a safe, natural way to neutralise odours
- Drop fresh cardboard in the bottom of your FOGO bin after each collection
- Occasionally hose the inside of your FOGO bin to minimise odours and wash out any built-up waste.

Order more bags here >>>

Compostable vs Biodegradable



Can I use any other type of bag?

Plastic, biodegradable or degradable plastic bags can NOT go into your FOGO bin, because many of them contain some form of plastic.

Plastic doesn't decompose – it just breaks down into micro-plastics and is very hard to remove from contaminated compost.

To avoid accidentally contaminating your FOGO bin, only use the supplied compostable bin liners. If you've run out and are waiting for more, you can use newspaper or paper towel to wrap food waste and place it in your FOGO bin.



FOGO Compostable Bags are available from Alice Springs Town Council Reception – order by calling our friendly Customer Service Officers on 8950 0500 or email to astc@astc.nt.gov.au



(08) 8950 0500

alicesprings.nt.gov.au