

Conducting and evaluating a pilot trial

Kerbside organics collection systems should be trialled before full-scale implementation in order to identify local issues and knowledge gaps. A trial can encourage community debate and be used to fine tune program / service components, such as education, communication and infrastructure.

Another option is a sequential implementation of the collection system to iron out any problems, although detailed research on the type of system is still required beforehand. A sequential rollout of services may be easier for householders. For example, this may involve establishing a fortnightly kerbside garden organics service and building up good participation rates, recovery rates and low contamination levels before introducing food organics. Another example would be having the combined food and garden organics service well established before reducing residual bin size or collection frequency.

The results of a well-designed pilot trial provide council with specific information to undertake detailed cost-benefit analysis, for example a triple bottom line assessment, comparing the effectiveness of an organics service to other options. The pilot area has to be well-chosen in order for you to extrapolate the results to the rest of the area being considered for the service.

How well the pilot is received by residents will have a significant impact on a possible subsequent full scale rollout. If there is support for the scheme, this will act as a great advertisement. Effective and appropriately resourced implementation – with staff that can respond promptly to enquiries – is therefore essential. This will help prevent initial issues developing into difficult complaints, which may generate negative publicity and impact on a subsequent acceptance of the scheme.



(WRAP UK)

A pilot trial can help to test the following characteristics of an organics scheme:

- ✓ Participation rates
- ✓ Diversion rates
- ✓ Contamination rates
- ✓ Different types of caddies, with or without liners
- ✓ Householder attitudes and satisfaction
- ✓ Effectiveness of communication/education strategy
- ✓ Collection frequencies.

Pilot trial planning

This section provides information on the main stages involved in planning a pilot trial, including:

Planning Stages	Key information required
<ul style="list-style-type: none"> ✓ Assessing the waste diversion potential 	<ul style="list-style-type: none"> ✓ Area specific compositional analysis will provide an understanding of the available organics ✓ Only a proportion of the available organics will be captured in a collection service.
<ul style="list-style-type: none"> ✓ Choosing the right collection system(s) to test 	<p>Four typical collection options:</p> <ul style="list-style-type: none"> ✓ Garden organics only ✓ Food organics only ✓ Food and garden organics, but in separate containers ✓ Food and garden organics co-collected in a single container.
<ul style="list-style-type: none"> ✓ Locating a suitable treatment facility 	<p>When planning an organics collection trial, it is important to consider how and where the collected material will be processed.</p>
<ul style="list-style-type: none"> ✓ Choosing containers and other supporting tools 	<p>It is important to provide practical and convenient methods to make organics collections easy for householders.</p> <p>Consider factors such as dwelling types, storage spaces, household sizes, garden sizes, climate, time of year, and cultural issues.</p>

Planning Stages	Key information required
Identifying the trial design and sample area	Some decision factors include: <ul style="list-style-type: none"> ✓ Number of variables to be tested ✓ Representative demographics ✓ Sufficient sample size ✓ Use of a control area ✓ Ease of distribution and collection.
Identifying appropriate collection vehicles and trial logistics	<ul style="list-style-type: none"> ✓ Ensure the capacity of the collection vehicle is appropriate to the tonnage collected ✓ Ensure proposed collection schedules are compatible.
Communicating with stakeholders	An effective education and engagement strategy is essential to the success of an organics collection trial. <p>Remember to inform and consult with other important stakeholders that may be affected by the trial, or may influence, the results.</p>
Monitoring and evaluation	Monitoring and evaluation before, during and after the trial will help to demonstrate the performance of the trial. This may include waste audits, visual inspections, participant surveys, and economic analysis.
Applying the results	Decision-making should be influenced by a wide range of environmental, economic and social factors. <ul style="list-style-type: none"> ✓ Quantitative figures such as participation rate, capture rate and contamination can be used to determine overall diversion potential across the LGA ✓ Economic information and participant satisfaction results can indicate the ease and cost-effectiveness of fully implementing a system.

1 – Assessing diversion potential

It is not advisable to rely on national or jurisdictional compositional waste data when planning an organics collection scheme, because different amounts of organics are generated by different sectors of the community. Area specific compositional analysis will provide a more accurate picture of the available organics – the waste audit process, including case studies and examples of guidelines, is further explained in Factsheet 2 – *Understanding Your Waste Stream*, part of *Planning Your Scheme*.

It can be expected that only a proportion of the available organics will be captured in a collection service. This will depend on a number of factors, for example community commitment to recycling, cultural influences on cooking habits, home composting rates, and amount of food left in packaging.

The proportion of garden organics in MSW is an important factor influencing collection strategies. The main issues to consider if you are evaluating how much garden organics will be presented for collection are:

- ✓ Proportion of properties with gardens – many urban councils have high proportions of housing stock with either no gardens or small gardens, where a separate garden waste collection service may deliver small amounts of garden organics
- ✓ Garden size – properties with larger gardens will produce more garden materials
- ✓ Garden age – the age of a garden will affect the amount of garden material produced
- ✓ Seasonality – garden organics usually increases in spring/summer/autumn and reduces in winter. On the other hand, food organics volumes show little seasonal variation.

In areas where limited garden organics are available, consider less frequent collections and alternatives to bin services such as tied and bundled collection, chipping services, or provision of drop off centres. However, it should be noted that provision of a bin service allows the flexibility to add food organics later.

2 – Choosing the right collection system to test

A council considering introducing an organics collection service typically has four general collection options:

- 1 Collect garden organics only
- 2 Collect food organics only
- 3 Collect food and garden organics, but in separate containers
- 4 Co-collect food and garden organics together in a single container.

Many Australian councils offer kerbside collection of garden organics. Those councils collecting both food and garden organics often prefer to co-collect the material in a single bin because this avoids the need for an additional receptacle and collection service.

Collection frequency and configuration of other collection services also need to be considered. Food organics generally requires more frequent collection than garden organics, in order to address potential odour issues. Councils in Australia usually collect combined food and garden organics on a weekly basis while separated garden organics tends to be collected fortnightly. Some councils in Europe have opted for a weekly organics collection in summer and a fortnightly collection in winter, but this may require more elaborate communication with the community.

The configuration of other waste collection services can have a significant impact on the success of the organics collection. For example, a trial in South Australia showed that reducing residual waste collection frequency from weekly to fortnightly resulted in greater food recovery rates via the weekly organics collection. If a future change to the frequency or size of other waste services across the LGA is being considered, then the likely impact is important to test in the organics pilot trial.

2.1 Collection costs

The **absolute collection costs** of a trial will be affected by the:

- ✓ Number of additional staff and local wage levels
- ✓ Purchase / lease of additional collection vehicles
- ✓ Requirement for any vehicle modifications of existing or new fleet
- ✓ Vehicle running costs, including fuel and maintenance
- ✓ Type and size of collection bins and kitchen containers provided to residents
- ✓ Type of liners for kitchen containers provided to residents
- ✓ Intensity of public education and motivation campaign
- ✓ Performance monitoring, including contamination
- ✓ Additional management and administration.

Factsheet 3 – *Understanding the Collection Options* and Factsheet 10 – *Scheme Design and Roll-Out* provide more detailed information on the common organics collection options and appropriate equipment, while Factsheet 7 – *Understanding the Costs and Savings* provides more information on the TBL process and the various costs and savings associated with a collections service.

3 – Locating a treatment facility

When planning an organics collection scheme, it is important to consider how and where the collected material will be processed.

The type of organics collection scheme introduced (such as food organics only, or food organics combined with garden organics) will have a major impact on the treatment options. Sites receiving food and garden organics separately may be better positioned to manage the blend of input material for processing, allowing greater control over the quality of end products. Depending on their chemical and physical characteristics, different types of organic residues lend themselves better for combustion (including gasification), composting or anaerobic digestion (refer to Factsheet 5 – *Understanding the Processing Options*).

When introducing a collection scheme, it is advisable to:

- ✓ Seek to fix treatment costs by securing gate fees (or a portion of gate fees) for the organics over the duration of the trial
- ✓ Ensure the facility is licensed to process the quantity and type of material to be collected
- ✓ Check that outlets have been secured for the finished products
- ✓ Ensure arrangements for dealing with contamination are specified in the contract (for example contamination limits, responsibilities, and who pays if loads are rejected).

4 – Choosing containers and other supporting tools

Factsheet 3 provides detailed information on containers and liners. Important points to remember when implementing your pilot trial are:

- ✓ 120–240L wheeled bins are best for co-collection of food and garden organics. The size depends on collection frequency and the average garden and household size and type of dwelling.
- ✓ Smaller sized MGBs (60L and 80L) suit confined spaces and use in MUDs and / or smaller families. Where food organics are collected separately on a weekly basis, a 20-25L container will be sufficient for the majority of households.



Kerbside organics bin (Crows Nest Shire)

- ✓ Providing households with bench top kitchen caddies encourages participation and increases food organics capture rates as a caddy will help residents to easily segregate food organics from other waste.
- ✓ Compostable liners that fit inside kitchen caddies and meet the Australian Standards (AS 4736-2006) aid cleaning, storage and disposal and reduce leakage and spills. It should be noted that liners can become unreliable if stored for extended periods.

5 – Identifying the trial design and sample area

5.1 Identifying the trial design

The design of a pilot trial is primarily dependent on the number of variables that need to be tested. In some cases, a single collection system may already have been determined as the most feasible and therefore a homogenous trial area is suitable to determine the recovery potential of this option. In most cases, however, the council may want to compare two or more options for any or a combination of the following:

- ✓ **Collection system** for example food-only versus co-collected food and garden
- ✓ **Service configuration** for example weekly residual waste collection versus fortnightly residual waste collection
- ✓ **Container type** for example enclosed versus aerated MGB and/or kitchen caddy
- ✓ **Supporting tools** for example use of compostable bags versus newspaper as a caddy liner.

A separate trial area should be defined for each different combination of trial variables so that differences in results between each area can be attributed to a single variable.

Remember to keep these variables to an absolute minimum. Consider that, as the number of tested variables increases, so does the complexity of other trial aspects such as communications, distribution, collection logistics and even data analysis. Each of these factors can have significant cost implications.

5.2 Selecting the sample area

Identifying the right sample area or areas is a critical decision in the trial planning process.

The participating households in a trial should be carefully chosen to ensure it is an accurate representation of the target population. It must mirror the profile of the population, therefore the demographics of the participating households should reflect the demographics of the council area overall.

The sample size should always be as large as possible but will depend on key factors such as the project budget and the level of precision required for the intended use of the results. As a simple rule, a sample of 1,000 households or more will generally provide an overall recovery rate that is sufficiently reliable. However, if testing a number of variables, then the total number of participating households is less important than the number in each different trial area. In general, try to avoid using test area samples smaller than 200 households as the results are unlikely to be representative of the entire population.

Factsheet 13 provides more information on factors to consider in selecting a trial sample.

6 – Identifying appropriate collection vehicles and trial logistics

Organics have a different bulk density and compactability than MSW. It is therefore crucial to ensure the capacity of the collection vehicle is appropriate to the tonnage collected. Monitoring the quantity of organics loaded into the truck is recommended, so as to avoid overloading, particularly when the proportion of grass clippings is high, or in high density housing areas where the proportion of food organics is high. Vehicles should be leak proof with apertures that close when not being loaded.

It is also important to consider how the collection schedule for the trial area (or areas) will fit into the existing waste collection schedules and routes or how it will be affected by other issues such as traffic, parking and school hours.

The planning and timing of procurement is critical to the trial start date. There may only be one or two suppliers of the type of infrastructure chosen and current stock may be limited, so orders may have a 2–3 month lead time. As a contingency, caddies, liners and bins need to be **procured well before trial commencement** so consider storage requirements until distribution to householders.

About two weeks before the start date of the program, the equipment should be distributed to the participating households. Instructions leaflets, stickers, calendars etc. should be distributed in conjunction with the required equipment.

7 – Communicating with stakeholders

An effective education and engagement strategy is essential to the success of an organics collection trial. So that residents are given the knowledge and skills to participate and to effect behavioural change, it is important community communications are well researched, planned, and adequately resourced.

7.1 Communications plan

It is recommended that councils prepare a plan to guide communications and community engagement activities. The plan should focus on practical actions and:

- ✓ Identify target audiences, including non-English speaking residents, council customer service officers, media and other stakeholders
- ✓ List key messages
- ✓ Identify key issues and how these will be addressed
- ✓ Summarise communications strategies for each of the target audiences and project phases (pre-pilot, during the pilot, post-pilot)
- ✓ Outline roles and responsibilities of council and other project partners
- ✓ Outline budget and timelines for actions.

7.2 Pre-launch communication

It is essential that all householders are provided with information about the new service prior to the trial commencing. Pre-launch communication usually commences 3–6 months before the trial is rolled out, and should include an information leaflet, with an advertisement or notice informing residents about the trial. It should address:

- ✓ What the new service is, when it will be introduced and why (including benefits for the resident and community)
- ✓ What householders will be able to recycle, and how
- ✓ Who to contact with queries (for example helpline and website)
- ✓ Clear messages to minimise the contamination of the organics bin.



Information brochure (The Hills Shire)

7.3 New service communication

To follow up the pre-launch leaflet, councils should produce another communication to support the launch of the service. This can be delivered with the new containers. This communication usually takes the form of a service leaflet and should include the following:

- ✓ How householders can participate (in terms of collection dates and what to do with their collection container)
- ✓ What they will be able to recycle
- ✓ Who to contact if they have a query (for example helpline and website)
- ✓ Practical advice on how to make the most of the system and deal with any potential problems.

7.4 Communications materials

Communications materials for residents should include (but not be limited to):

- ✓ Information brochure
- ✓ Collection calendar
- ✓ Sticker for the kerbside bin lid – the sticker will remind residents what goes in to the bin and identify participating homes in the trial for the collection contractor
- ✓ Explanatory sticker for the kitchen caddy to remind residents what to put into the bin
- ✓ ‘Thank you’ letter following the conclusion of the trial, detailing trial outcomes and next steps to be undertaken by council.

All communication should be presented using simple and clear language, and the use of pictures is encouraged.

7.5 Scaling communications

During a pilot or trial, the roll-out stages occur over a shorter period of time and with a smaller target audience. Therefore it is important to test communication and engagement methods that can be replicated at a larger scale to ensure the pilot trial results are comparable. However, also consider that some methods used in the pilot trial may need to be modified during the full roll-out.

7.6 Other Stakeholders

Although householders in the trial area are the key players, do not forget to communicate and consult with other important stakeholders in the trial process.

Stakeholders to consider are those that may be affected by the trial, or who may influence the results. This may include stakeholders such as:

- ✓ Waste collection contractors
- ✓ Residual waste processor
- ✓ Councillors
- ✓ Customer service staff
- ✓ Council outdoor team
- ✓ Schools or businesses in the trial area.

Detailed information on communication, education and engagement options is provided in the Planning section in Factsheet 4 – *Understanding Community Education and Engagement* and in the Implementing section, Factsheet 11 – *Community Education and Engagement*.

8 – Monitoring and evaluation

It is recommended to conduct the following monitoring and evaluation before, during and after the trial:

- ✓ Waste audit of the residual waste stream to be carried out pre-trial, mid-trial and the end of trial. Conducting audits in summer as well as winter will reveal seasonal variations in diversion and composition.
- ✓ Bin set-out rate audit to be conducted mid-trial and end of trial.
- ✓ Householders' satisfaction and participation surveys to be conducted mid-trial and end of trial.

The trial also presents an opportunity to test the effectiveness of various communication techniques. For example, it may be worthwhile targeting selected areas with door-knocking campaigns, monitoring and comparing participation and contamination rates with areas not subject to the door-knocking campaign.

Detailed information on monitoring and evaluation can be found in Factsheet 8 – *Understanding Monitoring and Evaluation*, in the Planning section and in the Implementing section, Factsheet 13 – *Conducting Monitoring and Evaluation*.

9 – Applying the results

The pilot trial planning stage is the most important time to start thinking about how the results of the trial will be used. Sometimes this consideration is neglected until the trial is complete, by which time it is too late to change anything if the trial was not designed to answer the right questions. Consider the following:

- ✓ Quantitative figures such as participation rate, capture rate and contamination are used to determine overall diversion potential across the LGA
- ✓ Economic information and participant satisfaction results indicate the ease and cost-effectiveness of implementing the system council-wide

- ✓ Qualitative information from focus groups, surveys and other forms of participant feedback provide guidance for improving the system design and inform risk management planning for the future roll-out phase.

Activities that may be based on the results of pilot trial may include some of the following:

- ✓ Planning for carbon price and levy liabilities
- ✓ Changes to residual waste services
- ✓ Financial review of waste services
- ✓ Community consultation on waste services
- ✓ Development of new waste management and/or waste education strategy
- ✓ Development of new collection contract
- ✓ Feasibility analysis of new processing facility
- ✓ End-product market assessment.

Although financial cost is a primary consideration for local governments in assessing performance and suitability of waste services, considering environmental and social impacts/benefits will provide a broader understanding of the long-term value of different options.

In order to gain a comprehensive understanding of the comparative performance of the different options tested and help inform the decision making processes, council can conduct a triple bottom line (TBL) assessment. A TBL refers to the detailed evaluation of economic, environmental and social information in an integrated manner.

Pilot trial checklist

This section provides a checklist of some steps involved in planning and implementing a pilot trial.

Pre-planning

- ✓ Assign a project manager and identify a team with specific roles
- ✓ Gather information on the demographic mix of households in the council area and select representative sample areas for participation
- ✓ Consider health and safety implications of different systems.

At least 3 months prior

- ✓ Procure caddies, liners and/or bins as early as possible.
- ✓ Check compatibility of proposed organic waste collection with existing collection runs, vehicle fleet capacity and processor acceptance requirements.
- ✓ Prepare the communications plan. Engage a specialist if in-house expertise and experience is not available. Establish the budget and program. Engage designer and printer to ensure the materials are ready in time for the start date. Plan the distribution of equipment.

About 2 months prior

- ✓ Recruit the collection crew – this may require new staff to be recruited or existing employees to be re-deployed. Ideally, roles should already be agreed with the contractor at an earlier stage. Implement a training program with the relevant crew.
- ✓ Prepare the monitoring and evaluation plan. Engage a specialist if in-house expertise and experience is not available and ensure that data collected addresses the right questions and is able to provide the desired results.
- ✓ Plan an affordable and achievable distribution program for bins, caddies and education materials. Ensure storage of equipment prior to distribution is arranged.

6 weeks prior

- ✓ Finalise design and printing of education resources such as brochures, stickers, and calendars as early as possible.
- ✓ Provide plenty of advance notice to residents by distributing an introductory letter or flyer to households in the trial area, stating that they have been specially 'selected' and informing them of how the project will occur. Engaging with residents as early as possible, and throughout the process, will help to lessen the need for reactive communication during rollout.

4 weeks prior

- ✓ Compile the education and supporting materials into prepared kits ready for distribution, such as a letter, printed resources, stickers, compostable liners and other tools or incentives. This kit may also include the kitchen caddy if relevant.
- ✓ About a week before delivery of bins, send out an information letter to remind participants about the trial commencement and the distribution schedule for each trial area.

2 weeks prior

- ✓ Send out press releases for the roll-out in the trial areas
- ✓ Distribute bins, caddies, liners and instructions to residents on how to use the service.

Up to 1 week after commencement

- ✓ Conduct an initial survey of trial participants to provide baseline results for later surveys. This is sometimes done in person during delivery of education packs and caddies. Where staff resources are limited, include a survey and 'reply paid' envelope in the education pack, ideally with a small prize (such as a chance to win a free movie ticket) to motivate participants to complete the survey.
- ✓ Hold an information session for trial participants to answer questions, address concerns and increase awareness of the project.
- ✓ Commence and advertise an incentive program for improving participation and reducing contamination levels, such as distribution of prizes based on visual bin inspections on collection day.

During trial

- ✓ Gather key information on the likely future impact on existing refuse and recycling collections, such as by auditing the entire waste stream at the start, middle and end of the trial
- ✓ Implement other identified monitoring and data collection procedures, such as visual inspections and collection vehicle driver log-books
- ✓ Conduct a second participant survey later in the trial to capture information on participation, understanding, behaviour and satisfaction once households are fully experienced with the system
- ✓ Continue to monitor participation and contamination levels throughout the trial and implement a planned contamination management strategy as interest and engagement with the project can drop off over time.

Around the completion time of the trial

- ✓ Analyse and communicate results as soon as possible to maintain community and council momentum
- ✓ Conduct focus groups or other forms of consultation to compare and gain greater insight into the perceptions of both participants and the wider community towards the organics service.

Case Studies

Hills Shire Council

The Hills Shire Council is a rapidly growing area in Sydney's north-west, with about 80% of its 55,000 households living in single dwellings. The council's domestic waste collection contracts are due to expire between 2012 and 2014, and the council has been thoroughly investigating options for future services since setting up a Resource Recovery Task Group in 2010. A major component of its research and community consultation process was to conduct a food organics collection trial which took place over a 10 week period from late September 2011.

A typical Hills Shire household's residual waste stream contains 33% food and a further 17% is other organics including garden waste and soiled paper, so the trial aimed to determine the potential amount that could be diverted from landfill through a combined food and garden organics service.

In the trial, residents were permitted to place food into the existing 240L garden organics bin, which was then collected weekly. The residual waste remained a weekly service and the dry recycling a fortnightly service. The trial consisted of 250 properties in each of the four Wards of the council area to test four different variations on the collection system. The sample sizes and a control group of 250 properties were chosen for statistical reliability of results. The different test groups allowed participant satisfaction to be measured for system variables, such as ventilated compared to enclosed kitchen caddies, biodegradable bags compared to newspaper or no liner, and single dwellings compared to multi-unit dwellings.



Organics bin sticker used in the trial

Monitoring and evaluation of the trial was conducted through a number of methods. During the roll-out, education packs were delivered through door-knocking and a face-to-face survey was conducted with households. Participants also received a phone call near the end of the trial as a reminder that the trial was ending and to conduct the post-trial survey. Three focus groups were held (including both participants and non-participants) to further explore attitudes, perceptions and behaviour. Audits of 100 residual and organics bins were conducted during weeks 1, 5 and 10 to provide quantitative waste data.

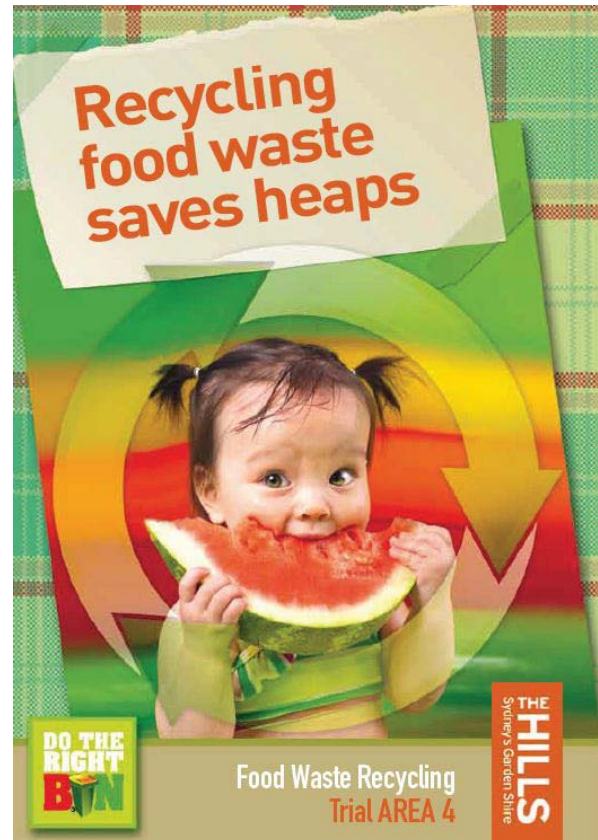
There were a number of unexpected results of the food organics trial. Firstly, participants were much more positive about the service than the council had expected – there were no complaints received from any of the 1,000 participating households as a result of the trial service. Secondly, feedback on odours was minimal, and mainly raised by households that did not use a lined container. Contamination was almost zero, which was surprising given contamination has been a major issue for the food organics collection service in the neighbouring council area.

Another interesting trial result was that the type of container provided did not have a significant impact on satisfaction or participation – households generally liked the collection system they were given. However, qualitative results showed that a range of options and flexibility to suit individual needs are important factors in the design of the system. Overall, the pilot was so well accepted that many participants were unwilling to go back to their normal service.

One of the most surprising results for the council was the effect that participation in the trial service had on the avoidance of waste, particularly wasted food. Average yield of food organics was between 0.62kg and 2.66kg per household per week, depending on the collection system, with a maximum capture rate of 40%. Additionally, in one trial area, participants avoided 2.15kg of food waste per week (on average) during the trial. Surveys revealed that this was mainly due to greater recognition by participants of the sheer amount of food wasted by having to separate it from other waste in the kitchen. Taking into account waste avoidance, the maximum diversion of food compared to the control group was 63%.

The recovery results of the pilot trial provided council with specific information to undertake a thorough cost-benefit analysis, comparing the long-term effectiveness of a food organics service to other recovery options.

Lessons Learnt: The pilot trial showed the council that expected recovery and contamination rates would be very different to the neighbouring council area if a similar service was introduced. It now has reliable evidence to make informed decisions about future resource recovery options.



Cover of Hills Shire trial brochure for Trial Area

REROC Waste Forum

'Cluster Composting Trial'

The Riverina Eastern Region of Councils (REROC) is a voluntary association of 13 councils in the eastern Riverina region of NSW. It covers a large geographical area of about 43,000 square kilometres, but has a small population of approximately 140,000 people.

During 2007 the REROC Waste Forum developed a Regional Organics Management Plan (ROMP) for the region which concluded that a large-scale organics processing facility in the region was not economically feasible due to the extensive travel distances and relatively small quantities of feedstock that could be collected at the kerbside. However, the forum has supported a composting project being conducted by Charles Sturt University (CSU), with the goal of identifying viable, low cost methods for organics recycling in small communities.

The forum decided to develop a pilot trial project which aimed to test the feasibility of a cluster-based approach to composting. The REROC members have a successful history of conducting cluster-based projects and the cluster approach to organic waste collection and processing allowed the members to trial composting processes locally, while spreading the costs of collection implementation and project management across the four participating partners.

The trial commenced in August 2011 and lasted for 12 months in Coolamon, Cootamundra, Gundagai and Junee. Only the first 6 months was intended to be assessed for the purpose of a cost-benefit analysis. Food and garden organics collections were introduced to 800 households (200 in each participating LGA) which represent about 10% of total households that receive a kerbside waste collection.

The timing of the project was to ensure that collections operated over the two hottest periods of the year, spring and summer.

Each participating household was provided with:

- ✓ A bench-top caddy and supply of numbered compostable bin liners
- ✓ A 240L organics/green organics MGB which was collected fortnightly.

The roll-out process took place 2–3 weeks prior to the commencement of the trial. The bench-top caddies were distributed in person by a council officer, including verbal introduction and explanation of the service and an initial survey. Where the householder was not at home an education pack was left with the caddy, which included an introduction letter, 4-page FAQs flyer, and an A5 calendar. Of the homes visited, 193 people participated in the survey. The distribution of the 240L bins occurred approximately a week after the bench top bins were distributed.



Branding of REROC Cluster Composting Trial

The trial compared two different proven composting methods to determine the most cost effective approach for the region. In the first method, which was developed by CSU, compost piles are open to the air and turned on a regular basis. The second method was adapted from the Groundswell project (in southern NSW), in which compost is covered by tarpaulins, turned only once each cycle, and sprayed with inoculant.

Cootamundra Shire hosted the composting facility at its landfill. An agricultural economist from CSU was engaged to provide initial training to landfill operators on managing the processing of food and green wastes into compost. In addition, accredited training on composting was conducted by the Riverina Institute of TAFE for participating council staff.

The councils developed an innovative method for engaging residents, managing contamination and monitoring participation at the household level. Each compostable liner bag distributed was numbered to identify individual households, which allowed the councils to run spot audits, measuring contamination levels and promoting a rewards program where householders could win a prize for low or no contamination. Each fortnight a number was selected from each of the four LGAs and the resident received a prize worth \$50.

Approximately 6.6kg of material per household per week was collected during the first six months of the trial. Across the four council areas, each household currently sends approximately 10kg of organics to landfill per week, thus the trial result represents an approximate organics capture rate of 66%. Both composting methods were found to be successful and resulted in little to no odour; however a cost comparison of the methods had not been completed at the time of writing.



Council staff undertaking training on composting

The (former) Department of Environment, Climate Change and Water NSW contributed \$30,000 to the project, while REROC Waste Forum committed the remainder of funds. Although analysis of final results has not yet been reported, the trial was budgeted at \$110 per household to implement the main elements such as collection, processing and education (but excluding research, evaluation, and consultancy fees). Although the councils' estimated current cost of sending organic waste to landfill is \$44 per household, the cost per household of full implementation would be considerably lower and there is an option to recoup some cost through the sale of compost. The CSU project indicated council could offset costs by up to \$30 per tonne of compost produced.

Lessons Learnt: The pilot trial in the REROC region suggests recycling of source-separated organics collected at kerbside can result in high recovery rates and is likely to be viable even for the small communities of the member councils. Although the financial analysis is yet to be reported, the approach was well accepted by the communities and produced a high quality compost product.

NB: Information in this factsheet is taken from the *Food and Garden Organics Best Practice Collection Manual* (2012) published by the Department of Sustainability, Environment, Water, Population and Communities. The full document is available on the department's website www.environment.gov.au/wastepolicy/publications/organics-collection-manual