



The Compost Revolution in Sydney

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Abstract

The Compost Revolution was created out of the need for an effective organic waste management solution that would engage our community to actively avoid food waste, become interested in sustainability, and build a sense of community.

The Eastern Suburbs of Sydney, Australia is a densely populated urban area where around 40% of domestic waste comprises food waste. Randwick and Waverley Councils received funding from the NSW Environmental Trust to trial an innovative community composting project.

Results from the year long trial involving 580 households proved that compared to conventional waste management methods, this approach had some very significant benefits. People's behaviour changed, almost 98% of participants reduced the food waste they made, over half started to grow more food, and three quarters talked to their neighbours or friends about composting.

Independent modelling of these results demonstrated potential cost savings in the millions, greenhouse gas emission savings of up to 7% as well as significant environmental and social sustainability outcomes. What started as a project to address food waste evolved into a much broader community sustainability program with groups of neighbours, schools and community organisations connecting over compost and keeping up the momentum long after the official project finished.

Keywords: *Compost, behaviour, urban, sustainability, community, food*

1. Introduction

Food waste makes up a large proportion of the domestic waste stream in New South Wales, Australia. An estimated \$5.3 billion of food or 20% of purchased food each year is discarded to landfill making it the most wasted commodity in Australian households (Hamilton et al, 2005). Approximately 33% of the NSW domestic waste stream is food waste and potentially recoverable. In response, the NSW State Government introduced the NSW Waste Avoidance and Resource Recovery (WARR) Strategy in 2003 (reviewed in 2007) that mandated a 66% diversion of waste to landfill for all councils by 2014 with heavy penalties for councils who do not meet this target. A state government levy was also introduced that dramatically increased the cost to councils to send waste to landfill, prompting immediate action from local government. This coupled with limited landfill capacity have put significant pressure on councils to start using alternatives to landfill. However, despite this pressure on councils to divert waste from landfills there are limited suitable sustainable options available as Alternative Waste Treatment is a relatively new industry in New South Wales.

Waste data from an audit conducted in 2008 (APC Environmental 2008) showed that food waste comprises between 38.4%-42.10% of the average domestic waste bin the Randwick, Waverley and Woollahra Councils, which is slightly higher than the NSW state average of 38% (see Figure 1)

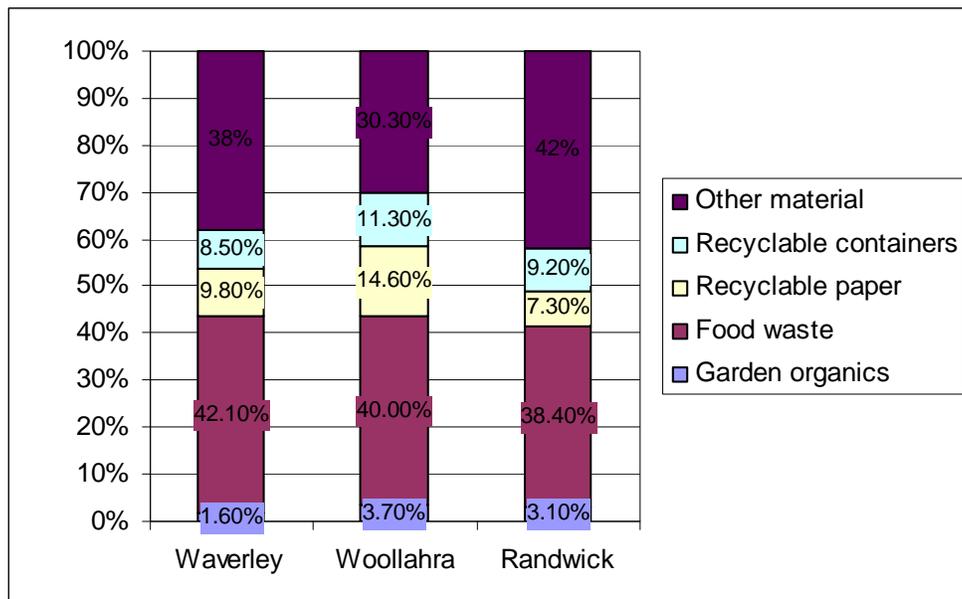


Figure1. Composition of domestic bins for the three councils (APC Environmental 2008)

To achieve the 66% diversion target set by the state government each of the three councils needs to reduce the food waste component of the waste stream. Since 2008 Woollahra Council has been collecting household garden and food waste and sending it to be composted using windrows at a Waste Services New South Wales facility. The end product is used to rehabilitate a previous landfill site adjacent to the facility. This arrangement is not available

to other councils as the site has limited capacity. Waverley and Randwick Councils have not yet finalised a long term solution to achieve the waste diversion target.

1.2 The project concept

Randwick, Waverley and Woollahra Councils received a grant from the NSW Environmental Trust (a State Government body) for a three year regional program to address different aspects of the ecological footprint of the region through trial projects. Food waste was identified as having a significant contribution to the ecological footprint with a large proportion of the average domestic bin consisting of food waste and the area also having many restaurants, cafes and food outlets. As there were only limited options for contracts with AWT providers and there were concerns about the high associated costs, the loss of potential organic product for local use, and costs and environmental impact from transportation, home composting was suggested as an alternative to trial.

It was thought that home composting would be a more holistic way to address food waste than a more technological solution of collecting it separately or with the general waste and processing it in an AWT. Using a community engagement and education approach would enable the councils to address the household behaviours causing high volumes of food waste, as well as productively using home composting to 'dispose' of the remaining food waste. As well as diverting significant volumes of food waste this method would also minimise costs and transport impacts while causing broader social and environmental improvements.

There was some cynicism about trialling a home composting program as they have been undertaken previously. A review of previous home composting, recycling and behaviour change programs both within Australia and overseas gave some insights into factors likely to lead to successful programs. A large scale composting project had taken place in the southern Sydney area between 1999-2003 consisted of running workshops and providing free bins to participants. It was considered successful as a high proportion of participants were still composting one year later. A conclusion from this project was that access to educators and face to face contact are vital to such programs. Other research into behaviour change and building social capital also supported the need for face to face contact, creating social networks and motivating people.

1.2 The eastern suburbs of Sydney, Australia

Sydney is a city of 4 million people and is the capital of the state of New South Wales (NSW). Sydney is made up of 36 Local Government Areas (LGAs). The Eastern Suburbs is a term used to describe the region to the east of the central business district along the coast from Sydney Harbour to Botany Bay including Waverley, Woollahra and Randwick LGAs.

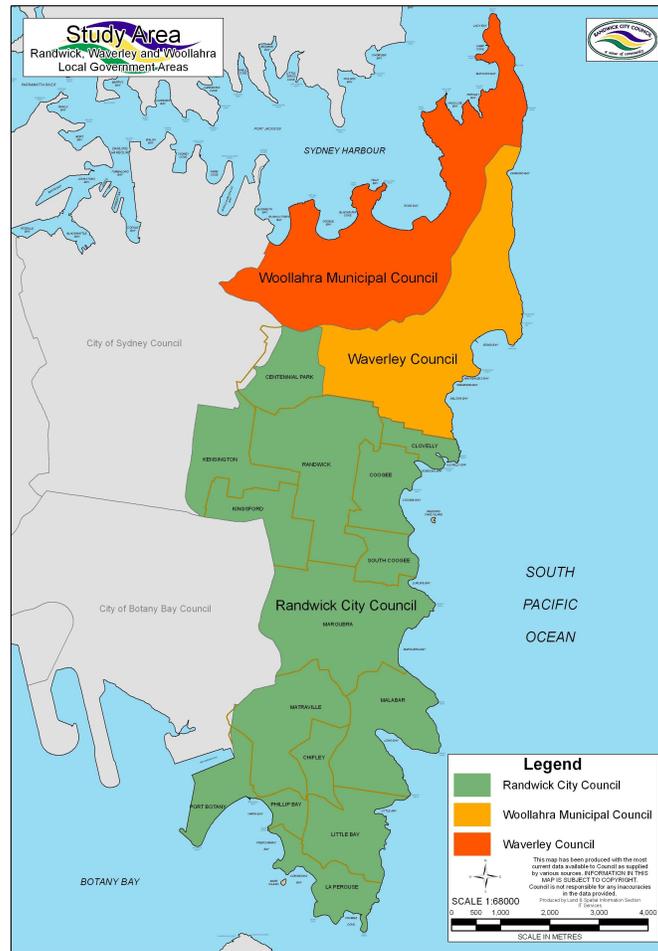


Figure 2. Map of Sydney showing the three councils

The region has a population of approximately 231,000 people and whilst there is variation between the areas it is generally a high-density urbanised region with an average income considerably above the national average. Table 1 summarises the populations and dwelling types from the 2006 census.

Table 1. Populations and dwelling types for the three LGA's (ABS, 2007)

Population and dwelling type	Waverley	Woollahra	Randwick
Total population	60,715	50,161	119,884
Single unit dwellings (SUDs)	21.2%	24.2%	32.3%
Middle density homes *	16.7%	20.9%	14.7%
High density -Multi-unit dwellings (MUDs) +other	52.8%	54.7%	52.8%
*In the project most middle density homes were grouped with the single-unit dwellings as they also had separate gardens.			

2. Methodology

2.1 Project design

The NSW Environmental Trust grant allocated for a project officer to be employed to design and implement the home composting trial project. Recognising that the project was a trial with research objectives and needed a community engagement approach, it was designed following the NSW Government guidelines for community environmental education projects “does your project make a difference”. This guide encourages program design that identifies needs, considers a hierarchy of objectives and outcomes, and has adaptive management and evaluation built into the design (DEC 2004) (see Appendix 1 for this detailed program design).

The key objectives of the project were to:

- Trial a method of reducing food waste in the general waste stream that does not involve a food waste collection system
- Design and trial a home composting program that is effective in a densely populated urban region.
- Demonstrate the social, environmental and economics benefits of home composting
- Trial and develop effective means of assisting residents to avoid and reduce food waste.

The desired outcomes of the project could be categorised into environmental, social and economic themes (Table 2)

Table 2. Outcomes and measures for the home compost program identified in the project design phase

	Outcomes	Measure
Environmental	Reduced volume of food waste going to landfill	Volume of food waste being composted
	Reduced food waste created	Volume of food waste being composted + reports from participants
	Demonstrated home composting can be successful in an urban LGA's	Participants produce usable compost
	Reduced GHG from food waste in landfill	Calculated from emissions from transport and in landfill landfill (external consultants)

Social	Residents are motivated to be a part of the trial and continue composting afterwards. Through composting participants develop positive attitudes and behaviours towards sustainability	Number of residents involved- drop out rate Survey results.
Economic	Demonstrate that home composting can have economic benefits	Costs analysis – dollars and council labour

2.2 Monitoring & Evaluation

Evaluation methods were built into the project design and included both qualitative and quantitative assessment. The immediate outcomes of the project were to be evaluated using standard data such as numbers of activities, participants and hours. Longer-term outcomes would be monitored through online surveys of both quantitative and qualitative information to be filled out by participants monitoring their progress, knowledge and attitudes. They also provided qualitative feedback on what they would like out of the program. Monitoring and evaluation were conducted throughout the program, allowing ongoing adaptive management and adjustment of the program activities and approach.

Food waste monitoring proved to be a major challenge. Data was needed on the weight of food waste being diverted from the residual waste stream (general domestic waste bin) and audits of these bins would not necessarily show us what was remaining in the household bins. Two methods of monitoring the food waste were chosen as well as cross checking with other projects and averages used by the State government.

Domestic waste bin auditing was conducted by external consultants (EC Sustainable 2010) on three occasions during the trial; prior to attending the initial workshop, mid trial and at the end of the trial. The bin audits provided detailed analysis of the bin waste composition and detail of the food waste composition. A sample size of approximately 10% was used, however due to budget restraints, insufficient repetitions were conducted to provide substantive results. Further, some of the bins audited may no longer have been part of the trial and other variables such as seasonal variation were not accounted for. Whilst the weight of food waste being composted could be extrapolated from the difference between the three audits, this is not an accurate measure of the food waste being composted. It is likely there were variations between this and the weights being composted.

This variation was addressed by requiring participants to measure and record the amount of food waste they composted. There was concern during the development of the project that this was a big commitment for the participants but a simple tally system on a fridge magnet was devised to make it easy. While waste is normally measured by weight, it was decided that volume was would be an easier measurement. Participants were to use their 7.5L kitchen

bin (food bucket) and a “food bucket” recorder (a fridge magnet) to tally the number of buckets they emptied into the compost. The totals were entered into the tracking surveys and then the results converted into weight.

3. Implementation

In June 2009 local press advertisements called for participants to take part in the Compost Revolution. This promotion offered free workshops and support as well as a kitchen bin, compost bins or worm farms and herbs.

Be part of the
Compost Revolution

Take part in our home composting trial!

We are seeking 300 households to be involved in our compost trial. We'll provide kitchen bins, compost bins or worm farms, as well as training, help and even some herbs... All we ask is that you stay in the trial for 12 months and give us feedback on how you go.

The trial starts in August 2009. If you live in Waverley or Randwick Council areas and want to participate please apply online at www.reduceyourfootprint.com.au. Application deadline 31 July 2009.

FOR MORE INFORMATION:
Call the Food Waste Reduction Officer on 9369 8112 or e-mail laurenm@waverley.nsw.gov.au

This 3-Council project is assisted by the New South Wales Government through its Environmental Trust

NSW Environmental TRUST
Waverley Council
Randwick City Council
Waverley 150 years 1852-2002

Figure 3. Invitation in local press

The initial target was to recruit 300 households into the trial, following the promotion 450 responses received. The online application form captured information about previous composting or worm farming experience, household size and age, garden size and whether it was a Multi-Unit Dwelling or Single-Unit Dwelling, these factors were used to select 300 households to achieve a diverse profile (see Table 3).

Table 3. Profile of participants

Group 1				Group 2			
Mix of Households in Trial	Randwick	Waverley	Total	Mix of Households in Trial	Randwick	Waverley	Total
SUD-Never composted	46	25	71	SUD-Never composted	60	26	86
SUD-Tried but stopped	60	17	77	SUD-Tried but stopped	25	9	34
SUD-experienced composter	25	4	29	SUD-experienced composter	33	16	49
MUD block	17	11	28	MUD block	14	21	35
MUD individual worm	18	17	35	MUD individual worm	22	19	41
SUD worm	26	19	45	SUD worm	32	27	59
Total	192	93	285	Total	186	118	304

The selected participants were notified and required to fill out a detailed survey to gather baseline information about demographics and their attitudes and behaviours towards sustainability. 10% of participants' bins were then randomly audited after they were notified of their acceptance in the program.

Fifteen two-hour workshops were run by an experienced facilitator at a variety of locations, times of the day and week on either composting or wormfarming depending on what was thought to be most suitable for their household. The project officer attended all workshops to meet the participants, welcome them into the program and show results from the bin audits taken the week before.

On completion of the workshop they took home a compost bin or wormfarm and a 7.5L kitchen bin, with free delivery offered to those who had cycled or used public transport. They were also given a 'Welcome pack' which included a composting and wormfarming guide, a magnetic food waste tally card and a A5 sticker to place on their domestic garbage bin that said "This home converts food waste into fertiliser- Be a part of the Compost Revolution". After the workshops everyone was sent a follow-up e-mail with a step-by step guide on how to start and encouraging them to e-mail or call if they had any queries.

The feedback at the beginning of the trial was very positive. Following numerous calls and e-mails requesting to join the program, it was decided that another 300 places would be offered, allowing us to improve certain aspects of the program from the first round. This included streamlining the management of the workshops, making compost bin collection simpler and giving more information on the differences between wormfarming and composting so that the householder could choose which option best suited them.

Little promotion was needed as word of mouth had spread and again 300 participants were chosen (see Table 3). The second group also filled out the baseline survey and attended training. This time they were given vouchers to collect their own compost bins (or worm farms) from a central location as delivering the right type and number of bins to each workshop location proved to be too resource intensive.

The trial continued with the two groups with further activities and ongoing monitoring and evaluation as discussed below, until August 2010 when the final survey was completed and Compost BBQ held. After this participants were able to keep their bins and were encouraged to sign up to a regional community sustainability website to stay connected, learn about upcoming events and be able to post questions & answers and blogs.

4. Results

4.1 Participant surveys

After three months the first group completed a brief “tracking survey” with six questions. They needed to enter their food waste tally information, any change they had made in their food waste creation, general questions on how they were finding the program and what they would like to do next.

The first survey results indicated that participants had enjoyed their workshop with 80% of respondents saying that they were immediately more conscious of the volume of food waste they created and cut down. Not everyone commenced composting straight away and many of these wrote notes apologising and assuring that they would. The survey was completed every three months with the first group and the second group also completed two tracking surveys.

Throughout the year the numbers of participants in the program were monitored. Of the 600 original applications around 20 had not actually started the program, another 10 had completed the workshop but then decided they would not be able to be involved due to time constraints, garden restraints, or realising it was not suitable for them. In the first surveys anyone who answered “thinking composting is not for me” were contacted and in most cases with some extra support were able to continue. Another 20 had quit during the program with the main reasons being “moving house”, “having babies and not being able to commit to the surveys”, “finding it unnecessary-using dogs or chickens for scraps” and a small number responded “had problems with pests or did not like it/found it too difficult”.

After one year of involvement for the first group and around eight months for the second group a final survey was sent to all participants based on the original baseline survey, 380 people filled in the survey with an extra 63 confirming they completed the program but didn't have time to do the survey. This left 107 people unaccounted for, it is not known whether they had stopped the program, if contact details had changed or they just didn't have time to complete the survey. Key results from this final survey are described further in this section including the comments participants gave that provide

invaluable qualitative insights into the outcomes and reasons for success of the program.

4.2 Food waste diversion results

The participatory evaluation method of monitoring household food waste being composted was well received and also served as an educational tool allowing participants to reflect on the food waste they were producing.

Examples of the comments participants on this issue include:

“having the tally reminder on the fridge got other people asking 'what's that all about', some friends also became interested in setting up their own worm farm”

“The fact that I had to give regular feedback and that I was part of a trial also made me want to succeed”

The results from the two different methods of food waste monitoring, bin audits and the food waste tallies are in Table 4 which compares results with food waste data from other studies.

Table 4. Food waste diversion results

Result source	Food waste diversion	Comment
Participants food waste tally results	3.75 kg/week/household	4.55 for SUDs, 2.95 for MUDs. Converted from volume to weight based on 240L food waste weighing 100kg
Bin Audit results (EC Sustainable 2010)	1.8-2.3kg/week/household	Results differed between the audits, 1.8kg was thought to be lower than actual due to wrong bins being included in sample in the final audit, 2.3kg was the mid-trial result
Food waste avoidance research results (Jean-Baptiste 2010)	5.01 kg/week/household	Actual results from weighing food waste
NSW government (DECC 2007)	2.2kg/week/household	Suggested diversion rate
UK WRAP study (WRAP 2009)	4.19kg/week/household	Suggested rate from modelling in UK study
* 3.75 kg/week/household was the result chosen to use for modelling and decision making		

4.3 Would people continue to compost?

A measure of successes of the trial was if participants would adopt the new behaviour and continue composting after the trial period. When asked if they

would continue in the final survey the response was overwhelming “yes” over 97% said they would, 20% were already composters (Table 5).

Table 5. Survey result-would you continue to compost?

Response	%
Yes, always have	20
Yes, it's now a way of life and will continue	60
Yes, depending on the situation	17
Not sure, seems to take a lot of effort	2
No, I can't get it to work for me	1
No, I don't like it	0

When asked what they would do if council offered a separated food collection service a large majority of participants 80-93% said they would continue to compost (see Table 6), demonstrating a strong understanding of the value of home composting. This also challenges the common assumption that using a more technological solution is easier for people and they will therefore prefer. Interestingly, 13% said it would depend on where food waste was going, demonstrating an awareness of some of the issues surrounding AWT and a concern for a sustainable solution.

Table 6. Survey result- would you use a food waste collection service?

Response	%
Would use this instead of home composting	7
Would use both	61
Would continue to use only home composting	20
Would use the normal garbage service only	1
Would depend on what it was and where it was going	13

4.4 Composting, a catalyst for adopting other sustainable behaviours

An interesting outcome of the trial was that composting seemed to be a “hook” for getting people engaged and a first step in adopting other sustainable behaviours. This was thought to be because composting is a tangible, visible and easy to make change that is clearly relevant to everyday life. Once people started composting they gained a sense of pride and achievement and then felt empowered and became interested in other sustainability projects and being more committed to the environment. Comments demonstrating this interest in doing more are below:

"We will continue the green effect into the redevelopment of our home. we will be installing solar panels for electricity and water and have had the architect use the northern facing rear of the house to allow heat and light enter during the winter and the breeze to cool it during the summer"

"The compost revolution program has made me think about my own household and how our waste contributes to the mass of garbage thrown out each week. It has made me more committed to being an individual who can make a difference in my own environment"

"The Compost Revolution program has made me conscious of environmental and climate issues and enlisted me in the action against waste and saving the planet"

When asked whether they would be interested in further programs, 80% of participants said they would be interested in gardening and growing food programs. 50% of participants said they would be interested in energy, water, community sustainability and food sustainability programs. Only 4% of participants said they wouldn't be interested in any other programs.

4.5 Backyard Educators

In a mid-trials survey over 30% of participants expressed an interest in inspiring and teaching others to compost. As a result a "Backyard Educators" tailored course for participants wanting to gain facilitation skills, teach neighbours or others to compost and get involved in other community projects was organised. Two courses were held and the "Backyard Educators" have since been involved in running workshops with schools and community groups, setting up compost systems in their workplaces and will continue to be involved in future compost revolution activities.

Stories and experiences are an effective means of understanding some of the outcomes of the project, and below is one of the participant's stories from the Compost Revolution.

Sue r is a busy person, a lawyer and mother of three young children, she lives in a house with an average size garden in the beach suburb Coogee. Sue had a compost bin at home but wasn't really sure if she was doing it properly, she had always been vaguely interested in sustainability especially where it related to the health of her family but would never have considered herself a leader in these areas. Sue signed up to the Compost Revolution because she wanted to learn more and liked the idea of getting involved in a community project. After attending the workshop, she was excited and inspired by the passion of the facilitator and her ability to convey so many new ideas in such a short session.

With her new knowledge and enthusiasm her compost was greatly improved but Sue wanted to take it further. She got talking to the other parents at school and soon they had a six bin system and are composting all the schools organic waste. Sue also did the "Backyard Educators" course and then with other parents and the project officer organised a Sustainability Day at the

school. Sue is now involved in other community sustainability projects and with other parents has helped the school get grants for a native garden and vegetable garden. She regularly teaches parents and children how to compost

4.6 Community Composting

One method of addressing issues of high density living is to implement community street scale composting so people can get involved even when they have no ability to home compost or to use the compost product. Small commercial compost units were investigated but none seemed feasible for the region. Instead communal “home compost” bin systems were set up to trial in approximately 30 apartment blocks with 20 in parks, schools and community organisations. The participants in apartment blocks were given extra support from the project officer to set up systems including posters, larger, more advanced bins, and on-site mini-training sessions.

These communal systems had varying success. Most were received very positively and created a great visual education tool, especially in parks and this resulted in requests for more to be put into parks. The successful systems always had compost “champions”, that is, a number of people who were taking responsibility for the bin and ensuring it was well managed. Whilst there was considerable support for communal and public place composting, few people were actually willing to take care of them. A few key lessons learnt were the need to set up a “brown waste” bin next to the compost bin to make it easy for everyone to add garden materials, and the importance of not pushing people to compost if they had no interest, as they were likely to use it incorrectly and create problems.

4.7 Food Waste Composition and Avoidance

PhD candidate Nathalie Jean-Baptiste was conducting research into organic waste management and the urban built environment and gave a presentation to Compost Revolution participants about her research in March 2010. Nathalie developed a Food Waste Diary tool that allows accurate and detailed data to be collected on food waste composition while also working as an educational tool for users. 26 participants completed the food waste diary for a week, collecting and weighing all their food waste and recording the composition of the waste and where they were discarding it to.

The results were that the average total weight of food waste generated for the compost was 5.01 kilograms per week. Cooked rice, milk and juice were the most common items that were avoidable and discarded in the bin whereas fruit and vegetable peelings were the most commonly reported unavoidable food waste.

Nathalie reported that the group were very engaged and had a high level of commitment and interest in food waste and composting, probably related to being part of the compost program (Jean-Baptiste 2010). This study was useful to identify common food waste items so that education could be targeted to address that. Having accurate measures of waste weights also

provided a useful cross check with the data from the bin audits and the participant's surveys (see Table 4).

4.8 Potential benefits of expanding the Compost Revolution

Hyder Consulting were contracted to evaluate the current waste management practices of the councils and the compost project results and model the potential benefits of expanding the compost program to 20% or 40% of the households in the region. The Hyder report compares financial costs, climate impact (GHG emissions) and sustainability using a selection of Ecologically Sustainable Development (ESD) indicators. This study was completed before the end of the 12 month trial. It used the results of the project from two tracking surveys, waste and financial data from the three councils, the regional waste audit report and relevant studies from Australia and elsewhere.

The results of the greenhouse gas emissions modelling displayed in Figure 4 were that compared to continuing with normal waste management practices expansion of the home composting program to 20% or 40 % of the region could result in a 7% - 13% reduction in GHG emissions from waste management.

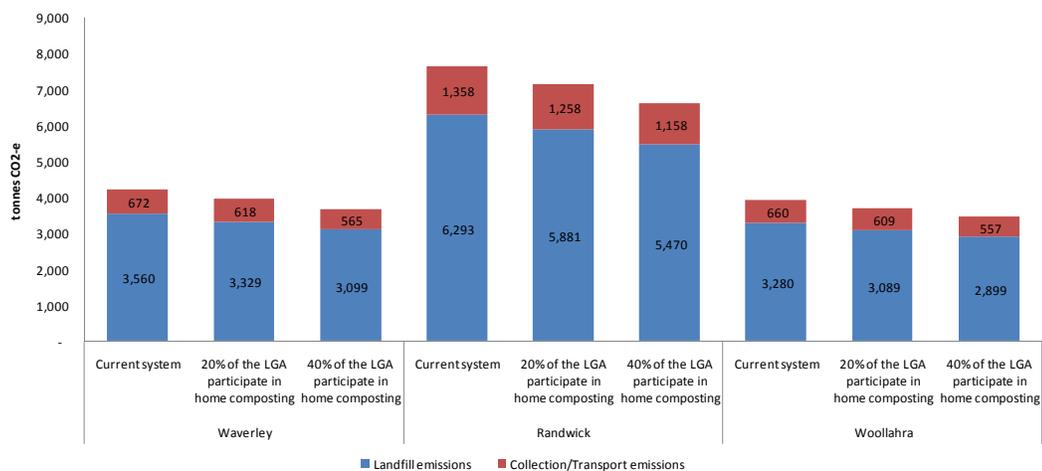


Figure 4: Landfill CO2-e emissions for the current system, 20% of the LGA participate in home composting and 40% of the LGA participate in home composting (Hyder, 2010)

The financial savings are displayed in Table 7 below and can be summarised as: After a four-year period to establish the composting program, assuming annual ‘maintenance costs’ for the home composting program of \$98,000 per annum (across the 3 Councils) annual savings are estimated to be 6% - 15% of operational cost savings equating to approximately \$979,559 - \$2,057,117.

Table 7. Costs saved per year for each Council after the four-year home composting implementation period (Hyder 2010)

Council	Annual saving at 20% participation rate	Annual saving at 40% participation rate
Waverley	\$302,256	\$637,179
Randwick	\$376,055	\$784,766
Woollahra	\$301,247	\$635,162
Total	\$979,558	\$2,057,117

The following ESD indicators identified by Hyder all return ‘excellent’ in performance for the home composting program compared to current practice;

Table 8. ESD indicators with current waste management and potential if compost program expanded

ESD indicator	Current waste system performance	Performance of home compost trial	Performance of expanded home compost programme
1. Food waste avoidance	Poor	Excellent	Excellent
2. Gardening and local food production	Uncertain	Excellent	Excellent
3. Social capital	Poor	Excellent	Excellent
4. Enhanced household waste management	Uncertain	Excellent	Excellent

The conclusion of the Hyder study was:

“The estimated reduced greenhouse gas emissions of 7%-13% associated with a home composting programme extension to 20% and 40% of the LGA would be significant. The programme also encourages food waste avoidance

and enhanced overall household waste management. Extension of the programme would also have a significant financial impact on councils' waste management systems, namely an estimated 6-15% reduction of the operational waste management costs. Finally, the program promotes participation and interest in gardening and local food production which will contribute positively to food sustainability (i.e. reduced food miles), and furthermore strengthens community and builds social capital" (Hyder, 2010).

5. Discussion

As was mentioned in the project concept development, home composting programs have been done before to varying levels of success. The Compost Revolution as well as having waste reduction and community education objectives, was designed as a research project to determine if home composting has other potential benefits and identify what factors can make it effective and successful. Below some of the factors for a successful program are discussed.

5.1 Making composting appealing

It was decided that to make composting appealing, the look and feel of the program had to be fun, a bit quirky and engaging. The focus needed to be on the benefits of composting and avoid too much mention of the unattractive aspects (smell, pests etc). The slogan "Be a part of - The Compost Revolution" was chosen as a call to community action and involvement. Connecting the usually political term of 'revolution' with a soil product 'compost' is an unnatural fit used to demonstrate that project has a sense of play and is not too serious. The design of the program materials was carefully chosen to look earthy and natural, show the benefits (carrots and plants growing and healthy soil with worms) and to look fun.

The program would involve a reasonable commitment from participants in the 12 month trial, within which they would be required to complete various surveys and in many cases, change their behaviours considerably. Therefore, they had to feel like they were getting a tangible benefit from the project and that what they were doing was valued. As a result, the promotion of the program focused on the following features of the trial:

- you will receive a free compost bin or wormfarm,
- you will learn how to compost/wormfarm properly and there will be ongoing personal support,
- you will be part contributing valuable information to a research program, and
- it will be fun for you and your household and you will meet people in your community/

There needed to be incentives to stay in the program so social events and regular prizes were offered throughout the year.

5.2 Face to face contact and support

It was important that the project created a personal and supportive environment. The project officer (Lauren Michener) was the point of contact throughout the program, attending all workshops to ensure consistent messaging of the key themes and encouraging participants to make direct individual contact with her if they needed support as well as sending monthly e-mail updates with tips and advice. Analysing the responses and comments made in the final survey it was obvious that this was valued, 73% of respondents said they found the e-mail updates and direct e-mails very useful and 37% said they found direct phone calls to the project officer helpful.

“The compost revolution program was a fantastically run program with lots of tips and the ability to email questions and receive answers to your questions made this trial very worthwhile.”

“The regular updates and nudges from Lauren kept the focus and the pace necessary to implement household changes”

5.3 Keeping people motivated and talking

Recognising the importance of social networking and sharing experiences, to keep people motivated the project included social events, and further workshops and activities. Early in the trial an end of year Compost Party was held to bring people together and reward them for their involvement. Keeping with the theme of a sense of fun the Compost Party was planned with activities such as “the fattest worm competition”, Q&A sessions with the “expert”, a demonstration of cooking up a feast with a locally produced in season organic fruit & veg box, and a jazz singer performing amongst other things a “sexy compost song”. Horse poo and fresh herb plants were provided as giveaways and there was organic food and wine. This party purposely had no formal educational objectives but was very popular and many people were excited to have the opportunity to get to know other locals and talk about their compost or worms, see Compost Party invite in Figure 5.

Other more educational events were held such as “Food for thought” an event with a panel discussion about local and sustainable food hosted at a local café, a presentation by PhD student Nathalie Jean-Baptise on her food waste avoidance research, and workshops on advanced composting and organic gardening. Participants were encouraged to be involved in the annual Eco-living Fair and at the end of the trial a Compost BBQ celebrated the results and thanked everyone for participating.

These events encouraged people to connect with others, in addition to encouraging thinking more broadly on food and sustainability and creating a sense of community. Comments in the surveys reflect this:

“I think the program has been well organised and thought through and in particular flexible to the needs of participants. It’s been good to meet other people in the community with similar concerns and outlooks.”

“The Compost Revolution was an opportunity for me to transition my neighbours from strangers into community players and friends”

“I thought it was a wonderful service for local government to provide as it doubled for me as a way to connect with other locals and a forum to learn and apply a new skill (composting)”

We want to thank you for your efforts and celebrate our Compost Revolution. We hope you can come along to our **end of year celebration!**

Tuesday 8 December 2009, 6–8pm
Centennial Park, Environmental Education Centre, Dickens Drive



Singer-Song writer Edwina Blush (AKA the singing cook) will be demonstrating the delights you can create from a seasonal fruit and vegetable box from the Randwick Organic Buyers Group. She will also perform her own compost song and everyone can try her food.

Be part of the Compost Revolution

Fantastic prizes to be won for:

- **A sweetest smelling compost competition** judged by Teresa Rutherford.
- **The fattest worm competition** judged by Council's worm 'expert'
- **Our compost bin and us** – name your compost bin and send us a photo
- **A Q&A session** with Teresa Rutherford.
- **Goodies to take home.** Bring a bag or container and take home some horse manure and herbs grown in our nursery.
- **A 'sharing table'** will be set up for information and networking. If you have something you want to share and invite others to learn about please bring brochures or sign-up sheets and come and meet other like-minded people.

Bring in a sample of your compost or a few worms (in some castings), or send your photos to laurenm@waverley.nsw.gov.au

There will also be a 'No Waste' party with locally sourced organic food as well as organic wine from Rosnay Estate.

RSVP ESSENTIAL: Please email laurenm@waverley.nsw.gov.au by Wednesday 23 November 2009 or call 9369 8112

This 2-Council project is assisted by the New South Wales Government through its Environmental Trust



Figure 5. Compost Party invitation

5.4 Continuing the Compost Revolution

Since the trial program finished in September 2010, the Compost Revolution has continued with a focus on developing resources that will assist the expansion of the program. This includes website material, case studies and guides for different situations (apartments, families with children, workplaces and schools) as well as developing an online tutorial so that more households can participate. Grant funding finishes in May 2011 but the three councils have committed to funding a part-time project officer to continue the program from July 2011. The challenge will be to expand the program significantly whilst still maintaining the aspects of the program that made it successful such as the personal contact, support and the feeling of being a part of a community project.

6. Conclusion

The Compost Revolution was a successful program due to the personal support and fun approach. It demonstrated that home composting can have many benefits environmentally, socially and economically and leads to other sustainable behaviours. Due to the success of the trial each of the three councils has decided to continue to work regionally to fund and expand the reach of the program after the grant has finished. It is still unknown when and what sort of Alternative Waste Treatment will be introduced for Randwick and Waverley Councils and even Woollahra's current arrangement may need to change. In the interim rather than waiting for the technological waste management fix, the Compost Revolution will grow and contribute to transitioning the eastern suburbs to a more sustainable way of living.

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Appendix 1

Outcome Hierarchy	Measures		Information sources	Standard/judgement method	Evaluation output use
	Evaluation questions	Indicators			
<p>Ultimate outcomes Reduced organic waste to landfill leading to reduced GHG</p>	<p>Is there a reduction of waste to landfill?</p> <p>Is this reduction caused by the project?</p>	<p>Tonnes of waste to landfill</p> <p>Organics in landfill bins</p>	<p>Results from weigh bridges, audits, and modelling</p> <p>Anecdotal evidence</p>	<p>Comparisons with previous levels.</p> <p>Comparisons with scenarios modelled.</p>	<p>Use in Waste Strategic Plan</p>
<p>Intermediate outcomes 3-Council develop a successful program to increase composting in the region</p> <p>Residents gain skills and knowledge in composting and Food waste reduction and changed their behaviour</p>	<p>Is it a program that can be rolled out to more people?</p> <p>Is it cost effective and practical?</p> <p>Have their attitudes & behaviours changed?</p>	<p>Interest in the community. Suitable locations</p> <p>Program cost compared to baseline and costs for food waste collection</p> <p>Reduced food waste created and put in general bin, adapted other sustainable attitudes and behaviours</p>	<p>E-mails and phone calls about the program</p> <p>Costs study of program and food waste collections. Council's data.</p> <p>Surveys, reports & feedback from the trial. Testimonials audit reports</p>	<p>It was practical and could be rolled out to more people</p> <p>Comparison of costs. Home composting proves cheaper</p> <p>Results show that there is an increase in sustainable attitudes and behaviour</p>	<p>Decision making to implement food waste collection services, and/or continuing and expanding the home compost trial</p>
<p>Immediate outcomes</p>	<p>Are participants</p>	<p>Drop out rate</p>	<p>Database</p>	<p>No more than 10%</p>	<p>Use reasons for drop</p>

300 residents enrol in the program and begin composting	continuing through the program? Are they using the bins?	Reports being completed Comments in surveys & website	Reports E-mails and calls	dropout is a good result Reasons for dropout should be for personal or moving only	out or continuation to improve the program
Activities Trial involving training in composting and free bins Workshops about food waste avoidance, gardening and food sustainability	How many people attended training and for how long Were they successful workshops? How many activities were held, topics?, who came?, what were the outcomes?	Numbers and hours People learnt a lot and were motivated Numbers and hours people from within trial or outsiders, learning objectives	Attendance records Evaluation sheets Attendance records & Evaluation sheets	At least 300 90% found it a successful workshop Workshops for 50 people. Learning objectives achieved	Ensure target number was met Evaluate importance of workshops Consider success and importance of these workshops for achieving objectives
Needs Develop an effective regional program for reducing food waste going to landfill	What is best practice for dealing with it? Does this program reduce food waste to landfill?	Discussion with DECC and other councils Volumes of food waste not going to landfill	DECC and case studies Information from participant reports Data from audits	Is consistent with other successful and complaint practices. Waste to landfill for households in the trial reduces by at least 5%	Decision in whether to expand program Decision in whether to expand program