

The Community Composting Guide

Community Composting Network

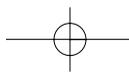
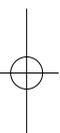
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Contents

1.	Introduction	1
1.1	What is community composting?	1
1.2	What is compost and why make it?	2
1.3	Why community compost?	2
1.4	Typical community composting projects	2
1.5	The Community Composting Network	3
1.6	Legislation and policy drivers	3
2.	Who gets involved?	5
2.1	Who's project?	5
2.2	Starting points	5
2.3	Individuals wanting to community compost	5
2.4	Groups adding community composting to existing activities	6
2.5	Somewhere in the middle – networking	6
2.6	Local authorities	6
2.7	The next stage	6
2.8	Volunteers or paid workers	6
3.	Material collection	9
3.1	Bring sites	9
3.2	Temporary transfer station	9
3.3	Kerbside collection	9
3.4	Data collection	10
4.	Kitchen waste	13
4.1	Animal By-Products Regulations	13
4.2	Collecting kitchen waste	13
4.3	Choosing your processing system	13
4.4	Time and temperature requirements	13
4.5	Meat included or excluded?	14
4.6	European standard	14
4.7	Operational procedure	14
4.8	Record keeping	15
4.9	HACCP plan	15
4.10	Finished product requirements	15
4.11	Getting approval for your site	16
4.12	Exemptions from the ABPR	16
4.13	Further information	16
5.	Choosing composting systems and equipment	17
5.1	Introduction	17
5.2	Systems	17
5.3	Equipment	21
5.4	Other equipment	23

Contents

6.	Home composting promotion	25
6.1	Issues	25
6.2	Demonstrations	25
6.3	Support	26
6.4	Containers	26
6.5	Small shredders	27
6.6	Regulations	27
6.7	Examples of home composting projects	27
6.8	Common queries, problems and solutions	28
7.	Planning your project	29
7.1	Visit projects	29
7.2	Ideas	29
7.3	Getting realistic	29
7.4	Money – self-financed or funded?	29
7.5	Advice	30
8.	Legally constituting the group	31
8.1	Working group and committees	31
8.2	Legal	31
8.3	Constitution	31
8.4	Environmental policy and equal opportunities policy	31
8.5	Insurance	31
9.	Writing a business plan	33
9.1	Developing a business plan	33
9.2	Business plan topics	33
9.3	Budgets	34
9.4	Financial viability	36
10.	Funding	37
10.1	Funding jargon	37
10.2	Finding a funder	37
10.3	Completing the bid application	37
11.	Finding a site and getting it approved	39
11.1	Finding a site	39
11.2	Factors affecting your choice of site	40
11.3	Permission	40
11.4	Waste management licensing	40
11.5	Animal By-Products Regulation (ABPR)	40
12.	Waste management license exemptions	41

Contents

13.	Community-scale composting	49
13.1	Introducing your free workforce	49
13.2	Different approaches to some common materials	51
13.3	Weeds and the law	52
13.4	Problematic materials	52
13.5	Uncompostables	56
14.	Designing and running the site	57
14.1	Site design	57
14.2	Security	57
14.3	Managing the site	60
14.4	Shredding	60
14.5	Sieving and screens	62
14.6	Monitoring and quality control	63
14.7	Compost standard PAS 100	63
15.	Health and safety	65
15.1	Key points	65
15.2	Health and safety policy	65
15.3	Further information and advice	66
16.	Using and marketing compost	67
16.1	Marketing compost products	67
16.2	Using compost products	67
17.	Spreading the word	69
17.1	Promoting you enterprise	69
17.2	Running open days	69
17.3	Running training events	71
17.4	Passing on your knowledge	71
18.	Keeping volunteers	73
18.1	Volunteer numbers	73
18.2	Keeping volunteers	73
18.3	Flexibility	73
19.	Social inclusion	75
19.1	Personal comment on working with people with learning difficulties	75
19.2	What is meant by social inclusion?	75
19.3	Social inclusion	75
19.4	Horticultural therapy	76
19.5	Employing people on benefits	76
19.6	Protecting vulnerable people	76
Appendix 1:	Case studies	77
Appendix 2:	Useful organisations	94

Foreword

A few years ago, when I started off down the community composting route, I used to get local authority officers laughing at me on the phone when they heard I was a community composting co-ordinator. But they soon realised that I was deadly serious and composting is no laughing matter. Nowadays, local authorities are facing the possibility of having to pay penalties if they don't meet recycling targets and the landfilling of biodegradable waste is being phased out – not so funny any more.

I once delivered a talk, which I called “How compost will save the world” – I still think that does not overstate its importance. What is more important than having healthy soils? A healthy soil grows healthy plants, which in turn leads to healthy animals and people. Healthy agricultural soils need to have their humus content continually topped up, and one of the most effective ways of doing this is to apply compost.

It has been enormously frustrating for the community composting sector to try to do its incredibly important work in the face of increasingly unhelpful legislation. In fact, the Community Composting Network (CCN) was formed to get the import/export rules changed – these rules meant it was illegal to bring compostable materials into your land, or take compost off it, without a waste management licence. The rules were designed to control large-scale operations and were totally inappropriate for cracking the very small nut that is community composting.

After years of battling with DEFRA and the Environment Agency, over this and other sledgehammer legislation, some of our work with these departments is now bearing fruit. Unfortunately, the foot and mouth disease and the swine fever outbreaks have led to additional draconian legislation regarding composting of kitchen (catering) waste, with a whole new regime (the Animal By-Products Regulations or ABPR) policed by the State Veterinary Service (SVS). Again, CCN has been heavily involved, as members of the DEFRA Composting Expert Panel, trying to ensure that the regulations are realistically framed to allow community composting of an important fraction of the compostable waste stream.

So there is still a battle to be won and while the Italians are merrily whizzing around in battery operated vehicles picking up kitchen and catering waste for composting, we have been hamstrung by policies that make landfill the easy option.

The profile of composting has a long way to go and the more community composting schemes that we can set up to bring a little light to bear on the subject the better. It's incredibly rare to find anyone who thinks that composting is a bad idea – but people are fearful of what they don't understand, so our mission has to be to enlighten and initiate as many people as possible into the wonders of composting.

Nicky Scott
Chair of the CCN Management Committee

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What is community composting? 1

1. INTRODUCTION

For years the CCN had a great guide called the "Mucking-In Pack" (Pears and Bywater), a joint publication by the Wildlife Trusts and HDRA, which it sent out to all would-be community composters. For many it became like a trusted and reliable friend, perhaps because of its approachable style and easy-to-use format. The membership of CCN grew from 105 in 1997 to 233 in 2004. Many of the projects it helped start grew bigger and more complex, legislation changed and sadly the guide became outdated. This new guide will hopefully be as successful as its predecessor and is intended to be:

- * *An encourager and confidence builder to those either starting or thinking of starting a community composting project;*

- * *A reference for those already involved in community composting;*
- * *A demonstration and celebration of what CCN members have achieved.*

1.1 What is community composting?

This is not an easy question to answer because of the diverse nature of community composting projects; composting (being transformation of waste into something fertile) is often the pivotal activity that ties together other activities, rather than being an end in itself. This makes a for a very rich range of outcomes.

Home composting is, of course, the closest to the source and is therefore often the best option.

The simplest form of community composting is when you start combining forces with your

Peat

Peat has only been used in horticulture for a relatively short time. Previously gardeners would make their own mixes using sterilised soil, as in John Innes mixes, or like the Victorian gardeners from leaf mould, and of course utilising the end result of the composting process as a basis for their growing media.

Peat bogs form some of the planet's most important wildlife habitats and many are protected through global treaties. Despite this, commercial extraction continues unabated in many areas. Although many gardeners are aware that using peat is destroying unique habitats the use of peat-based composts continues.

Other alternatives, like coir, have brought up other concerns and problems. Coir comes mostly from Sri Lanka, which is obviously a concern in terms of "compost miles", and also behaves differently from peat, so gardeners have to learn not to over water it.

Community composters can start to reintroduce the compost mixes of the past and make locally produced, sustainable compost.

Furthermore, this compost, far from being sterile, is teeming with micro organisms that are essential for healthy plant growth.

Eco-Sci (based in Exeter) has researched the disease resistant qualities of compost. It has shown, for example, that damping off (a fungal disease affecting seedlings) is dramatically reduced when using this living compost in the mix.

1 What is community composting?

neighbour. For instance, you may have neighbours who, for one reason or another, cannot compost. You offer to compost their garden “waste” and both of you benefit: you have more compost, they have their waste managed sustainably, you feel good about helping out your neighbour, they have a less smelly and heavy dustbin (and maybe some of your surplus produce), you have a more fertile garden plot. The simple concept that someone can make something useful from someone else’s problem is the start of many enterprises – a problem isn’t a problem, it’s an opportunity. What defines a community composting enterprise from an average waste contractor is the motivation to benefit both the environment and society first, rather than make a profit; all members of the Community Composting Network are not-for-profit organisations.

1.2 What is compost and why make it?

People will ask you what you mean by compost, so to avoid being mistaken for a peat bagger it helps to have something to give them. We don’t claim these definitions to be **the** definition of compost, just a tool to understanding the subject under discussion.

A short definition:

Biologically processed, stabilised and sanitised (waste) organic matter with beneficial properties for plants and soil.

A long definition:

A complex mix of organic matter (partially decomposed plant cell-wall constituents, cellulose and lignin and humus), micro organisms (alive, dead and decomposed) and minerals (nitrogen, phosphorous and potassium and others in lesser quantities) with unique biological, chemical and physical properties.

Why would you want to make compost? It is a very humble material, but has profound ecological functions. It:

- * *Improves the soil structure;*
- * *Feeds the plants;*
- * *Helps the soil to retain moisture;*
- * *Reduces the amount of organic waste going to landfill;*
- * *Reduces the number of bonfires (bonfire smoke is up to 350 times more carcinogenic than tobacco smoke);*
- * *Saves the peat bogs;*
- * *Saves spending money on expensive compost in a bag.*

1.3 Why community compost?

Community Composting is one of the most sustainable ways of managing organic waste because of the environmental, economic, social and personal benefits. It:

- * *Removes putrescible materials from the bin, thereby keeping the rest cleaner and easier to recycle;*
- * *Operates at a neighbourhood level;*
- * *Encourages people to get involved in the production and use of compost;*
- * *Accords to the proximity principle, managing organic waste very close to source;*
- * *Is often associated with human-scale technology rather than capital investment;*
- * *Maximises employment and training opportunities within the social economy;*
- * *Helps to meet:*
the EU Biowaste Directive and UK waste targets UK Recycling Targets which can only be achieved by tackling the biodegradable fraction.

1.4 Typical community composting projects

Having said there is no such thing as a typical community composting project, here are a few examples to illustrate their diversity:

- * *An urban project working in a deprived area, operating a kerbside collection round and a demonstration area as part of a community garden.*
- * *A kerbside organics collection round and composting site alongside environmental education, wood recycling and a scrap-store.*



What is community composting? 1

- * A composting bring site and kerbside round, alongside experiments in low-tech in-vessel systems, compost toilet, wood growing and wood recycling.
- * Home composting promotion using open days in domestic gardens, workshops and a mobile display with working composter visiting village shows and town centres.
- * Kitchen waste and garden waste separate collection services in a small town and neighbouring village. Combined with a multi-material collection round and waste reduction initiatives, this has led to the most impressive waste reduction figure in the country (75 per cent). The group also runs furniture recycling, chip-fat bio-diesel production, a farmers' market, swap days, and low-tech in-vessel system experiments.
- * A rural project combining community composting with community-supported agriculture.
- * A community recycling business support service that has pioneered the use of shredded cardboard as animal bedding, and then worm composting the used bedding. The worms are then used in fish farming. Adults with learning difficulties and disadvantaged youths work on the project.
- * A composting project working with adults with learning difficulties in a country park.
- * An urban project working with disadvantaged people in a community garden. The group primarily uses hot and cold composting, as well as vermiculture and bokashi. Other recyclables are also collected.
- * A city farm operating a kerbside collection round, home composting demonstration area and cardboard shredding project, and also experimenting in low-tech in-vessel systems.
- * A countywide home composting promotion, with subsidised bin promotion by the county council. The programme has a full-time organiser, volunteer district co-ordinators and local compost advisors. It provides training, resources, literature, T-shirts, a newsletter, a hotline and a web site.

Reading these, you can see that many groups have another activity or objective as well as composting, whether it be community gardening, employment (often for disadvantaged groups) or other forms of reuse or recycling.

1.5 The Community Composting Network

The role of the Community Composting Network (CCN) is to promote the environmental, social and economic benefits of community composting.

CCN campaigns for community composting to be acknowledged as one of the most sustainable ways of managing domestic and other organic wastes.

Promotion

- * Promotes community composting projects at a national level;
- * Raises the profile of community composting by influencing waste management policy at a national and European level;
- * Promotes the benefits composting can have for community and personal development.

Networking

- * Represents over 230 members involved in community composting across the UK;
- * Publishes "The Growing Heap", a quarterly newsletter for members, which circulates information on legislation, new techniques, marketing, problem solving etc;
- * Compiles a directory of members, to link beginners' groups, established composters and other interested organisations together;
- * Works on mutual issues with other related organisations (e.g. the Community Recycling Network, HDRA, Centre for Alternative Technology, The Composting Association).

Advice

- * Provides advice, support and encouragement both new and existing projects;
- * Organises talks and demonstrations on community composting;
- * Offers advice on how to make compost heaps/compost at home;
- * Advises on the setting up of community enterprises based on the sale of compost;
- * Carries a library of display materials and books for loan by members.

Products and services

- * Offers a consultancy service to groups and local authorities wishing to set up or develop a project;
- * Organises an annual conference and regular events for members and potential members.

1.6 Legislation and policy drivers

There are several drivers at both a national and EU level, which are pushing forward the development of sustainable waste management in the UK.

Waste Not, Want Not

The Strategy Unit was commissioned by DEFRA to carry out a review of the Waste Strategy 2000 and how it was being implemented. This review, Waste

1 What is community composting?

Not, Want Not, acknowledged the importance of the community sector in delivering sustainable waste management and included a wide range of recommendations related to the collection and composting of organic waste and the support of home composting. The Waste Implementation Programme (WIP) is a unit within DEFRA charged with delivering its recommendations. It includes a New Technologies Programme, which is looking at the use of new technologies in waste management and organics recycling in particular.

WRAP

The Waste and Resources Action Programme is an independent not-for-profit company set up by DEFRA. It was initially developed to promote and develop markets for recycled materials. This included the development of the British Standards Institute Publicly Available Specification 100 (BSI PAS 100) standard for waste-derived compost products. WRAP continues to develop this and is looking at a range of markets for products including commercial horticulture. Following the Waste Not, Want Not report, WRAP has gone on to develop a national home composting promotion campaign and the Recycling and Organics Technical Advisory Team (ROTATE), which is providing support to local authorities in the development of kerbside recycling. WRAP also runs a capital fund for composting facilities.

Local authority recycling targets

Every local authority in the UK has a series of statutory recycling targets to meet relating to household waste. These targets are variable depending on the recycling rate already being achieved by the authority, and were originally laid out in the Waste Strategy 2000. The targets steadily increase with specific percentages to be met in each of the following financial years: 2003/04, 2005/06, 2010/11 and 2015/16.

Local and regional waste strategies

Most local authorities and government regions now have waste strategies. These will include plans for the development of sustainable waste management in the specific area covered by the authority or region. These are different in each area and will be recommended reading during the development of a project.

The Doorstep Recycling Bill

This legislation was originally developed by Friends of the Earth and was brought through Parliament as a Private Members Bill. It states that by 2010, all houses in the UK must be served by kerbside collection services for at least two recyclable or compostable materials.

EU Landfill Directive

The EU Landfill Directive particularly focuses on organic waste with targets to divert/treat biodegradable wastes from landfill to: 75 per cent of 1995 levels by 2010, 50 per cent by 2013 and 35 per cent by 2020 (assuming the UK takes up the four-year derogation to which it is entitled). It has entered UK law as the Waste and Emissions Trading Bill.

EU Animal By-Products Directive

This Directive and the UK Animal By-Products Regulation, derived from it, principally focus on the safe treatment of waste derived from the manufacture and use of meat related products (see Chapter 4). They do include a target, which states that animal by-products, except for domestic catering waste, can no longer go to landfill. This ban comes into force at the end of 2005.

EU Soil Strategy

The Soil Strategy is focussed on protecting soils around the European Union. It considers problems such as erosion, flooding and depleted soil organic matter content. This encompasses compost because it is a potential solution for many of these problems. The strategy may include a statutory instrument or it may lead to the development of separate Biowaste and Sewage Sludge Directives that will promote the source separation and environmentally sound management of these organic waste streams so that they produce quality products that can help save declining soil quality. This will obviously have a big impact on composting in the UK when it comes into force.

The Thematic Strategy on the Prevention and Recycling Of Waste

This EU strategy focuses on the wider issues of waste management, as it was produced at the same time as the Soil Strategy, which includes the production and use of compost.

Who gets involved? 2

2.1 Who's project?

Most people wanting to start a scheme often have a strong vision of their planned scheme, but it's better to look wider before that vision becomes too fixed; working on your own can be self defeating. It is good to have someone else to check for errors, troubleshoot problems with and provide enthusiasm when yours is flagging.

2.2 Starting points

As previously stated, there is no "one size fits all" in the community composting sector and anyone visiting existing projects with a view to setting up their own should bear this in mind. Some are small allotment-based groups just catering for the needs of the site; others are undertaking full-scale collection rounds involving both kitchen and green waste throughout their local town. The best schemes are those that meet local needs most effectively and consistently.

Composting, not surprisingly, is often not the starting point for a community composting project, here are just a few other motives groups had for starting to compost:

- * Conservation groups – planting trees, using churchyards as a wildlife and leisure amenity, woodland maintenance etc;
- * Campaigning groups, including anti incineration, landfill, peat extraction, zero waste, clean air and local food groups;
- * A special needs group providing therapy and a meaningful occupation with links to the community through gardening;
- * A group of no-dig gardeners in need of compost/mulch;
- * A community kerbside collector that started with dry recyclables and is now collecting from the organic waste stream;
- * Tenants' groups in sheltered housing, housing associations, estates etc, wanting to improve their environment;
- * A local activist supporting and encouraging home composting;
- * An educational establishment wanting to make the National Curriculum more exciting;
- * A farmer wanting to diversify and forge links with local community;
- * Parish councils providing and promoting local sustainable waste solutions;
- * Local authorities with a need to meet targets to divert waste from landfill;
- * A Local Agenda 21 group thinking globally by acting locally;
- * A community transport organisation, building on its existing infrastructure and assets;

- * Furniture or wood recycling projects developing further activities.

Whatever the project, never underestimate the work involved. The two main challenges for setting up a community composting group are finding a site and finding enough people to do the work. What if you are on your own? How on earth do you start?

2.3 Individuals wanting to community compost

Individuals are very often the start of a community composting scheme. They generally need to form or join a group. Or, if already a part of a group, they can suggest that the group take on this new direction, perhaps starting a sub-group. But individuals can also do quite a few things unhampered by a group:

Pros

Individuals:

- * Can do their own thing and get started quickly, generally unhampered by restraints imposed by external authority. They can freely lobby or work to raise consciousness.
- * Can talk to neighbours and the local council, go into local schools, write to papers, magazines and MPs. Groups can get involved in many of these activities too, but individuals have more flexibility.
- * Can collect materials from neighbours, local shops and businesses – this has potential to develop into a bigger operation.

Cons

- * Individuals are not supported by any one local authority or network.
- * Find it difficult (nearly impossible) to get funding.
- * Have no-one to bounce ideas off.



2 Who gets involved?

- * *Have a massive workload. Remember this is a 24/7 commitment – presumably you are never ill, and certainly don't take holidays. In short, in the initial stages, working on your own is fine, but if you want to move the world, or even just get your road composting, you have to become more than just "you".*

2.4 Groups adding community composting to existing activities

At the other end of the scale you have established, well-managed groups wanting to extend their activities. For them it can be extremely simple to start up a community composting scheme. They may have all the right elements in place to start with: a suitable site, labour force, vehicles, access to funding, good links with the community, local authority, social services and so on.

Pros

- * *Expands the remit of the group, bringing in further funding opportunities and opportunities for project development;*
- * *Closes the loop – for example, horticultural projects can produce their own potting and seed composts and boost soil health and fertility;*
- * *Provides employment opportunities, socially, therapeutically and financially;*
- * *Can encourage composting in the community through education, events, open days, training, working with local authorities, publicity in the press etc.*

Cons

- * *Needs managing and co-ordinating – of meetings, admin, communication, employees, and skills;*
- * *Requires ongoing support from the community;*
- * *Needs a suitable site and permissions, entailing more bureaucracy;*
- * *Needs a clear system;*
- * *May become reliant on funding and find it difficult to be self-sustaining;*
- * *Recycling Credits may not be available.*

2.5 Somewhere in the middle – networking

The most common situation is a small group of people from a community who have usually managed to rope in a few more like-minded souls to research and develop their idea further. They are often involved in the growing of food: allotment groups, permaculture groups, gardening clubs etc. Other groups are mainly ones that want to tackle issues in their community such as bonfires, fly tipping etc, or are responding to the local council

curtailing the collection of green waste, or local groups of BTCV, Friends of the Earth or Greenpeace etc. Putting the word around to all these groups will help to build up the critical mass to develop your group and keep it going.

2.6 Local authorities

Don't develop a them-and-us situation with your local authority. Chances are that your proposals will help their objectives. Look at your Local Waste Plan or Strategy and find out how you fit into it. Track down any local councillors who are likely to be sympathetic to your ideas and chat to them informally.

Contact the Recycling, Waste Minimisation or Local Agenda 21 Officer for your council. Tell them what you are proposing to do and ask for support. Show them how you can help them. Don't be dissuaded by any initial negative responses – persist, try another department or another council (if you have no luck at county level, go for the district and vice versa).

The council may well be able to help you in all sorts of ways, such as providing meeting facilities, printing leaflets and distributing them. They may, given time, be able to include your work in their budgets and/or help with matched or core funding. Some are excellent, Devon County Council supports groups by providing a network co-ordinator and a mobile shredding service, and by paying recycling credits.

Find out what is going on in your area and nationally by going to the CCN website. Go to the meetings, conferences and seminars and put your point across. Meeting people and talking to them at these events is invaluable.

2.7 The next stage

Once you have a nucleus of people together you can start to do some real planning.

It is useful to call yourself a working group or similar. At this stage you may not want to get bogged down in constitutions etc, but just vote in a Chair and Secretary, so that someone can run the meetings, and the Secretary is at least noting down actions, and, even more importantly, chasing people to check they have "actioned" their actions.

2.8 Volunteers or paid workers?

You may be shocked to read of paying people for a community activity, but the reality is that probably the majority of CCN members' projects include some paid help, and job-creation in a sustainable activity is a good thing. As you develop your project, keep an open mind – a tractor and trailer for a morning once a month might save

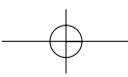
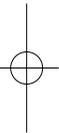
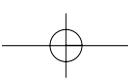
Who gets involved? 2

trying to find volunteers for a weekly slog. As the organiser, are you going to pay yourself? It may only be for half or one day a week, but if you are applying for a grant, grant-giving bodies are very happy to see a paid organiser. From their point of view, the project is likely to have a greater degree of professionalism and success.



Remember that your project could be providing some local employment opportunities. Many projects work with disadvantaged people, long-term unemployed, special needs groups and so on. It can be a real boon for social services to have a place to provide therapeutic employment, and it can make an enormous difference to the people involved in the schemes.

Most groups, however, are very dependent on volunteers – you can never have too many. Having a large group means each individual does not have such a large commitment. Remember that if you need six people once a month, you ideally need a pool of twenty or so to cope with prior commitments, illness or holidays. Also, people leave for all sorts of reasons – new job, house, ill-health and so on.



Material collection 3

3.1 Getting it together

Sourcing your materials and working out how to get them onto site is the first of many practical issues facing the community composter. The source for many projects is obviously the households in their community, but it can pay to look at businesses in the area too. Your local greengrocer, florist or hotel may be useful additional sources of material (and revenue). The main governing factors are the size of the community you will be serving and the size and capability of your organisation.

There are three basic options for collecting your materials: bring sites, a temporary transfer station and kerbside collection.

3.2 Bring sites

Unstaffed bring sites

Unstaffed sites where people are trusted to bring materials and put them in the appropriate place are generally bad news; there is too much potential for dumping of unwanted rubbish. It is usually preferable to have a collection round, but one project does operate a contract-only bring site, where the council's waste contractor brings green waste it has collected for the group to compost. However, bring sites can work within a well-organised, co-operative community with excellent communication from the community group. They can work well if the site is not obvious to passers-by from outside the community, or is within sight of someone who can keep an eye on it. Within the site, good signage is essential, as is regular attendance to keep on top of things. For example, grass cuttings cannot be left for more than a day or two without becoming a compacted, slimy problem.

Pros

- * *You don't need a vehicle;*
- * *You're not tied to a collection round week in and week out.*

Cons

- * *People will put things in the wrong place;*
- * *They will bring things you can't deal with or don't want, like tree stumps, plastic and rubble;*
- * *You will need good access;*
- * *You may attract fly-tipping (see Chapter 14.2, Security, for more information).*

Staffed bring sites

Many community composting projects are operating from sites with a variety of activities taking place and which are staffed during opening hours. This is preferable to an unstaffed bring site,

as staff can help explain the system and what it is appropriate to put where. It also helps to involve the community more with the wider activities of the project. A bring site has to have very good clear access approved by planning and highway departments.

Pros

- * *Control over the materials brought;*
- * *Opportunity to levy a fee;*
- * *Can sell compost from the site;*
- * *Can engage in other activities on the site – expand the group's remit.*

Cons

- * *Tied to opening times, consider out-of-hours opening, as most people are at work nine to five;*
- * *You need to pay staff or be extremely good at getting volunteers;*
- * *It can be very difficult to find a suitable site;*
- * *Need access to staff facilities – shelter, kettle, toilet etc.*

3.3 Temporary transfer station

For sites that have experienced fly tipping, and for sites where this may become a problem, this is a good mid-sized alternative. Instead of allowing public access to the site, it is possible to park a trailer somewhere on a regular basis and allow the public to bring their green waste. For this to work, it must be a regular commitment and in a convenient location. It would be possible to have several regular collection points during the week. A project could also use this as an opportunity to market compost back to the



3 Material collection

public. The advantage of this type of project is that with the minimum of time, staff or volunteers can ensure that only the materials the site can deal with are accepted by the project and that the site does not become a target for tipping. It does require the project to have some kind of trailer, but this could easily be hired from a local farmer if the project does not want the capital expense. Projects are allowed to collect up to 10 tonnes of material in this way, and it may be stored securely for up to 48 hours before delivery to the composting site.

3.4 Kerbside collection

Bearing in mind the differences between kitchen and garden waste (see Chapter 4, Kitchen Waste), the easiest way to have full control on your system is to operate a collection round.

There are many examples of large and small-scale kerbside collection rounds in the UK. Most are run weekly or fortnightly and some do not operate during the winter months when there is the least green waste being produced by gardeners. While this does involve a regular collection commitment, it will generate the largest amounts of material due to the convenience of the service provided. Many do argue that this takes material away from home composting and that more garden waste is collected than was being disposed of in the normal refuse collection.

Councils are not obliged to collect garden materials. If they do they can charge for it. Some do collect and charge, some collect and don't charge and some don't collect.

It is for this reason that many kerbside garden waste rounds choose to charge for their service. This means that more material will be home composted and that the project receives an income stream.

The charge can be by an annual fee, which will guarantee a number of sacks collected, or by a tag system, whereby only material with the appropriate tags attached will be collected. Check the going rate with other community groups or local councils, and don't under-price (concessions can always be made for special circumstances).

Having a collection round involves far fewer vehicle movements than a bring site, which is obviously preferable to lots of vehicles trundling around creating pollution. Also, the site doesn't have to be so rigorously checked, if at all, with planning and highway departments.

Pros

- * Only one vehicle coming onto the site;
- * Site access does not have to be perfect;
- * Planning can be a lot easier to obtain;
- * Your site can be more remote;

- * It doesn't have to have fixed opening times;
- * You can control where you are collecting materials from so you can start small;
- * You can easily monitor the quality of the materials left out for collection and reject anything unsuitable.

Cons

- * Once you start you must keep it up;
- * You must have a suitable vehicle and keep it maintained;
- * You must have a dedicated labour force.

EXAMPLES OF KERBSIDE COLLECTION

Wyecycle

Wyecycle operates a fortnightly collection of green waste from kerbside – residents purchase tags (50p) from the village store. This started as a free service, but the operators soon realised that this was a mistake.

Residents need one tag for a normal-sized bag, pro-rata for larger containers. The bags and other containers are emptied into collection trailer and left for residents to refill, while disallowed material is left with the resident.

East London Community Recycling Partnership (ELCRP)

ELCRP collects both dry recyclables and kitchen waste weekly from the two high-rise towers of the Nightingale Estate in Hackney. This takes place over two days to slow the collection of food waste to a rate suitable for the composting system used. Householders source separate (sorting their waste into different material types rather than mixing it up) into their own plastic carrier bags for dry recyclables, such as paper, metal and glass and kitchen caddies for kitchen waste. Collectors gather the waste into 25kg containers.

Ealing Community Transport – OWL project

Weekly collections of both dry recyclables and kitchen waste by the same vehicle at the same time have increased the capture rate of both waste streams.

Residents source separate their waste, with the kitchen waste being collected in a lidded bucket. Asking residents to exclude meat from their kitchen waste has been very successful, with less than one per cent contamination.

The project collects from 4,000 households across four local authority areas.

3.4 Data collection

One thing to consider when planning your project is keeping records of the waste you collect and the

Material collection 3

compost you produce. You will almost certainly need to produce data on waste diverted from landfill for your local authority or funders to access money. If not, it is still worth considering, as it is a useful management tool and may help persuade future funders.

Measure your treasure

The Community Recycling Network has produced an information pack entitled Measure your Treasure, designed to help community recyclers collect data. The information below is mostly taken from the Community Composting section of the pack, which can be obtained from:

Community Recycling Network, Trelawney House, Surrey Street, Bristol BS2 8PS.

Telephone: 0117 942 0142, email: info@crn.org.uk.

Reasons for gathering data

Sometimes when you are very busy, the last thing you need is someone telling you that you should be writing about the thing you are trying to do. However in the case of data collection, keeping records is very useful both for your own understanding of your project and for assessment of your project by interested parties. The bottom line is that having data will help you get money from funders and your local authority.

Uses of data within your project

- * *Reviewing strategy (e.g. collection methods and times);*
- * *Making decisions on new equipment or staff;*
- * *Reviewing efficiency;*
- * *Information for public relation purposes;*
- * *Demonstrating a track record.*

Outside interest in your data

- * *Local authorities – for Best Value Performance Indicators and awarding recycling credits, grants or contracts;*
- * *Funders – proof that you meet your targets, meeting the priorities of their own funding stream;*
- * *The CCN needs your data for representing and promoting the community sector's interests;*
- * *General public – incentives to take part and educational work;*
- * *Plus the Environment Agency and governmental departments are interested in performance data.*

When and how to gather data

Whether you quantify your materials on collection, during processing or as a finished product will

depend on why you are gathering the data in the first place. You may also need to consider who is going to gather the data. For example, if gathering data on tonnage diverted from landfill, it would make sense to measure the material inputs. Obviously, how you get your data has to be practical and appropriate to your project and some trial and error experimentation before settling on a method would be a good idea.

Directly weighing

The best method of direct weighing as far as your local authority is concerned is a weighbridge. Your local authority at a unitary or waste disposal authority (county council) level will have a list of approved weighbridges. You may also be able to find a local business such as a scrap metal yard that has one you can use. While the latter might be more convenient for your site, your local authority may want an approved one.

Possible alternatives, for small projects, are spring scales (available from fishing tackle shops), bathroom scales or livestock feed scales. This method could be used to measure caddies of collected kitchen waste or sacks of garden waste. If you are collecting a large number of sacks or caddies this might be quite time consuming, but you could weigh a random cross section of caddies or sacks to arrive at an average weight. For example, if the average weight of a full kitchen waste caddy is 20kg, you can then multiply this dependent on how many caddies are being collected. If using this method, it is probably worth periodically sampling caddies to ensure the average is about right.

This type of weighing equipment is also useful for weighing the finished product. This will help with the standard bagging of your product and may enable you to make a calculation of what materials you originally collected. For example, Devon County Council will pay recycling credits on the basis that 25kg of finished compost takes 40kg of green waste to produce, so projects only have to measure their finished product and multiply the number of bags by the 40kg figure to have a figure for what material they originally composted.

Larger projects may want to consider items of equipment with built in load sensors, e.g. in-vessel equipment, feed hoppers and shredders, which then issue a read-out. The weighing mechanism may add several thousand pounds to the price of a piece of equipment. It is worth checking that the person you are collecting the data for will accept it as a valid method before you make the investment. This is particularly important when considering whether your local authority will pay you recycling credits.

3 Material collection

Estimating weight from a known volume and density

Estimating the weight of input material or product by its volume is possible, but slightly more complicated. First you need to work out the density of the material. Measure your Treasure suggests the following method:

1. *If you want to estimate based on your collection vehicle, fill it and take it to the nearest public weighbridge. If you want a figure for your reception bay you will need to put the contents into a large enough vehicle and take that to be weighed.*
2. *Subtract the weight of the vehicle when empty from the weight when full, to get the load weight.*
3. *Measure the load carrying or bay capacity in m³*
4. *Divide the load weight in kg by the volume to arrive at the density for that material.*
5. *Once you have the density for your material you can work out the weight of the materials you have collected in the known volume of your van (or skip, bay or bucket), by using the following equation: $Q = R \times E \times C$, where:*

$$Q = R \times E \times C$$

Q is the weight in tonnes

R is the density for that material (tonnes/m³)

E is the estimated percentage fullness of the container expressed as a decimal e.g 50 per cent (half full) = 0.5

C is the volume of the container (m³)

Example:

a 10m³ van (C) that you estimate to be 80 per cent full of mixed bush and tree branches (E) with a material density of 40kg/m³ , which is 0.04 tonnes/m³ (R)

$$\begin{aligned} \text{Weight} &= 0.040 \times 0.8 \times 10 \\ &= 0.32 \text{ tonnes} \end{aligned}$$

Kitchen waste 4

4.1 Animal By-Products Regulations

The collection and composting of kitchen (catering) waste in the UK is governed by the Animal By-Products Regulation (ABPR), which came into force on 1 July 2003. This is at first glance a very complicated piece of legislation, but kitchen waste is perhaps the most important material that needs separating from the domestic waste stream. The State Veterinary Service enforces the regulations. This chapter covers the basics of the legislation and some related issues in choosing how to design your system.

4.2 Collecting kitchen waste

The collection of kitchen waste must be done via kerbside collections both from commercial and domestic premises. Because kitchen waste is naturally dense, vehicles do not require any form of compaction. This means small vehicles such as pedestrian controlled electric vehicles are suitable for kitchen waste rounds, as are small vans, and these are particularly appropriate for urban areas. The only legislative concern is that birds cannot gain access to the material during the collection round. This means collection must be carried out using a contained method with a closing door or hatch rather than an open trailer.

This also means that material should be placed out for collection in a container like a caddy rather than a bag. You may choose to use a biodegradable bag in the caddy to keep it clean for the user, but this increases your costs and recent studies have shown that it does not affect participation rates. If you do use a biodegradable plastic bag make sure it has the "Compostable" logo.

Some schemes, in particular local authority run ones, are choosing to collect the garden and kitchen elements of organic waste together. This makes sense if you have a wide rural area to cover and an existing pool of compaction vehicles. The downside is that all the additional garden waste will have to be treated as kitchen waste, significantly increasing the tonnage you have to compost in this way. If you are operating the collection side only this will have implications for the gate fees you have to pay at composting sites. In urban areas it is recommended that the fractions be collected separately.

If you use a vehicle that you also want to transport finished compost in, you will have to clean it thoroughly. If you can it is better to have separate vehicles.

4.3 Choosing your processing system

The ABPR allows for the following processing options: in-vessel composting, anaerobic

digestion (including biogas systems) and housed windrows. In-vessel and biogas options are likely to be more appropriate for community sector organisations. These are, however, very capital-intensive solutions. It is essential that you understand the legislation before you purchase or lease a piece of equipment. You must satisfy yourself that it is as compliant with the legislation as the supplier claims it is. As more systems get approved it will become possible to check that the system you are looking at has been approved at another site. This does not mean you will automatically be approved, as you still have to prove you can work the system properly.

There is a wide range of systems available to suit every scale, from ones that process around a tonne per week to very large industrial plants.

4.4 Time and temperature requirements

The most crucial part of getting approval under the ABPR is that your system can meet the time and temperature requirements. These time, temperature and particle size requirements are called "barriers" in the legislation. They are designed to ensure that you achieve a desired rate of pathogen kill within the compostable materials. Following this first-stage barrier, your system must have a second barrier, which varies depending on whether you are processing meat-excluded or meat-included catering waste.

It does not matter how long your composting phase is as long as 99.9 per cent of the material reaches the required temperature for that time and that you were able to ensure the maximum particle size in that material. The only exception to this is the housed windrow category, where it is accepted that the outer edges will never reach the temperature. This is why the legislation has a turning requirement, and it will be up to you to prove that your windrow turner turns the heaps thoroughly.

It is also important to note how that heat can be produced. In most cases the legislation states that the heat must be principally generated as part of the thermophilic composting process, with the exception of biogas plants that are allowed to pasteurise material. This leaves in-vessel systems that have a back-up heating generator to give the material a helping hand in a grey area. At the time of writing it seems that some systems that include heating elements will soon be approved, but proceed carefully before choosing a system of this type.

If you are in doubt about the ability of your system to be compliant it is best to contact your local State Veterinary Office as early as possible,

4 Kitchen waste

System	EU Standard Minimum temp	Minimum time	Max particle size
Composting (in-vessel)	60°C	2 days	40cm
Biogas	57°C	5 hours	5cm
Composting (in-vessel or biogas)	70°C	1 hour	6cm
Composting (housed windrow)	60°C	8 days (during which windrow must be turned 3 times at no less than 2 day intervals)	40cm
Composting (in-vessel or biogas)	70°C	1 hour	12mm

as they are generally taking a supportive role in the development of composting sites.

The particle size element must be guaranteed, but it only has to be met in one dimension. For example, to meet the 70°C UK standard, material 10cm long by 15cm wide is OK as long as it is only 6cm thick.

4.5 Meat included or meat excluded?

You are allowed to choose between collecting catering waste that contains meat and catering waste that does not include meat. This has further implications on how you treat the waste.

Meat excluded

If you choose the meat-excluded option you will have to be able to demonstrate how you are informing the householders and businesses participating in the scheme that you are collecting meat-free waste only and that you are educating your collection staff to refuse loads that are obviously contaminated with meat. It is accepted, however, that a small amount of meat waste will inevitably get through, and this is not a problem.

The meat-excluded option then requires that after the first composting barrier stage, the material is put through another barrier – a further 18-day storage period, which can be outdoors and can include vermiculture.

Meat included

If you choose meat-included waste then you have to put the material through a second barrier (processing stage). This cannot simply be keeping it in the same box and going for a second hour at 70°C or two days at 60°C. You must ensure that all the material has been moved to prevent any material remaining in a cold spot. This principally means the material will have to be moved from one barrier and put into another. This second stage can be an outdoor windrow, but this would still have to comply with the turning and temperature requirements for a housed windrow.

The two barrier stages may be able to be carried out inside the same in-vessel system if you can demonstrate that the time and temperature requirements were reached at separate times and that the material was completely mixed by an auger or

other turning device. Such a system would also have to prove that leachate could not cause cross contamination.

4.6 European standard

If you choose to go down the route of the EU standard with meat-included waste you will only have to put the material through one composting barrier at 70°C for one hour. This will save time and effort in the running of your site, but the difficulty with this standard is that it has a particularly small particle size (12mm in one plane), which means your system will be dealing with a very mushy material, because the kitchen waste will have to be shredded. This can be solved by addition of a suitable material such as sawdust to soak up excess liquid.

4.7 Operational procedure

The legislation requires a number of aspects of operational procedure. These principally revolve around preventing by-pass of your system so that untreated material cannot re-infect processed material. This means that you will have to ensure that your site, staff and equipment are clean.

The most important of these are that you have a dirty area, where material is delivered to the site,

Kitchen waste 4

an area for cleaning vehicles and a clean area where finished material is stored. Ideally, there would be some kind of physical barrier between these areas, but at the very least they must be physically separated. The site should also be laid out so that drainage does not cause cross contamination by letting liquid from the dirty areas flow into the clean.

The dirty area should be constructed in such a way that if the material is not fed straight into the in-vessel unit it could be shut in a sealed container, which should be rat and vermin proof. You will also need a documented pest-control programme for the site, and your site should have a fence surrounding it.

4.8 Record keeping

You will have to keep detailed records of a number of aspects of your site's operation. The most important of these is that you are meeting the time and temperature requirements. This requires temperature probes in the composting system, and the records may be stored either on a computer or in a hand-written log. Computer-based systems are fairly inexpensive and in most cases would be supplied with your in-vessel equipment. It is crucial that these temperature probes are checked regularly and are recalibrated every three months.

The temperature records must be tied to a system that shows the clear passage of material through the site. It must be possible to show who brought how much of what type of material (including whether it was source separated as meat-free) on to your site on a specific day and that it was processed in accordance with the legislation and that the specific HACCP control points were met with relation to this material. This means you will have to have specific records that show you have continued to maintain your pest control programme and site cleaning procedures.

All records will have to be kept for a minimum of two years.

4.9 HACCP plan

HACCP stands for Hazard Analysis and Critical Control Point. It is a system of risk management developed by NASA because it was worried that random end-of-pipe sampling did not prevent the odd bit of contaminated food causing the distinctly unpleasant problem of food poisoning in a space suit. Since then a significant portion of the food production industry has adopted it and it is now part of the system for dealing with sewage sludge in the UK, which is how it came to be taken on board as part of the ABPR.

Essentially, you will have to draw up a risk analysis of your proposed process. You will then decide which are the critical points that control these risks and stop them from being a problem. This should be a plan that you constantly re-evaluate to ensure it is doing the job it is supposed to be doing.

The plan will cover every aspect of your site and its operation, so an example of a critical control point would be that you regularly recalibrate your temperature probes to ensure they are accurate. Another would be the building of a wall between the clean and dirty areas to prevent cross contamination. If your critical control point is an action such as washing the floor you will also need to record the fact that you do this.

Each HACCP plan will be individual to the specific site, and your local state vet will probably work on it with you to suggest improvements. The Composting Association has published a guide to HACCP plans and CCN has some examples of HACCP plans that you can look at.

4.10 Finished product requirements

You will need to test your end product for Salmonella (and also for Enterobacteriaceae if you treat any animal by-product other than catering waste). Your site will go through an initial validation period that will include a much higher frequency of testing to ensure the site is working properly. In all probability at this stage every batch will have to be tested. Once your site has been approved the frequency of this testing will reduce and will vary from site to site, depending on the other elements of your HACCP plan.

All samples must be taken after your materials have been through the thermophilic (heat



4 Kitchen waste

producing) stages of the composting process, and will have to be sent to either an approved Schedule 3 laboratory or tested at an on-site approved laboratory. If your sample fails the test, it is your duty to inform the state vets.

If your finished product is destined for agricultural usage, you will either have to label the product or provide a leaflet that clearly states that the farmer cannot allow animals to have access to either the pasture land or feed crops for a specified time. This is within two months for pigs and three weeks for other farmed animals, starting from when the catering waste derived compost has been applied. It is the farmer's responsibility to keep records to prove this has been complied with.

4.11 Getting approval for your site

In most cases the chosen in-vessel system should have gone through a pre-validation process. Essentially, this is what the manufacturer says the system can do and should focus on the ability to kill pathogens and to meet the time and temperature requirements with a range of feed stocks.

This will become increasingly simple as more systems are approved, the state vets become more familiar with systems and suppliers are able to point to fully operational compliant sites that use their systems. In the initial stages the onus will be on you, the operator, to prove that the chosen system can comply.

Once it has been proved that the system can in theory comply, the next stage is to prove that you are capable of running the system correctly. This will initially involve the submission of site plans and the HACCP plan for the site. It is in your interest to start this process as early as possible so that state vets can bring up any problems early on and they can therefore be corrected easily. Once this has been completed, the state vet will carry out a site inspection.

If successful, the site will initially be granted a temporary approval. This stage will include the higher frequency end-product sampling and the finished product will either have to be stored on-site or sent for landfill, incineration or rendering until it has passed the test and been granted positive release accreditation.

If the site passes the end-product testing then it can be issued with a full approval. In most cases the reality of the approval process will involve a lengthy dialogue with the state vet that includes a number of revisions of your plan.

Once your site has been approved, the State Veterinary Service will continue to monitor your site, with a number of site visits where your records will be checked during the year. Every two years you

will have to re-apply for approval, but if your site has not changed much this is a formality and you will not have to repeat everything you went through to get an approval.

You will also have to get either an exemption from or a full waste management license from the Environment Agency or SEPA. In Scotland, a project cannot operate under an exemption if it is processing meat-included kitchen waste (see Chapter 11 for information on finding a site and getting it approved).

4.12 Exemptions from the ABPR

If catering waste is produced on-site, composted on-site and the compost is used on-site, then that process is exempt from the requirements of the ABPR. This exemption is effectively an extension of the one for home composting and opens the door for community groups to develop simple projects in partnership with places like schools, colleges, hospitals and prisons. If a site is operating under this exemption then it will not have to seek approval from the state vets. However, it will still have to comply with the relevant waste management licensing criteria.

There are some exceptions, which include domestic households, to this exemption:

- * *If a site keeps chickens then the compost will have to be done in a contained enclosure, which prevents the chickens getting access to it;*
- * *If the site keeps any kind of ruminant (cattle, sheep, goats etc) or pigs, then it is not allowed to compost kitchen waste at all.*

4.13 Further information

Because this is new legislation, and interpretation of guidance is constantly changing, it is best to check with CCN for the latest position.

The DEFRA Animal By-Products website has very useful information – Draft guidance on the treatment in approved composting or biogas plants of animal by-products and catering waste. This document can be considered to be the authority on the interpretation of the regulations.

DEFRA ABPR website

DEFRA guidance notes: <http://www.defra.gov.uk/animalh/by-prods/default.htm>

Scottish Executive ABPR website

<http://www.scotland.gov.uk/about/ERADRA/LAH/00015760/EUABPControls.aspx>

State Veterinary Service

Contact details for UK Local Animal Health Offices (State Veterinary Service):

<http://www.defra.gov.uk/corporate/contacts/ahdo.htm>

Contact details for Scottish Animal Health Offices:

<http://www.scotland.gov.uk/about/ERADRA/LAH/00015721/AHOMAP.aspx>

Choosing composting systems and equipment 5

5.1 Introduction

As you develop your project you will have to make choices about what type of composting system you are going to use and the specifics of how this system will be applied to your site. There is no such thing as the ultimate composting system, whatever anyone tells you, but there will be a system best suited to the specifics of your project. This chapter is designed to help you weigh up these pros and cons.

This chapter does not cover issues relating to a specific make of equipment. It is simply designed to help your thinking process. You will have to give careful consideration to the actual specifics of the equipment suppliers you are looking at. Do not forget to talk to similar projects that can give you the benefit of their experience.

Issues related to choosing a system

A wide range of considerations will affect the decision on what system is right for you:

- * *The type of organic materials you will be processing;*
- * *The amount of organic material you will be processing;*
- * *The focus and priorities of your project;*
- * *The throughput you need to maintain at your site (the speed at which material needs to pass through your system from material to finished product);*
- * *Your available sources of labour for working on the project*
- * *Your available land area for the project;*
- * *The nature of your site:*
- * *Proximity to neighbours;*
- * *Activities already happening on your site;*
- * *The potential for environmental pollution with reference to the needs of the Environment Agency.*
- * *Legislative requirements;*
- * *The availability of electricity on your site;*
- * *Your ability to generate income and meet the operating costs of the site.*

Of these issues, the first consideration must be legislation. You will have to look at ABPR-compliant systems for the kitchen waste; otherwise you will be breaking the law and risking prosecution. The Environment Agency or SEPA may also place restrictions on the type of system you can use, relating to your potential to cause pollution problems and the material you want to compost.

The next considerations will be those relating to scale. You will be collecting so many tonnes of material, and have so much land available to

process it in. It might make sense to use an in-vessel system for garden waste in London due to the high cost and low availability of land, but this would probably not be the case in a rural area.

You will need to ensure that material can pass through your system at a comfortable speed. If you get this calculation of throughput wrong for your site it could lead to no end of problems. Do not pick a system that on an average week requires you to give 110 per cent to get your material processed. What will happen in the week after the Easter holiday, when people have ventured out into their gardens again armed to the teeth with lawnmowers and pruning devices? If you have chosen a system that is always at full capacity, a week like this will overwhelm you. This will lead to an untidy looking and badly run site and will be quite depressing for your already overworked staff.

You must also consider what the weak links in your process are. Ideally, you should have back-up plans to ensure that if an element of your system such as the shredder breaks down you will not be forced to close the site or create huge mountains of backlogged material. This should go hand in hand with a comprehensive programme of maintenance for all your equipment. Prevention is much better than cure.

Finally, you will need to ensure that you can afford to run the site. Remember the set-up costs can be met through a funding bid, but you really should be aiming for financial sustainability in the long term. Some systems, such as in-vessel equipment, might be more expensive to buy, but they might lower your operating costs in the long term. (See also Chapter 14: Designing and Running the Site.)

5.2 Systems

Bins

Using bins is a simple system for a small-scale site that wishes to process anything up to 100 tonnes of garden waste in a year. They allow you to process the material in a clean and tidy way, and are generally turned by hand. They will also be important for the maturation phase of a small-scale kitchen waste composting project once the material has passed through the in-vessel stage.

The most important consideration in designing a system of bins is that there is a simple, logical and preferably linear progression of material through your site. This means you want a larger reception bay/bin for unprocessed material, followed by a system that allows you to easily turn material between the bins. This can be best achieved by linking the bins together and having removable wooden walls between them. This means you do

5 Choosing composting systems and equipment

not have to lift the material over a wall or out of the bin and into another one – you can simply pass it through to the next one and your back will breathe a sigh of relief.

Most bins that community groups use are made from wood. This can be expensive treated timber, which should last a long time, sawmill out shelves (the outer layer of trunk left over from the planking process) or reclaimed timber including pallets and old doors. The most expensive is pressure-treated sawn timber. The advantages are that the wood will last longer and you can make the fronts (and backs and internal divisions) out of planks that slide in and out of slots. This makes the compost easily accessible for turning.

A good basic design involves four sturdy corner posts. These should be placed into the ground so that they form the corners of a square with 1m sides. Cut a channel into the post that is slightly wider than the planks you will be using for the walls, all the way down the posts. You can then simply slot in or take out the dividing walls as the heaps are being turned and filled.

Bins can be made from any source of reclaimed timber including old doors, railway sleepers and pallets. You can also use other materials such as straw bales and metal sheeting. If you are using these materials you must make sure the finished bays are aesthetically pleasing. Having a site that looks neat and tidy to start with will help you keep it that way.

Even corrugated iron or wire mesh on its own can be used to make a heap, but will provide no insulation, and wire alone will provide too much ventilation, which is fine for leaf mould but not so good for compost. You can of course line these containers with carpet, cardboard or paper and have a very cheap bin.



Pros

- * Good for batch system – easy to track movement;
- * Contains material neatly and keeps the site tidy;
- * Insulation factor;
- * Easy to cover;
- * Easy to build or buy;
- * Great for small-scale sites.

Cons

- * Construction costs vary dependant on the materials you use;
- * Wood rots;
- * Not good for very large amounts;
- * Requires hand turning.

Bays

Bays are likely to be the next step up from bins and many people will refer to bins as bays. If you are looking to process 100 or more tonnes per year on your site you will want something bigger than a bin, which is what a bay is. These are typically made from pretty robust materials like railway sleepers, bricks or concrete walls, and must be built on a solid base of concrete or well-compacted hard standing. This is because they are generally designed to be turned by the front-end loader on a tractor, as increased quantities of material tend to go hand in hand with increased mechanisation of the process. Bays are useful when you are short of space, and have the advantage that you can easily cover each bay with a tarpaulin to control the moisture level.

Pros

- * Work well with front-end tractor systems;
- * Contain material neatly;
- * Saves on space;
- * Can be easily covered.

Choosing composting systems and equipment 5

Cons

- * *Can be expensive to set up – timber and concrete;*
- * *Needs a concrete base or robust hard standing if you are turning by tractor;*
- * *Turning by tractor can be surprisingly time consuming if you have a large throughput on site.*

Static aerated piles

Static aerated piles are usually arranged so that air can be blown or sucked through the heap and are generally used for dense wet materials that are difficult to turn. They are generally very similar in construction to bays with an additional mechanism for circulating air through the heap. This is often in the form of a pipe system set into the ground below the bay. It is fine to experiment with a pipe that runs through the mass of the heap, but this will get in the way of mechanically emptying the bay when the material is finished.

This is a particularly useful method if you are looking to process garden waste in a location where there is a limited amount of land available, as it can speed up the process.

For this method to be successful it is vital to ensure that the heap is well structured with a good carbon to nitrogen ratio; with extra input of air the limiting factor will be the balance of nutrients. A properly contained system of housed static aerated piles that are covered in a way that is bird and vermin proof can be a relatively affordable way of meeting the requirements of the Animal By-Products Regulation.

Pros

- * *Takes up less space;*
- * *Heaps do not have to be moved or turned during composting;*
- * *If properly contained can be used as part of an ABPR-compliant process.*

Cons

- * *Expensive to set up and run;*
- * *Can still have pockets of anaerobic activity if the heap is not well structured;*
- * *Requires an electricity supply to power the air pump.*

Open heaps

If space is not at a premium then rather than having bays you can just build piles and turn them with a front-end loader. The loader can also be used to make a pile, mixing materials from different sources. If you are using a loader it is advisable to have a concrete base or robust hard standing, as a tractor will churn up a site on a wet day.

If you choose this as a method, it is vital that you are disciplined in the way you run your site. You must keep your piles separate and turn them in progression. If not, your site will soon end up looking very messy and the heaps will become intermingled.

Pros

- * *Cheap and simple to set up.*

Cons

- * *Can easily become a messy, unsightly and hazardous site.*

Windrows

Windrows are the most common system used for green waste, particularly at large centralised sites. Although technically a concrete pad is not always required for small sites, if you are turning the windrow with a tractor, working on a pad is cleaner and easier. It also has the advantage of keeping the Environment Agency happy by reducing the risk of pollution. A windrow turner fluffs everything up, mixes and aerates beautifully, releasing huge clouds of steam and bio-aerosols in the process – a problem when you want to conserve the moisture levels and minimise bio-aerosols. Besides, you also have to buy a windrow turner for your tractor. One of the main advantages of windrows is that they are fairly straightforward, whereas other approaches need more knowledge and thought.

Pros

- * *Easy to understand and operate;*
- * *Mixes, aerates and turns simultaneously;*
- * *Great for dense materials.*

Cons

- * *Turning by tractor or digger can be time consuming;*
- * *Specialised windrow turners are expensive;*
- * *Releases large amounts of water vapour and bio-aerosols as the heaps are turned;*
- * *Can be difficult to control moisture levels;*
- * *May need a large concrete pad.*

Clamps

Clamps are high piles of predominately woody materials. Because the carbon to nitrogen ratio is higher than normal, the piles can be piled higher without forcing out too much air. These piles are also made from unshredded material and the longer branches act as snorkels taking air into the pile. You need telescopic front-end loaders for this type of system.

5 Choosing composting systems and equipment

Pros

- * Because the heaps are piled high it takes up less space;
- * The high-carbon materials stay aerobic;
- * Saves money on shredding operation.

Cons

- * Needs more understanding of the composting process;
- * Needs specialised equipment – telescopic front-end loaders;
- * The process takes longer.

In-vessel composting

There is a wide range of in-vessel systems on the market varying in price and scale. The smallest process a tonne or less a week, making them very suitable for many community composting projects. Larger projects tend to have a series of in-vessel units so they can process high tonnages.

Some of these systems work with batches of material, and you will require a series of units so that they can be at different stages of the composting process. The alternative is to have a continuous flow system, which you are constantly filling at one end and taking compost from at the other end.

In-vessel equipment is generally quite capital intensive when compared to windrow or bay systems. It is only advisable for garden waste if a project has limited land area or wants to compost in a built-up urban area that may make Environment Agency approval difficult if the materials are not contained.

When choosing a system to process catering waste, it is essential that it can actually meet the requirements of the Animal By-Products Regulation. It is not the case that all in-vessel system will be approved automatically because they are contained. Do not simply take the manufacturer's word for it. This is not a problem for the on-site composting exemption from the ABPR, but it is for all other sites. It is advisable to check whether this system is in use at another approved site, as this will make registration with the State Veterinary Service much easier. If it is a new system it may be possible to negotiate a reduced price with the manufacturer because having their system at an approved site will make it easier to sell their equipment in the future.

Most in-vessel systems are not run to produce a completely finished product and operate on a weekly or fortnightly cycle or retention time. The operator can generally set this retention time. The longer the material remains in the vessel, the closer to being finished it will be. A five-week

retention time may well produce a finished and useable product. Most compost will require a maturation stage to become a marketable product, which can be done using bays or windrows.

Many in-vessel systems will require further infrastructure, particularly if the site wants to process high tonnages. This may include feed hoppers, shredders, conveyer systems and tractors to move and turn material.

Pros

- * The composting process is speeded up;
- * Reduces the area taken up by the composting site;
- * Can meet the requirements of the ABPR.

Cons

- * High capital investment required;
- * The approval process and HACCP plans may create more administration work than you are prepared or able to do;
- * Staff need to be fully trained.

Anaerobic digestion

Anaerobic digestion is not a widespread technology in the UK but is becoming increasingly utilised across the world. Anaerobic digestion employs a completely different set of composting micro organisms that only work in an oxygen-free environment.

These organisms produce methane rather than carbon dioxide as a by-product of this activity. They are the same organisms that make the densely compacted pockets of a compost heap become smelly and produce methane in landfill sites. Most systems will collect this methane for use either as a natural gas or to generate electricity. The rate at which the anaerobes produce methane is often dependant on the heat input. In some systems, the electricity production may be able to meet both the needs of the site (thus reducing its running costs) and create an additional revenue stream.

Some systems will involve turning the materials into a liquid form before processing and others will work with solid matter. The waste (digestate) from anaerobic systems can be further aerobically composted to produce a fertiliser.

One advantage of anaerobic systems is that they are allowed to use pasteurisation (i.e. heating to destroy pathogens) prior to the anaerobic digestion process to meet the requirements of the ABPR, as many then process the material at low temperatures.

Choosing composting systems and equipment 5

Pros

- * *The composting process is speeded up;*
- * *Reduces footprint of the composting site;*
- * *Can meet the requirements of the ABPR;*
- * *Additional income can be derived from gas or energy production.*

Cons

- * *Very high capital investment required;*
- * *Methane is highly flammable and must be collected and stored safely.*

Housed windrows

Housed windrows tend to be used in very large centralised facilities. The simplest housed windrows are simply a series of windrows within a large hall. The windrows are then turned by a tractor or specialised turning equipment.

As emissions from the hall will go through a bio-filter, this gets round some of the environmental problems associated with large centralised windrow sites, but conversely, there may be increased hazards for workers because air pollution could be more concentrated. The atmosphere in a housed windrow building is also highly corrosive to metals and care will have to be taken in building the hall to ensure it will not collapse due to rust.

If a facility is to be compliant with the ABPR it will have to be designed to keep the windrows at different stages of composting in separate bays or distinct areas. This makes them harder to operate.

Pros

- * *Less capittally intensive than an in-vessel or anaerobic facility for the same tonnage;*
- * *Can meet the requirements of the ABPR.*

Cons

- * *Potentially hazardous environment for site operatives;*
- * *Housed windrow buildings have been known to collapse because the atmosphere corrodes metal;*
- * *To meet the ABPR housed windrows need to work in batches so a hall will need splitting into sections for different stages of compost.*

Vermiculture

Vermiculture uses selected species of earthworms (e.g. *Dendrobaena* spp, *Eisenia fetida*) to help decompose and transform organic wastes into worm casts. Vermiculture systems rely on an interaction between the worms and mesophilic aerobic micro-organisms that break down the wastes. The

optimum temperature for vermiculture is relatively low, around 20°C, rather than the 55-70°C achieved in traditional composting, so it is necessary to apply the waste frequently in thin layers to the worm beds or bins; this prevents both the bins heating up and/or turning anaerobic. There is a great deal of flexibility in vermiculture systems; they can be custom-built beds with integral drainage systems and an array of sensors and controls or they can be very low-tech (e.g. recycled tyre tower beds); we have members using the whole spectrum. As with in-vessel, beware of grand claims made by some salespeople in the worm-farming business.

The rate of throughput is very dependent on temperature, the nature and quantity of the waste and the size of worm population. Typical working densities reported by the Worm Research Centre are 1-4kg worms per m², with each kilo of worms eating 0.25-2kg of waste per day.

Pros

- * *Worm casts are a value-added soil enhancer;*
- * *Good for sludges or sloppy feedstocks that will not windrow;*
- * *Worm tea (the leachate produced) makes a very good foliar feed;*
- * *Worm keeping is interesting, with good educational value for children.*

Cons

- * *Vermiculture doesn't meet the ABPR standards;*
- * *The worms are your pets/livestock and need more care and attention than a compost heap;*
- * *Losses of worm stock as they move out of bins in search of new opportunities.*

5.3 Equipment

Capital equipment is a big investment for a community group, so careful consideration of the options available – and there are many – is essential. The sort of equipment that a composting group might consider, over and above the ubiquitous pitchforks and other hand tools, might include some of the following:

- * *Collection and delivery vehicles, which can include flatbed vans and trailers, pedestrian controlled vehicles (PCVs), milk floats, tractors and trailers, refuse collection vehicle (RCVs) and bin-lifting vehicles;*
- * *Staff vehicles (e.g. crew-cab vans, minibuses);*
- * *Site-operations vehicles, such as tractors, front loaders, bobcats, JCBs and telehandlers;*
- * *Shredders;*
- * *Screeners;*
- * *Operational equipment, including chainsaws, leaf-blowers and bagging machines.*

5 Choosing composting systems and equipment

As groups scale-up, the dependency on kit becomes greater and the limitations of working manually more evident. Investing in the right kit can



save time, increase throughput and increase the overall efficiency of the project. However, not every group wants to be working with expensive and often noisy machinery; in the rush to scale up the therapeutic and peaceful nature of small-scale composting is often sacrificed. If you want to increase the size of your operation, then investment in the right equipment is essential and so are the choices you make.

Tips for buying equipment

- * Ask yourself if it is really necessary; is there an alternative?
- * Talk to other groups and to CCN about what might be the best option.
- * Contact your council; they probably have the sort of stuff you are after and can give you some (free) advice.
- * Visit groups and retailers to see what is on offer.
- * Consider buying something second hand if practicable this might not be possible with funding, but it could work out a lot cheaper.
- * If buying new, get the best you can afford – if you get something too small or inadequate you may regret it later.
- * Don't underestimate the costs of insurance, maintenance and running.
- * Where is the equipment going to live – have you accounted for safe storage?
- * Who will operate the equipment? Training courses are often essential.

If you are carrying out kerbside collection then your choice of vehicle will be determined by the type of material you are collecting, the people you are working with, the location of the round in relation to the composting site and the amount of money you have (this final one will be a recurring theme). If you are doing kitchen waste, you will need to be compliant with ABPR, which means having a coverable vessel for collecting. While PCVs are ideal for local and urban rounds they have limitations. Milk floats offer another electric alternative and a number of projects have successfully converted these into collection vehicles for waste.

Vans

A number of projects use panel or flat-bed vans for collections of garden waste. There are a plethora of types and sizes of vans including panel vans, flat bed, crew-cab, tippers, curtain-sided vans etc. A good van has a number of advantages for any project:

Pros

- * Can transport materials and staff, volunteers and trainees etc. Crew-cab vans can take more staff.
- * Useable for collection and delivery.
- * Can be used to tow a trailer, screener or shredder.
- * Can be used for lunch and break stops and to get out of the weather.

Cons

- * Insurance costs;
- * Maintenance and fuel costs;
- * Your vehicle will need a place where it can be stored.

Finding a driver with the correct licence (remember that a driver passing their test on or after 1 January 1997 may have to do an additional test for towing). More information about towing trailers can be found on DVLA factsheet INF 30 "Towing Trailers in Great Britain" (call DVLA on 0179 279 2792 for copies of free fact sheets). Make sure that you know the weight limits of your vehicle and your driver's entitlements.

Tractor and trailer

A tractor and trailer unit is a particularly valuable and versatile combination for a slightly larger project and ideal for collecting green waste from the kerbside.

Choosing composting systems and equipment 5

Pros

- * The tractor can be used for a number of other uses, including running a PTO shredder or turning heaps, not to mention all the other possible attachments and uses of a tractor.
- * You don't need a licence to drive a tractor on private land but there might be conditions on your insurance cover. Certified training courses in tractor driving are recommended for drivers, basic courses take two days. Contact Lantra or your local agricultural college for more details.
- * Tractors and other non-road vehicles can run on "red" diesel, which costs only about 25p a litre.

Cons

- * As with any vehicle, there are insurance, storage, maintenance and running costs, and you still need to have a driver.



Site operational vehicles

If you are scaling up from a shovel and wheel barrow, there's not much in between until you get to a tractor or JCB-type loader/turner. Mini-diggers/tractors do fit in there, but may be limited in terms of their ability to run shredding attachments. Old tractors can be picked up for a reasonable price and are fairly reliable, but you'll need a good-sized site in order to do a tractor justice. There are alternatives for loading and turning including JCB-type loading shovels, which come in a variety of sizes, and telescopic handlers (telehandlers) that have an extending reach – both of these can be taken on the road and are ideal for building and turning windrows. Telehandlers require several days training as they are counter-balance machines and potentially hazardous. Smaller fork lift type loaders and bob-cats are an alternative option where size is a premium.

For information on shredders and screeners see section 14.5.

5.4 Other equipment

Chainsaws

Chainsaws might be essential if you are taking material in from your local authority or where you have no control over the size of the branches that might come in through the gates. It might be that larger logs can be piled and managed on an occasional basis, or it could be that access to a chainsaw – and hence an operator – is required on a more regular basis. Chainsaws make light work of any cutting, but consider also the time to get kitted up, getting fuel from the lock-up, sharpening the chain etc – it all adds up. You also need to consider what thickness of branches you can fit through your shredder and what you might do with the oversized stuff – it might be best to decline anything that could cause you additional problems and work. As an indication, basic chainsaw courses usually last about five days and can cost in the region of £500.

Leaf blowers

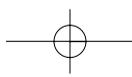
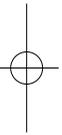
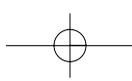
Other equipment such as a leaf blower might seem like an expensive extravagance but can save considerable time and help to keep a site looking neat and tidy. Again, this type of equipment reduces labour input, which is great if you are trying to be ultra-efficient, but if sweeping up provides valuable and therapeutic work for members of your group then stick with the broom and shovel.

Bagging machines

If you are going to sell your products and are going into bagged compost production then you might choose to invest in a bagging machine.

Pros

- * Sealed bags are convenient – they can be piled up and they won't spill out;
- * They also look professional and you can get bags printed up with your logo and details of your product;
- * The cost of machines varies enormously – some come semi-automated, with hoppers for easy filling;
- * An alternative method is to use string or wire/plastic ties to secure bags;
- * Labels can also be printed to stick on bags and a marker pen can put on any essential details.



Home composting promotion 6

6.1 Issues

Home composting is at the top of the composting hierarchy and has wide reaching environmental and financial benefits.

- * *There is no need to transport material .*
- * *As the home composter you are the producer, processor and end user. This ensures that energy expenditure is kept to a minimum.*
- * *The use of bonfires is reduced.*
- * *50 per cent of the organic fraction is removed from the domestic waste stream.*
- * *The compost is used where it is most needed.*
- * *It is the most efficient method of dealing with the kitchen waste element of the waste stream, and it has the advantage of falling outside most restrictive regulations.*
- * *Research has shown that there is increased recycling activity among those who have taken up home composting.*
- * *Home composting eliminates the need for buying peat-based composts.*

Home composting has been seized on enthusiastically by some local authorities, which, encouraged by government, have subsidised vast numbers of home composting bins. However, an opposing force is that local authorities do not have waste minimisation targets. Current legislation is tonnage driven; there is potentially a direct clash of interests, with some authorities dismissing home composting as it removes waste from the waste stream and doesn't contribute towards their targets. To overcome this problem, WRAP is running a national home composting campaign. It is hoped that monitoring use within the scheme will allow a recognised, standard waste diversion figure to be awarded to home composting.

The success of any scheme is dependant on a sound backbone of support and promotion. Unfortunately, the bin manufacturers provide only very sketchy advice on how to use the bin, and in many places the local authorities have ignored the need to provide education and advice. In the long term this could be more damaging than not encouraging home composting at all. Enthusiasm from a new composter will rapidly wane if their compost turns into a stinking pile of slime; there is nothing harder than getting an ex-composter to compost again.

This is where community composters can provide the essential missing link. Once people have been shown the basics, preferably by seeing real composting, and have been made aware of the pitfalls, they will go away enthused and give it a go. It is even more successful if provision is

made for long-term support; this can be in the form of seasonal newsletters that troubleshoot the likely problems that people are experiencing, workshops and a compost hotline for queries.

You are unlikely to get recycling credits for promoting home composting and diverting waste; because an average figure for the amount diverted has not been set on and agreed at the moment, home composting doesn't count for recycling purposes. This is very unfortunate and a situation CCN has been campaigning to change.

However, all is not lost. With the trend to outsourcing, councils may be willing to pay a properly constituted group for providing help and assistance to home composters. At the very least, they will probably be willing to provide some matched funding and help in-kind if you are applying for a grant.

6.2 Demonstrations

Mobile

Many local authorities and other organisations have held composting demonstrations – often at the same time as distributing compost bins at one-day sales.

Setting up in a town centre, particularly if it is pedestrianised or has a market, is a good way of promoting on-spec to people who wouldn't come to an organised event.

Make sure you show them examples of compost – not sieved “TV” samples, but real-life compost with a few twigs in it.

Ideally, the demonstration should include a working compost heap – seeing for real makes all the difference. Samples of items that can be put in a compost heap also help to get people talking. For example: “Eggshells?” – “Yes, crushed up” etc.



6 Home composting promotion

Permanent

If you have a big community composting site that is open to the public, it is easy enough to put aside a small area for a home composting demonstration. Preferably show the type of plastic bin available from your local authority, as well as examples of home-made composters such as those made from a pallet or a leaf-mould enclosure (a good project for diversification is making them for sale). It is very important to make sure you keep these bins active – if you are also a community composter making a ton or more compost per week, it is very easy to forget the demo bins. A dry non-functional bin is a bad advert for composting. Experiment with different mixes to show the effect of adding too much grass or woody waste, show that you can use screwed up paper and card in a bin – people are always amazed that you can put up to 50 per cent paper and card in and that even glossy paper is fine – it is clay that makes paper glossy. Remember to provide interpretation for your display. Visual stimulation is always the most effective tool, even better if this can be combined with some fact sheets to back up what people have seen.

Open gardens

In the USA, Master Composters open their own gardens (with placards on the gate). One CCN member (Compost Works) has taken this idea of showing composting in context in ordinary gardens. They hold open days in members' gardens, with a display of working composters of different sizes and styles, and display information. Visitors are taken on a tour (actually more like a short workshop) of a series of demonstrations – preparing material, small shredders, tending the heap, dealing with surplus material, using compost etc. Seeing the flourishing crops growing completes the circle.

6.3 Support

Literature

Fun literature explaining composting is essential, given the dearth of the information supplied with plastic bins. There are a lot of leaflets around, so either use one of them, or adapt it (with permission of course) to suit your area. It is important to make it local; let people know how to get a bin, inform them of what other organic facilities there are in their area – such as community composting, bring sites or kerbside collection schemes. Make links with any council kerbside collection facilities and encourage people to use their compost bin for all the appropriate materials and to use their kerbside facility only for excesses of materials, large woody

waste, weeds and diseased materials. It can seem very confusing to the general public if one day they are encouraged to take up a compost bin and shortly after they are issued with a wheelie bin for garden waste. It needs to be clarified that they don't have to put their wheelie bin out for every collection and in the spirit of the waste hierarchy it is always best to compost the maximum variety and amount of material at home.

Advisors

Master Composters, Compost Gurus, Compost Advisors and District Nurses – are all names used in different parts of the country for volunteers who provide additional support to a scheme, acting as local sources of inspiration and information.

In Lancashire, a major project run by two CCN members involves HDRA, Lancashire County Council and the 14 district councils. Alongside distributing 100,000 bins, with supporting information and a newsletter, they have a network of over seventy trained Compost Gurus, who carry out a variety of activities from holding stalls at local events and carrying out face-to-face surveys to running workshops and talks, and who have been trained to deal with queries.

There are similar very successful large projects in Cambridgeshire and Kent. In Kent, the aim is to have a Compost Co-ordinator in each district who can support the grass-roots Compost Advisors.

Helpline

Telephone help lines are not difficult to set up and staff. And fortunately they don't lead to emergency calls in the middle of the night. Most calls are straightforward – too wet, too dry etc, and, if you can't answer on the spot, a few minutes search on the web will usually give an answer.

Promotion of schemes

Try to utilise all possible routes – local environmental groups (Friends of the Earth, BTCV, Greenpeace etc), parish councils, residents' associations, parish magazines and the like. Many local groups are looking for copy articles for their newsletter, and are pleased to support an environmental good cause.

6.4 Containers

Council offers

If your local council is distributing compost containers without sufficient information, it is a good opportunity to offer to help with support as described above.

Home composting promotion 6

Provided you are diplomatic, you may well get the chance to discuss other alternatives they may not have considered – wormeries (for those without gardens), larger bins for large gardens and maybe consideration of a community composting site for a block of flats.

Home-made

Making composters for sale from pallets or other “waste” wood is an ideal activity for community composters. Don’t try dismantling pallets (you can easily finish up with a big pile of splintered wood); keep them intact and fill in the gaps with planks of scrap wood.

Builders’ bulk bags provide another excellent compost container. They are limited to one-trip use, so are freely available on small building sites. They are strong and light and porous – ideal for composting or leaf mould. Collecting them and redistributing them (maybe for a nominal sum) both helps composting and prevents them going to landfill.

6.5 Small shredders

There are now small quiet electric shredders, ideal for home composting. They use a slow turning toothed roller, which draws the material into the shredder. They can easily shred material up to 30mm (1") thick, chopping and crushing it into short pieces. Because the material is crushed, the surface exposed to bacterial breakdown is much greater than with chippers, leading to faster composting. There are a number of ways to make these available to the local community:

- * **Hire.** Several community composting groups offer these for hire – they can be easily transported by car.
- * **Bring and shred.** Alternatively, a community composting group can hold a bring-and-shred day for a road or community by taking the shredder to them.
- * **Communal ownership.** The community spirit can be encouraged by getting a group of neighbours to share buying a shredder.

6.6 Regulations

As a result of the foot and mouth and swine fever outbreaks there are some restrictions for home composters (Animal By-Products Regulations 2003):

- * If you keep chickens, then composting **must** be done in a closed container to prevent access by the chickens. (Contrast this with Flanders where the local authorities will supply you with a couple of retired battery chickens to eat your kitchen scraps.)
- * If you keep pigs or ruminants (cattle, sheep or

goats) you are not allowed to compost on the same site.

6.7 Examples of home composting projects

Kent BTCV

- * County-wide scheme for home composting promotion, co-ordinated with subsidised bin promotion by Kent County Council.
- * Funded by Landfill Tax Credit Scheme.
- * Full-time organiser, volunteer district co-ordinators and local compost advisors.
- * Provides training, resources, literature, T-shirts, newsletter, hotline, web site etc.
- * www.btcv.org/users/btcvkent

Lancashire Home Composting (HDRA, Lancashire County Council and district councils)

- * Countywide scheme of free home compost with free bins.
- * Research activities carried out in targeted rounds funded by the Landfill tax Credit Scheme.
- * Two full-time organisers; volunteer compost gurus.
- * Provides training, resources, literature, t-shirts, newsletter, hotline, web site etc.
- * www.compost-it.org.uk

SWAN – Strathspey Waste Action Network

Promotion of home composting in the Badenoch and Strathspey area of the Highlands. Starting in 1998, there are now composting agents in each of the main communities in the valley who distribute subsidised compost bins and provide advice and support locally. Roughly one in seven households in the area is now home-composting.

Compost Works

Home composting promotion in domestic gardens, whose owners hold a compost open day for a charity of their choice. The group operates a mobile display with fully functioning composter, visiting village shows and town centres. It also operates a composting hotline, workshops and a website (www.compostworks.org.uk).

6 Home composting promotion

6.8 Common queries, problems and solutions

You could do a list of commonly asked questions and emphasise how easy it is to appear as an expert, as it is nearly always the same questions that you are asked. Here are some examples:

What is compost?

The word compost is now used as a general term to describe a growing medium. Peat-based products are commonly referred to as compost and unless described as peat free it should be assumed that they do contain peat.

What is the difference between compost and mulch?

Mulch is a material used to cover the surface of the soil to avoid surface evaporation and to suppress weeds. Compost is a ready-to-use soil enricher; it can also be used as mulch.

What is organic waste?

Organic waste is anything that was once living, and has a different meaning to organic food, which refers to a farming practice where crops are not treated with chemical fertilisers or pesticides.

There are creatures in my bin, are they bad?

Most of the creatures that you will find in your heap are involved in the decomposition process; a heap full of worms, beetles, snails and slugs is a sign of a healthy heap. Rats are seldom found in a compost bin, but it is advisable to avoid composting fish, meat and all cooked products to avoid attracting them. Despite bins claiming to be vermin proof, rats and squirrels can chew through most materials. Small black flies may gather under the lid of your compost heap; these are fruit flies and are involved in the break down of waste. If they prove troublesome keep the lid off the compost bin and cover fruit and vegetable waste with hedge or grass clippings.

Why is my bin smelly?

Unpleasant odours normally signify a lack of oxygen. This may be because the heap is too wet. Mix in more card, paper, and woody materials such as wood chips or small amounts of straw or leaves to alleviate this. If you have an excess of grass cuttings do not put them all in the compost heap; leave them on the lawn to enrich the lawn or use the grass as a deep mulch.

Why isn't my bin hot and steamy?

Do not be disappointed if your heap doesn't heat up, heaps that are added to a bit at a time never

generate high temperatures. You will still make compost, though it may take up to a year.

Your pile may be too small or insufficiently insulated; fill any gaps around the heap with old carpet, newspaper or straw and cover the top with carpet.

If the heap is dry add more grass cuttings, urine or water. If it is too wet increase the aeration by adding paper and woody materials.

Can I compost weeds?

In order to destroy weed seeds a hot compost pile of 60-65°C (140-150°F) should be maintained for several days. Alternatively, put seeding plants and pernicious weeds, such as couch grass, bindweed and ground-elder, in a black plastic bag in the sun for a couple of months before adding to your compost bin.

Are grass cuttings a problem?

If you have excess grass cuttings lay them out thinly on the ground to dry in the sun. This will reduce their moisture content. When you add them to your heap mix them with fresh grass cuttings; this will have the same effect as mixing grass with a carbon source such as paper or woody waste.

Alternatively, leave the grass cuttings on the lawn. This will return nutrients to the soil, improving the root structure of the grass and increasing resistance to disease, drought and insects.

Planning your project 7

7.1 Visit projects

First join CCN; it will save you lots of time and money in the long run. CCN has a number of its member sites across the UK designated as Compost Demonstration Sites. They will be able to put you in touch with the nearest projects and people operating in the way that you are planning to. Nothing beats actually visiting a project to get a feel for what it's all about, but again, remember they are all different. Not everything you see will apply to your situation, but there will be plenty of common ground. Another project further afield may be more relevant to your plans.

7.2 Ideas

You probably think of yourself as an imaginative, creative, outward looking person, but it is surprising how easily these traits can be squashed in a group situation, especially when there is a fear of failure, a need to appear knowledgeable, a danger of upsetting the appletart of other people's expectations and the inevitable power struggles. So it is good to throw all that aside and indulge each other's playful aspects for a while at least.

Brainstorming

A good technique to start with; the notion is that from some wild fantastical idea something useful, practical and functional will arise. A problem or situation is posed and then as many ideas as possible are generated and recorded by the group. Only afterwards are all the ideas reviewed and explored.

Lateral thinking

As opposed to traditional problem solving, which is equally useful and follows a rational plan where a problem is defined, information gathered, options and criteria discussed and agreed upon and the most efficient method for solving the problem selected. Lateral thinking, by contrast, considers each problem as a potential opportunity, by looking at how it connects with other issues, separating the symptoms from the root cause and generally exploring the area around the problem rather than attempting to move from problem to solution by the most obvious means. Often, concentrating on finding the most efficient means of working can create problems because the issue was not explored in a community context. More effective means of working can be found by looking at the wider implications of the problem/solution issue, and can easily result in wider benefits and opportunities for your community.

Six-hat thinking

Edward de Bono (who popularised lateral thinking) also created a method where different coloured "hats" represented different approaches to looking at an issue: white (analytical and data focussed); red (gut reaction, emotional response); black (defensive, precautionary); yellow (positive, optimistic); green (creative, freewheeling); blue (process control, for example chairing meetings). It is a very good group that can wear all six hats.

7.3 Getting realistic

The second stage is to select from this initial stage and see what you can do in the short, medium and long term. You have to be realistic, but still think big. Plans have a way of adapting themselves to circumstances, so they should always be dynamic and revisited every year or so.

Having considered every possibility you have two choices. You can focus down and make sure that what you do is achievable within your present structure (the capacity of your organisation). So if you are within an existing organisation that already has a good management structure, a track record of projects and organising people, finding funding and so on, you are going to be in a very different position from a group starting from scratch.

Alternatively, you can draw up a shopping list of your needs – "Resource gaps" in the jargon. These might include premises, people, skills (e.g. PR, financial/budgeting, managerial), machinery etc. Making compost is labour intensive – there is usually a play-off between needing more labour or buying equipment. And then – usually the biggest gap of all – money.

7.4 Money – self-financed or funded?

Projects can be roughly classified into three groups:

Funding neutral

- * *Run with minimal grant income (small easy grants), high volunteer dependence.*

Enterprise activity

- * *Developing its potential to earn cash through sale of goods and services or contracts with companies/local authorities;*
- * *Not profitable but able to sustain a job or jobs.*

Funded

- * *Potential to receive funding support to a level capable of employing workers and supporting volunteers on the basis of social need, job creation, land reclamation and environmental improvement. These projects are linked to time-limited and output-related funding.*

7 Planning your project

What doesn't work includes: completely funded projects (except over the short term) and projects that are stagnant and have stopped developing. Also, like anything successful, it requires hard work – so people who aren't prepared to work hard won't get anywhere.

7.5 Advice

As well as the Community Composting Network there are a number of other organisations that can help you with project development and business support. Here are a few.

FunderFinder

This is a searchable database of funders that can be accessed online as well as at your local voluntary support organisation.

Tel: 0113 243 3008

www.funderfinder.org.uk

The National Council for Voluntary Organisations

For advice on forming a charity.

Helpdesk: 0800 279 8798

Email: ncvo@ncvo-vol.org.uk

www.ncvo-vol.org.uk

British Trust for Conservation Volunteers (BTCV)

Tel: 01302 572 244

Email: information@btcv.org.uk

www.btcv.org

Action with Communities in Rural England

Tel: 01285 653 477

Fax: 01285 654 537

Email: acre@acre.org.uk

www.acre.org.uk

Regional organisations

Northern Ireland Council for Voluntary Action

61 Duncairn Gardens, Belfast, BT15 2GB

Tel: 02890 877 777

www.nicva.org

Scottish Council for Voluntary Organisations

Glasgow office: 0141 221 0030

Edinburgh office: 0131 556 3882

Inverness office: 01463 235 633

Wales Council for Voluntary Action

Helpdesk: 0870 607 1666

Email: help@wcva.org.uk

National Association for Councils for Voluntary Services (England only)

Tel: 0114 278 6636

Email: nacvs@nacvs.org.uk

www.nacvs.org.uk

Organisations that offer advice on forming either worker or community co-operatives

Co-operatives UK

Tel: 0161 246 2900

www.cooperative-uk.coop

Radical Routes

Committed to low-impact lifestyle and social change.

Tel: 0845 330 4517 (internal communications group)

www.radicalroutes.org.uk

Organisations that offer advice on Community development and regeneration

Community Matters

Tel: 0207 837 7887

www.communitymatters.org.uk

Development Trusts Association (DTA)

Tel: 0845 458 8336

Fax: 0845 458 8337

www.dta.org.uk

Legally constituting the group 8

8.1 Working group and committees

You may hate the idea of committees, but like it or not, it is essential if you are to be an organisation rather than just individuals.

Initially you can call yourself a working group, and try and gather together all interested parties. If you have already been in contact with your local authority recycling, community or Local Agenda 21 (LA21) officer, they should be able to help with advice and guidance. If you can also find a sympathetic councillor to join your group, or offer advice, they can often open doors.

This group will naturally become a management committee, which all groups must have. The committee does not run day-to-day operations. It should meet monthly, bi-monthly or quarterly as required, to discuss the direction of the project. As well as some of your compost activists, you ideally want to attract onto it people with experience in budgets, fundraising, getting sponsors, PR etc. Again, if a council officer or a councillor is included, they can often help in all sorts of ways – advice; meeting rooms; help with copying and mailings – but don't expect it as a right.

All management committees are required by law to have a company secretary, and ideally this person would be a committee member. If no one is willing to volunteer for this you can actually pay an employee to act as your company secretary. In addition, you should have a Chair of the committee and a Treasurer.

An alternative to a management committee, is to become a workers' co-operative. This means that staff members of the organisation are in control, which can be a very empowering thing (for information sources on becoming a co-operative see section 7.3 Advice).

8.2 Legal status

It is advisable for a community group to have some form of legal status that includes limited liability. This means that your group becomes an individual in the eyes of the law. This in turn means that the individuals who form that group are separate in legal terms to the group. As long as committee members have not acted negligently you will not be liable as individuals for debts and costs associated with winding up the project should it go belly up.

There are many types of legal status, including becoming a charity, a company limited by guarantee, a community interest company or an industrial and provident society (a community co-operative). There are pros and cons of going for each model and in most cases you will be able to access a local source of business support to give you advice.

8.3 Constitution

An important part of your legal status is your constitution or governing document. It will also be essential for attempting to fundraise and doing things like opening bank accounts for the group. In most cases you will either be able to get an off-the-shelf constitution that you can adapt or you can adapt one that belongs to an existing organisation.

While you have been forming your group and holding initial meetings, much of what is needed to go into a constitution will have been discussed. Try to avoid putting things in it that are likely to change, such as membership fees or individuals' names. Changing a constitution is a (deliberately) long-winded process, usually requiring a special meeting if you miss doing it at your annual general meeting (AGM).

The constitution is a formal document, which should have a definite structure; both CCN and the organisations listed in section 7.3 will have off-the-shelf constitutions.

A constitution should typically cover the points listed in the box overleaf.

And just when you were thinking you could forget about your constitution, you might find a funder insists on a change (for example, it might require a local authority officer to be on your management committee). Hopefully this will be before you have gone public with it and it is still easy to change.

8.4 Environmental policy and equal opportunities policy

Either or both of these may be required by funders. They are useful documents, and should always be a reflection of actual working practice.

Like the constitution, the easiest way is to look at someone else's existing policies, and adapt them to suit your organisation. Keep them short and simple, and don't put in things you can't easily do. Remember that they are not written in stone, can be amended as needed and should be reviewed at intervals. A good policy is a tool for avoiding confusion and potentially costly errors.

8.5 Insurance

By law you must have both public and employee-liability insurance, regardless of whether you actually employ anybody. This should give you cover of at least £2,000,000. You will also require vehicle insurance if you have a vehicle. Other forms of insurance are not compulsory and you have to consider these on a case-by-case basis.

The insurance market is currently quite volatile and premiums can be high. Preferential rates for some types of insurance may be available through the CCN and BTCV.

8 Legally constituting the group

Points to cover in a constitution

a. Name

A name should be chosen which is not misleading, preferably short and memorable.

b. Objects

A brief statement of all that the club will do. All of its proposed activities must be included. Any activity not included will be unauthorised, so it is better to keep it reasonably broad. An example of this might be "Rotters is a non-profit-making environmental body promoting home and community composting by practical demonstration, education, providing composting equipment, or any other appropriate method."

c. Membership

Who is eligible to join?

Membership entitlements .

How a member may be removed from membership (if this clause is considered necessary).

Subscription rates and other variables are best left as "as determined by the committee".

d. Indemnity

Ensures that members are not liable for any loss suffered by the organisation, unless wilfully caused by the member, and are entitled to reimbursement of any expenses incurred while working for the organisation.

e. Meetings

Details types of meetings to be held (such as committee meetings, annual general meetings, extraordinary general meetings), who may convene a meeting, who may attend and vote, the quorum (minimum attendance) required for proceedings to be valid and the notice required to be given to members beforehand.

f. Management committee

Covers the officers to be appointed (for example Chair, Treasurer, Secretary and so on), methods of appointing and removing committee members, powers of the committee, meeting procedures and quorum required for committee meeting proceedings to be valid.

g. Finance

Details the period of the financial year (for example April–March or January–December), the responsibilities of the treasurer (such as the annual accounts and book keeping) and how finances will be audited if necessary.

h. Alterations to the constitution

States the notice required to hold a meeting to make alterations and the majority required for alterations to be carried out. This usually takes place at the annual general meeting or an extraordinary general meeting.

i. Dissolution

This outlines the procedure to be followed if your organisation decides to fold. This decision usually requires a majority at a committee meeting followed by a majority at an extraordinary general meeting.

Writing a business plan 9

9.1 Developing a business plan

Once you have considered the big questions about what types of activity you are interested in doing this needs turning into a business plan with a budget that can then be used to raise funds to set the project up. This may seem like a very daunting activity, but this is more a question of confidence and it can soon become a relatively simple task.

Brainstorming and working “on the back of an envelope” is a good start, but not enough in itself. You will need to build up a fuller picture of what you are hoping to achieve. This is one of the main purposes of a business plan and preparing one will have several benefits:

- * *It will enable all those involved to achieve a thorough and shared understanding of the project. This way you are more likely to spot potential difficulties and ways to resolve them in advance.*
- * *You will be more easily able to prepare a budget, which is essential whether or not you plan to apply for funding.*
- * *If you are applying for funding or sponsors you will have at your fingertips all the information that is needed for a clear and well-argued application.*

9.2 Business plan topics

The CCN has off-the-shelf business plans available to member groups. The following is a list of the typical section headings that should be covered in a business plan:

1. Executive summary

This should contain a summary of the key points of the business plan and should be viewed as a sales pitch to make people read the rest of the document.

2. Contents page

This is a relatively simple function within programmes like Microsoft Word and makes a document appear a lot more professional.

3. Background information

This should include concise paragraphs full of juicy facts and statistics under the following sub headings:

- * *Social context. Things like population figures and the local unemployment rate should be included under this heading.*
- * *Waste management in your area. Local waste targets and recycling programmes and services should be included here.*
- * *Waste management legislation. An explanation of national and European waste management*

policy and legislation should be included here, such as local authority recycling targets, the EU Landfill Directive and, if relevant, the Animal By-Products Regulation.

- * *About the organisation. A quick outline of how the project got together or the other activities of the organisation developing a composting project.*

4. Project outline

This is where the full details of the project are laid out. Typical subheadings for this section would include:

- * *Project description. A brief 200–300 word summary of what the project intends to do and achieve.*
- * *Aims and objectives. Aims are the qualitative goals of the project while objectives are more quantitative.*
- * *Project methodology. This should outline how the project is going to be operated including collection and processing methodologies.*
- * *Legislative requirements. At the very least this would include waste management licensing or exemptions, and may also include the requirements of the Animal By-Products Regulation.*
- * *Project timeframe. This should show the key stages of the project and how it will develop over time. It is important to be realistic, but reality will never go as planned. This should be in a tabular or diagrammatic format.*

5. Budget

This section should work in two or three stages:

- * *Resources required. A complete categorised list, with a brief explanation for each item of the capital and revenue resources required to run the project.*
- * *Costings / budget. Use a spreadsheet to tabulate a table of costings for the project.*
- * *Cash flow forecast. A small project may not have to do this, but for a project with a budget of over £30–£50,000 it will be essential. Income and expenditure should be itemised and then broken down to a quarterly or monthly basis to show the funded lifetime of the project. While being hard work, this is a useful exercise for a project to undertake.*

6. Risk analysis

There will be risks associated with the development of any project, from funding issues, to legislative compliance via failing to market the necessary amount of compost product. They will be slightly different for each project depending on

9 Writing a business plan

its scope and situation, but there will be common themes. It is important to show that these have been considered in the development of the project and that it is not going to operate on blind faith. It should also show that risks will be avoided wherever possible, and that where they can't be avoided completely some thought has gone into contingency plans.

7. Project outcomes

This will highlight the key quantifiable outputs of the project. A typical list of outcomes would include:

- * Number of staff employed;
- * Number of volunteer opportunities created;
- * Number of households served;
- * Number of schools worked with;
- * Number of tonnes of organic waste composted.

8. Sustaining the project

Given that the end goal of writing a business plan is to raise funds for the project, it is important to show that the project has considered how it will survive in the long term. This could be a fundraising strategy, but it is highly recommended that the project considers how to make itself financially viable in the long term through income generation.

9. Fitting into the strategic framework

The final section should reinforce how the project fits with local, regional and national waste and community development strategies.

Know your organisation

Before beginning to approach potential funders or partners, you need to assess your current capabilities, strengths and limitations. An honest and clearly drawn picture or audit will show you what resources you have now and where there are gaps.

The resource gaps – of skills, expertise, time, staff, capacity, premises, funding etc – become a shopping list of your needs, which can be used to identify suitable partners, funders and sponsors to meet those needs.

9.3 Budgets

Budgeting is an ongoing task for any project. In the initial phase of development it is important to quantify what money needs to be raised in order to meet the capital investment and revenue running costs of the project. Unfortunately, there is no such thing as the replicable budget as prices change all the time and every circumstance will be slightly different, but you can still learn from existing projects.

The most important thing is to try to think of

everything, and that is why budgeting can be so daunting for a project, particularly when all you really want to do is get outside and make compost. Of course the unexpected will always happen and prices will have changed by the time funding has actually been secured, but so long as you understand this it will be alright. The reality is that a delicate balance needs to be achieved between building slack into the budget and not asking for too much money so that your project does not represent good value.

Capital costs

The first task should be to compile a list of everything the project needs in order to run. This will be a list of the physical things or capital items the projects needs such as a shredder, concrete hard standing or an in-vessel composting unit, and the ongoing costs such as wages, insurance and rent, which are the running costs. This only gets complicated with items like bags for the finished product – while a physical thing that the project needs, they are an ongoing running cost and should be in the revenue list.

Once this list has been drawn up it is then a matter of attaching a price to each item. Capital items are relatively straightforward. It is simply a matter of finding out the cost of each item from a supplier of that item. Of course, this adds further pressure to the process as some relatively final decisions will need to be made about the nature of the project.

Running costs

The more complicated aspect is quantifying running costs, as this is much more likely to be based on estimates. Relatively accurate figures can be generated by talking to similar projects around the country, while specific costs such as staff can be accurately decided.

There are some less obvious costs that need to be remembered. These include additional staff costs such as pension contributions and National Insurance. A simple rule of thumb for calculating this is the wage plus an additional 15 per cent of the wage, while NJC pay scale for public-sector workers offers a good guide to setting wage levels. Other important costs include insurance, which can be expensive, administration costs, volunteer expenses and book-keeping and accounting costs.

Larger projects will also probably have to show how the money will be spent over a period of time. This will mean breaking it down into a monthly or quarterly cash flow. Many grant funders will require an outline in this format of the period they will be funding the project. In the case of capital

Writing a business plan 9

Typical Budget Headings

This list is designed to be a pointer and the individual project must research and understand its own needs.

Capital:

- * Collection vehicles;
- * Bins or caddies for householders if required;
- * Chipper or shredder;
- * Tractor, digger, windrow turner or wheel barrow and fork;
- * Composting process such as bay construction, windrow turner or in-vessel composting equipment;
- * Hard standing and landscaping of site if required;
- * Drainage, sump tank and leachate lagoon if required;
- * Shed or building for tool storage, office space, staff needs (toilet and kettle);
- * IT equipment;
- * Fixtures and fittings is a good general heading.

Revenue:

- * Staff costs including tax, national insurance and pension contributions;
- * Staff training and volunteer expenses;
- * Rent and utility bills;
- * Fuel costs;
- * Vehicle-running costs, such as tax maintenance and fuel;
- * Insurance with a legal minimum of public and employee liability cover;
- * Professional fees including accountants and consultancy support;
- * Promotion and marketing costs;
- * Waste management licensing or exemption costs.

9 Writing a business plan

items, it should be relatively easy to decide when a piece of equipment is going to be purchased during the year. With revenue costs it will be enough to split the yearly amount by four or 12, depending on whether the cash flow is showing a quarterly or monthly breakdown.

Income

The final element of budgeting is income. For most community groups in the early stages this will mainly involve grant funding, but it is important that you look towards meeting your running costs from an early stage. Principle sources of income will include recycling credits, sales of compost and related products and earnings from providing social outputs such as care facilities for adults with learning difficulties and training for the unemployed. While it will take time for income streams to develop, it is essential that they do so, because it has always been hard for projects to raise grants that cover their continued operation as opposed to their set-up costs.

This means that while you should not be expected to meet all your costs in the first year, you should have a clear idea of how you will meet them in the long term. Your project management and budgeting skills will improve with practice (and training if you need it), so don't be too daunted in the early stages.

Another item to factor in is vehicle and equipment depreciation so that in future years you are developing the ability to replace your equipment without this causing problems.

9.4 Financial viability

It cannot be stressed enough that it is becoming increasingly important that community groups become financially viable in order to secure their long-term future. As they develop, the budget will have to reflect this and the income should grow to match running costs. This will require a slightly different decision-making framework than one based on a long-term strategy of grant applications. Activities will have to be assessed on their ability to generate income.

Of course, some very legitimate activities may well be totally grant dependent, and groups should still consider these, but it is much healthier if these are arranged around a solid core that is funded through income. This means that if the grants dry up the group will still survive, and just have to stop an element of its activity rather than the whole group having to close.

The main methods for income generation are:

1. Payments for tonnage of organic waste diverted.

It should be possible to receive some kind of payment for the tonnage of organic waste that you are composting. To do this you will have to quantify that tonnage. Payment may come in the form of a gate fee or through recycling credits if your local authority pays them. Larger groups may be able to develop a service level agreement, which is a specific commitment that outlines how you will work with the local authority. In some cases this will be taken even further with the signing of a full contract, but this will have to go through a tendering and procurement process first.

2. Marketing compost.

Sales of compost products are an obvious way to derive an income from your activities (see Chapter 16).

3. Therapeutic employment.

Composting and related horticultural activities can lead to very valuable therapeutic employment for adults with learning difficulties, people with mental health problems and the physically disabled. This can generate income from social services.

4. Training programmes.

Income can be raised by providing training that leads to qualifications like NVQs and through working with schemes like the Intermediate Labour Market (ILM) and New Deal.

5. Commercial waste.

There are all manner of commercial producers of organic waste, such as fruit and vegetable shops and landscape gardeners, as well as local authority departments, such as housing and parks, that could also bring waste to the composting site for a gate fee. A garden waste project could reasonably expect to be paid £15–25 per tonne for receiving this waste, while prices start at around £35 and can get as high as £75 for kitchen waste at an ABPR-compliant composting facility. In addition, the project could collect the waste from the producer and receive a larger payment.

6. Fortnightly residual waste collection.

WyeCycle in Kent collects all the kitchen and garden waste produced in the market town on a weekly basis. This allowed it to negotiate the reduction of the residual waste collection from a weekly service to a fortnightly service, because the organic waste is the dirty and smelly fraction of the bin. In return, it receives a payment from the local authority based on the savings to the waste-collection service.

Funding 10

The need for funding will differ greatly from project to project. Some may need none at all, others may need intensive capital funding with an aim to become self-financing once established, others still may need to find a steady flow of cash over a long period of time. One thing is sure however: the current situation with regard to funding is to some extent driven by the need to meet government targets. This situation will not last, so it would be prudent to plan to become financially viable without grant aid in the long term.

10.1 Funding jargon

Matched funding.

Often a condition of a funder is that another funder is found who will provide a certain percentage of the total required. For example, a funder may provide 75 per cent if another funder provides matched funding of 25 per cent. Often the two applications to two funders are put in more or less simultaneously, each dependant on the other for matched funding. A local authority can often be persuaded to provide 10 per cent (say) because it sees this as enabling a local benefit of ten times its contribution.

In-kind funding.

This is the monetary value that can be put on all the resources (sponsorship, time, equipment, premises, secretarial help etc) provided by your group or others without charge. Often funders require a figure, which can then often also be used as part of any matched funding requirement. For example, volunteer time, expert time and professional time can all be costed, at different rates. If you have been given premises at a peppercorn rent, the market rate can be entered as in-kind funding. You may think this a paper exercise, but funders see in-kind funding as added-value to their grant.

Core funding.

This is funding for general operation and administration, running an office and secretarial costs. It is much harder to obtain – virtually all funders want to fund a specific project, not the boring bit in the middle. It is usually better to apportion all costs to your projects and so avoid having to find core funding.

10.2 Finding a funder

The previously mentioned organisations will be able to help with finding funding, quite apart from the vast amount on the web that can be found with simple searches. The advantage of getting personal help is getting the additional information

that “funder A has been under-subscribed and is desperate for applications” or “Don’t waste your time with funder B.”

If you are able to get even a small initial grant from your local authority, this can be very useful in proving to funders that you have already established your credibility. Conversely, a letter from your local authority offering to give 10 per cent if you get a grant for 90 per cent is also very useful.

Matching a funder to your project

Just like choosing a job, you have to be right for the funder, and the funder has to be right for you.

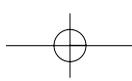
Read all the paper work very carefully. Each funder has different criteria – geographic, time scales, size of fund, requirement for matched funding, only available to a registered charity, only for disadvantaged group and so on.

Be aware of time scales – if a funder says “allow three months for processing applications” it will be three months, at least, and there is usually another month between getting an award letter and actually receiving the money. So plan to the likely time span and remember most funders will not pay for expenses incurred before the grant has been made.

See if you can match their criteria without compromising your ideas – you may decide to change an emphasis slightly, but beware of moving your goalposts just to get the funding.

10.3 Completing the bid application

- * *Make sure you have an up-to-date application form.*
- * *Make a copy of the form so that you can do at least one draft. If possible, ask for an electronic version of application so that you can word process it and easily circulate to group members.*
- * *Read all the paperwork and check if you have all the necessary to hand.*
- * *Answer the questions, not the ones you wished they had asked. Half of all applications are rejected because questions are not answered properly.*
- * *Put yourself in the funder's shoes – lots of applications to read in a short space of time;*
- * *Keep your answers short and precise;*
- * *Use bullet points rather than sentences.*
- * *If they can't understand it, neither will the grants officer. Get someone independent (i.e. not in your group) to read the final draft;*
- * *Keep it jargon free.*
- * *If anything on the application is unclear ring the funder to ask. Talking to funders helps build a*



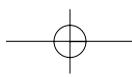
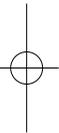
10 Funding

relationship and increases two-way understanding.

- * *Incorporate your "Unique Selling Point" (USP) into your answers if possible.*
- * *Value for money is an important criteria with all funders, whether they state it or not. Explain how your project provides value for money for the services it will offer.*
- * *Keep dated copies of all applications, notes on how you arrived at costings and budgets, updated applications and any additional information that you send to funders. You will need to refer to these in the future, both in discussions with funders and in the writing of reports and evaluations.*
- * *Don't leave it to the last possible day for applications – if, on receipt, it is found to be short of a vital signature you will need a day or more to get it sorted out.*
- * *If further information is requested by the funder, send it promptly, with the correct reference.*

Keeping your funder happy

- * *Make sure you put a copy of their logo on your notepaper and leaflets;*
- * *Credit your funder in press releases and publicity;*
- * *Tell them of any major developments – positive and negative.*



Finding a site and getting it approved 11

11.1 Finding a site

A suitable site is obviously vital; it's never too early to start looking for one. The local authority may own a piece of land that you could lease, or you could ask your parish council for ideas. If you are only contemplating a small village or estate scheme then there may be space on the local allotments. Talk to the allotment holders (there is usually an allotment society and normally someone responsible for managing the allotments within the council). Don't forget that farms can make ideal composting sites and if you can get a farmer's support you could have the use of some useful machinery too. If you work in partnership with a farmer, he or she may be able to receive grants via DEFRA and support from the On-farm Composting Network (see Resources). You may also find a local producer of organic waste such as a landscape gardener, plant nursery or fruit and vegetable market that may be able to provide you with a site in return for composting their waste.

You must find out who owns the site you have identified. If it is owned by the local authority it could belong to any one of a number of departments and you must find out exactly who to approach if you want to use it. Planning departments can often help you identify pieces of land owned by the various local authority departments.

Leasing a site from your local authority

If you do try to lease land from your local authority, remember that even if they agree to a peppercorn rent legal fees for transfers could cost you a couple of thousand pounds (unless you have a particularly generous local authority). Don't underestimate the time it takes to get a lease agreement completed, as it often takes several months. Make your enquiries and try to get the process started at the earliest opportunity. If you are not given a peppercorn rent you might try asking the council department to sponsor rental costs of the site for a number of years; this can be valuable in-kind funding.

11.2 Factors affecting your choice of site

There are a number of factors that will affect your choice of site. Mostly these relate to how easy it will be to get planning and waste-related legislative approval for your site. There is no point on wasting time planning for a site that will not get the relevant approvals. The others relate to the practicalities of using a particular site for your project.

Services

Depending on the nature of your project you may need access to services, such as water, electricity

and telephone. If you need them and they are not present on the site installation can be costly, but it is better to have them installed than to have no site at all. It is worth remembering that power needs could be met by on-site renewable energy systems running on wind, solar or waste vegetable oil.

Accessibility

This is important for a number of reasons. Your chosen method for getting organic waste to the site has to be both practical and cost effective given the location of your site. If you are running a bring site it needs to be convenient, while you don't want to have long journeys between your kerbside round and your composting site.

More importantly, one of the biggest concerns for planning departments will be vehicle access to your site and how this affects the local road network. The highways department are a statutory consultee in planning applications. Bring sites need extremely good access, because of the traffic generated. If your site needs to be accessed by larger vehicles such as lorries or tractors and trailers, it is important the roads and gateway are both safe and suitable. Many sites that will seem perfect will fall at this hurdle, so it is well worth considering these issues early.

Proximity to neighbours or sensitive receptors

Having neighbours will affect the potential of a site in a number of ways. First, obtaining planning permission is always difficult for waste management facilities and even a small community composting site could have problems. From this point of view it is best to involve local residents as early as possible in the project so that they are less likely to complain about the composting site. Try contacting local tenants and residents groups, area panels or parish councils, and offer to give a presentation about your proposals, highlighting how it may benefit them. Be prepared to talk to anyone approaching you on an informal basis with fears about your project, as news travels fast on the grapevine, especially if people think it may have a negative impact on either their health or house price. Areas of principle concern are likely to be odour and rats, so you should be prepared for this and talk about how you are preventing the problems through good management of the site.

The Environment Agency will be most concerned about sensitive receptors, anything that could be affected by bio-aerosol emissions from a composting site. This will include houses, schools and work places within 250m of the site. This does not mean that you have to be 250m from such a

11 Finding a site and getting it approved

receptor. The 250m rule is often misquoted as an absolute, and the Environment Agency is supposed to look at each case considering its own situation. A very small project may not have to be anything like that distance away from a nearby house. Understanding a few key issues can make this decision simpler. Mechanically turning a heap will put the most bio-aerosols into the air, so turning by hand will reduce the required distance as will in-vessel systems with bio-filters. Other actions can mitigate the problems. Watering a heap before turning it will stop it being so dry and dusty, while monitoring wind direction with a wind sock will show whether a sensitive receptor is at risk from a heap turned at that moment. Natural barriers such as trees or banks of earth can also reduce the risk of causing problems.

Water pollution

One of the Environment Agency's main concerns is water pollution, as it was formed from the old National Rivers Authority. This means no composting site can be located on a flood plain. It will also mean that the agency will be concerned about whether a site is likely to pollute a nearby stream or the ground water table. While legislation allows for some types of small composting site to compost directly on the soil, if the Environment Agency is concerned about water pollution it can require any composting site to have a full drainage and sump tank system.

11.3 Permissions

Once you think have found your potential site, the real work of getting the approval of the various authorities begins. This can take a frustratingly long time and requires a willingness to bite your lip at times.

Before you talk to the authorities, we strongly recommend that you talk to CCN and to projects that have already been through this process.

CCN will be able to advise you on the best route to take, and tell you the groundwork you should do.

Before you go to see an authority, make sure you have done your homework. The more effort you put into this the better, as by appearing professional and well informed you will give others confidence in your ability to run a good site.

If you have neighbours close to your proposed site you should try and engage them.

Planning

Although there is national planning guidance issued by the Office of the Deputy Prime Minister, planning can be very inconsistent at a local level. Most composting projects will require planning permission as they will involve a change of use of the site, unless your site has already been used for waste management.

If you are not sure, you should ask your local planning department. Planning departments are unlikely to be concerned about very small schemes. If you ask if planning permission is required you are likely to be told to put in and pay for an application. If your scheme only consists of a few compost boxes then common sense says don't beg the question of the planners and approach your recycling or LA21 officer instead, as they are likely to either know or be able to find out informally for you. They may be able to offer other support as well.

Clearly, if there is going to be a serious site proposal with traffic and building implications then planning permission will have to be sought. A thoughtful and carefully planned project that has the support of the community and, in particular, the neighbours to the site, is more likely to get planning permission. Remember that your application will take some time to prepare and up to 10 weeks to be processed.

11.4 Waste management licensing

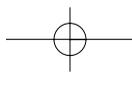
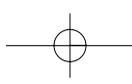
All projects will require either a full waste management license or an exemption. Most community composting projects fall within the exemption category. This is regulated by the Environment Agency (see Chapter 12 for more information).

11.5 Animal By-Products Regulation (ABPR)

This is only relevant if you are composting kitchen waste, and is policed by the State Veterinary Service, (see Chapter 4 Kitchen Waste).

Waste management licencing regulations 12

Chapter 12 on the waste management licencing regulations will be available as soon as details of the implementation of the Animal By-Product Regulations (ABPR) have been confirmed by the Environment Agency. For further information contact CCN on 0114 258 0483 or visit the website: www.communitycompost.org.



Community-scale composting 13

13.1 Introducing your free workforce

Whether you have been composting at home for years or are new to the weird world of microbes, the basic biology remains the same whatever scale you are composting at. You cannot prevent decomposition, the organisms that do the work are present everywhere and will often start to make their living in your large heaps of stored material before you are ready. The composter's role is to harness this natural decomposition process and control it to produce stable, fertile, safe compost.

Life inside a compost heap is an intricate complicated community of bacteria, fungi and invertebrates. Without going into long Latin names of individuals in the microbial composting community, it is useful to know that there are three basic sets of microbes performing different functions:

Mesophiles prefer an ambient temperature range of 10–30°C in which to work and grow; their efforts in breaking down the easier material raises the initial temperature of the heap.

Thermophiles take over after the temperature is raised above 30°C and break down the bulk of the material, including the more resistant materials. This group also includes the extreme thermophiles, which work above the 65°C limit (very useful in meeting the Animal By-Products Regulations temperature requirements in in-vessel systems).

Nitrifying Bacteria mop up the nitrogen released as ammonia compounds by the actions of the previous two groups and convert it into nitrates, the form of nitrogen used by plants.

The composting process is very complex at a biological and chemical level; fortunately, that level of knowledge is not necessary to make good compost. What it is very useful to understand is that the microbes need good environmental conditions to work their best for you. The principle interconnected elements of a good working environment for the microbes are: air, water, carbon to nitrogen ratio of the materials and the surface area of material available to them.

Air and heat

Composting microbes use oxygen to produce the energy needed to breakdown the materials for food; heat is the by-product of this process. If not enough air is available, anaerobic bacteria, which do not require oxygen, will take over the work and the result will be fermentation rather than composting. To make sure that enough air is incorporated into your heap system, regular turning and an open structure are essential. As the heat produced is a direct result of the work being done, it makes sense to turn your heaps once the temperature drops off. Keeping the heap aerated provides oxygen for the microbes to work which keeps the heat up which provides the best conditions for the thermophile microbes – so it's a circular, chicken and egg situation. You will find

Temperature measuring methods

Technical method	There are probes available, with a digital display, allowing the temperature to be measured in the middle of the heap and 'locked' before the instrument is removed. Also available are small battery-powered data loggers, which will record temperatures at regular intervals so the data can be downloaded to a PC. Some systems will have these already in place.
Less technical method	A simple soil thermometer, or (if you want to be extra sure) thermometers plunged into the centre of the heap. If it is a big heap, you may want to tie a length of bright blue nylon string on it so that you can find it and pull it out easily. If you remove it at the same time each day it will give you a better idea of what is happening within the heap and be less affected by outside ambient temperatures.
Non-technical method	Keep a metal rod in middle of the heap. Take it out quickly and gauge the temperature of the hottest part by touch. Some composters use a three second rule (i.e. if it can be held comfortably in the bare hand for only three seconds the heap is hot enough and does not require turning; any longer than three seconds and the heap should be turned).



13 Community-scale composting

that the temperature drops off as the easy to break down materials are used up and the microbes move onto the tougher stuff.

How you measure the temperature depends upon how objective you need to be and how much control you need over the composting process.

Water

Too little water in a heap is a limiting factor on microbial activity, but too much will fill the air spaces and result in anaerobic activity. Lovely as the sight of a steaming heap is, that steam is the moisture content disappearing into the air. Heaps need to be at quite a high moisture level initially, if allowed to drop below 50 per cent microbial activity will be limited. Moisture content can be measured with a moisture meter, available from garden centres, or a probe or data logger with a water content attachment (see above). Prior to screening and bagging up mature compost, space allowing, it is a good idea to spread the compost out in a thin layer to allow it to dry out; this stops the screens from being clogged up and allows the soil macro-fauna (beetles, worms etc.) to migrate back onto your site rather than being bagged up and exported to someone who might not appreciate them as much.

Carbon-to-nitrogen ratio

As the microbes break down the waste materials in the heap they release carbon and nitrogen, which are their food, and like anything they need a balanced diet. To achieve this, the ideal carbon-to-nitrogen ratio (C:N) in the waste material is about 25 parts carbon to one part nitrogen. This balance is important because the microbes use the carbon for energy; the nitrogen they use for making more microbes and to produce the

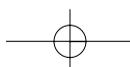
enzymes used to break down the waste materials. High-nitrogen wastes, unless balanced out with carbon wastes, will readily become putrescent; conversely, high-carbon wastes without the activating properties of high-nitrogen materials will not heat up. The difficulty is, how do we know in practice how this actually translates to the materials we are using? To give you some idea, the box below gives some typical C:N ratios of commonly used materials and their overall characteristic.

The carbon fraction is further complicated by the fact that it is composed of three different forms with differing ease of breakdown. The softest is cellulose, basically the cell walls of sappy plants, which the microbes use up quickly. The harder hemi-cellulose, which comes more from stems and husks, takes longer to break down but is still easy for the microbes to tackle. What is difficult is lignin, which is very hard, dense and difficult to break down because the molecules are arranged in rings that the microbes have to break into first before they have a loose end to work on. Lignin is the major constituent of wood and can take years to break down, but is ultimately responsible for the build-up of humus. Paper and cardboard are principally made of cellulose.

Surface area

Although even the toughest log of wood will eventually rot given enough time, you may not have the space for such a slow throughput. The process can be helped along by giving the microbes a larger surface area to work at by shredding or chopping into smaller particles. There are pros and cons to shredding; the smaller you chop your material the larger the surface area

Waste material	C:N ratio	Overall effect
Vegetable wastes	12:1	Nitrogen rich
Grass clippings	17:1	Nitrogen rich
Rotted manure	19:1	Nitrogen rich
Leaves	40-80:1	Neutral to carbon rich
Straw	80:1	Carbon rich
Paper	170:1	Carbon rich
Wood	400:1	Very carbon rich



Community-scale composting 13

exposed to microbial action, but the smaller the particle size the smaller the air gaps between the particles, which may lead to a lack of oxygen. Adding air spaces, or “structure” to the mix can be achieved by adding bulkier materials, which can be screened out later.

Getting the mix right

Getting the mixture of materials right is a large part of successful composting. For example, if dealing with a dense waste high in moisture and nitrogen, such as vegetable waste, it will require mixing with other materials with properties that can do the following:

- * *Balance the C:N ratio;*
- * *Absorb some of the water content;*
- * *Introduce air spaces.*

Wood chippings are good at introducing air spaces but do not release their carbon easily and may not readily absorb the water content. Paper absorbs water well and releases carbon readily, but would not add structure unless each sheet is scrunched up into a ball. Shredded corrugated cardboard would both soak up the moisture and add structure. Availability of materials will obviously also influence how you create your mix. Confused? Just experiment with a good C: N mix and observe closely and troubleshoot when it doesn't work rather than trying to get everything absolutely right first time – it's called empirical science, or making it up as you go along (depending on who you are trying to impress, or not).

13.2 Different approaches to some common materials

Mixing everything together to create a rapidly processed heap is not always the best use of your materials and many of the alternative approaches look back to a time when useful horticultural and other products were developed from organic waste materials (i.e. before the advent of the peat industry and garden centre).

Wood

One obvious end product for large logs or sections of wood is firewood; however, many projects do compost large sections of wood successfully by the clamp method (see section 5.2 Systems). As this takes a long time, space will be a consideration. One benefit of this type of composting is that it creates a wildlife habitat; many beetles depend on this kind of habitat. The impressive stag beetles are becoming very rare because of people being over zealous in cleaning up their gardens of rotting lumps of wood. Newts

and toads also spend lots of time under rotting piles of wood.

Woodchips, can be composted on their own, and do not require much attention, as they will compost aerobically for a long time without the need for turning, as long as they are moist enough. Indeed, this long slow warmth has been exploited by one project as a heat source for keeping greenhouses frost-free. Getting the moisture level right throughout the heap can be a challenge. Freshly cut branches have a fair amount of moisture in them, but the initial heating up of the resultant chippings drives it off as water vapour. Watering chippings can be tricky, because the wood often doesn't absorb water unless it is soaked in it; pouring or hosing water on often results in the water just draining through very quickly. One solution is to layer grass cuttings with the chippings, which help to retain moisture and add nitrogen. You cannot rely on steady rain to water your heap either, as the top layer becomes settled and weathered and acts as thatch, preventing penetration and keeping the centre of the heap dry. It is good practice to keep a stack of wood chippings to mix with the influx of summer grass cuttings or other large quantities of wet sappy material.

Autumn leaves

Autumn leaves rot down by the slow action of fungi, rather than the quicker action of the bacteria responsible for composting. Autumn leaves have had all the nitrogenous goodness stripped out of them before being jettisoned by the tree, and can actually slow down the composting process, so it is often better to compost leaves separately and make leaf-mould.

Making leaf mould is ridiculously easy: just gather up leaves and put them somewhere to stop them blowing around, making sure the heap is moist to start with, and watering occasionally to keep them moist. Although the leaves can be left in a big heap, making some sort of enclosure takes less space and keeps them tidier. Traditionally, wire netting enclosures are used. Alternatively, enclosures can be easily made from eight-foot pallets, and will help to keep the moisture in. On a smaller scale, builder's bulk bags are ideal, and can be stacked (with care).

After a year the leaves are good as a mulch and source of humus for light soils. After two years a fine, low-nutrient leaf mould is produced, which is ideal as seed compost, potting mix constituent or mulch. The process can be speeded up by shredding the leaves. Different varieties of leaves break down at different rates, but you are unlikely



13 Community-scale composting

to be able to choose if you are community composting. If you want to segregate coniferous needles, you can make an acidic leaf mould, although they take longer (2–3 years) to break down. The resulting product is ideal for acid-loving plants such as heathers, although the product will neutralise with age.

Turf

It's true that a light sprinkling of earth can help introduce beneficial organisms, but earth is primarily composed of inert minerals and in large quantities is not a useful compost heap addition. Either refuse it, keep it as top soil or, if in clods, build loam stacks as a separate system. Loam stacks are simple to make. If you have fairly distinct turfs, with a soil side and plant side, stack like bricks on top of each other so that the soil of one turf is in contact with the plant side of another. More irregular clumps can just be pushed together in a pile. Cover the whole heap with a light-excluding, rot-proof material, preferably a permeable membrane but black plastic will do, and leave for a year for the worms to do their work. The resulting loam is useful for potting mixes.

Herbaceous perennials

Many keen gardeners will lift and divide their herbaceous perennial plants in autumn, if the unwanted portion ends up at your composting project they can be potted up and sold. One project has a plant-bank for unwanted plants and bulbs, where people come and help themselves to cuttings and offshoots and make deposits of their own stock (see Case Studies, Kinlochleven). If you intend to sell plants, some horticultural knowledge is useful; you need to know what the plant is and whether it is a healthy specimen or not. If adding to the compost heap, shake off as much soil as possible; otherwise add to the loam stack, making sure to exclude light, as many plants can be very difficult to kill.

Grass cuttings

Grass cuttings are, ideally, best left on the lawn to be absorbed back into the soil; however it may be difficult to persuade people to take this course of action. You may be more successful trying to persuade people to put them on their borders as a mulch. As a composting feedstock they are useful to incorporate both moisture and nitrogen to the carbon-rich shrub and tree prunings. Some shredders can cope with grass and woody material without clogging, so that it all gets blended into a good mixture.

Freshly cut, they are useful as an activator, in thin layers. It is best to add them into the heaps before they reduce to a slimy stinking mess; this can mean daily in the growing season. Alternatively, they can be spread out to dry, like hay, before being incorporated. If they have been brought in sealed bags after festering in the sun for days or weeks then they are more problematic. The whole lot becomes a solid, smelly lump, which is difficult to break up. Tip it out onto the soil and spread out as much as possible.

13.3 Weeds and the law

Weed propagules (bits of plant that can grow into a whole new fertile plant) will most likely be destroyed in sustained temperatures over 55°C. However, there are eight plants (see below) relevant to composting that are so problematic that laws have been introduced to control their spread. The Weed Act 1959, with further regulations on Ragwort added in 2003, is designed to clear weeds threatening agricultural production. The Wildlife and Countryside Act 1981 aims to control invasive weeds that threaten to destroy natural ecosystems. To get some idea of the problem it has been estimated that it would cost between £1.5 and £2.6 billion to eradicate Japanese Knotweed alone.

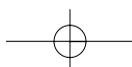
Supplying compost contaminated with viable propagules of the problem plants would be seen as an offence. Also, individual landowners are responsible for the control of invasive weeds on their land, so it may affect your relationship with your landlord if you are not keeping the triffrids under control. The best means of attack is to know your enemy: see the Weeds table for information on identification and control.

Seed tray test

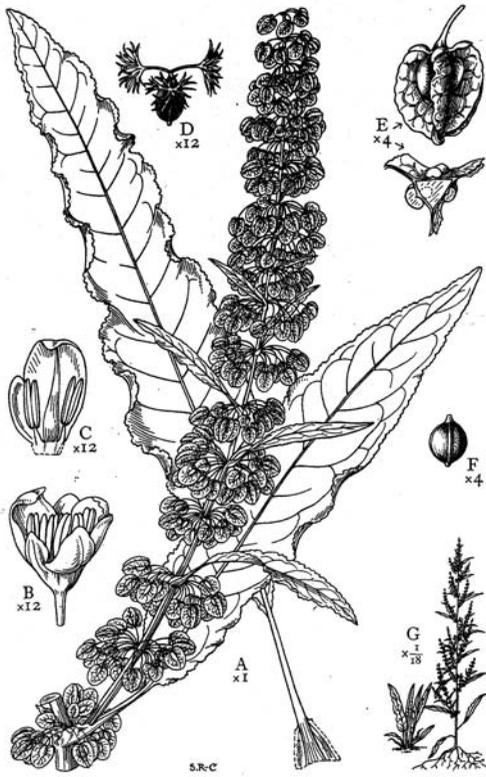
Simply fill some seed trays (at least three) with your compost and keep watered to see what emerges. It is important that they should be kept free of contamination by outside plant material, especially windborne seeds such as spear thistle. DEFRA publishes a useful leaflet, Identification of injurious weeds, obtainable from the Helpline on 08459 335 577.

13.4 Problematic materials

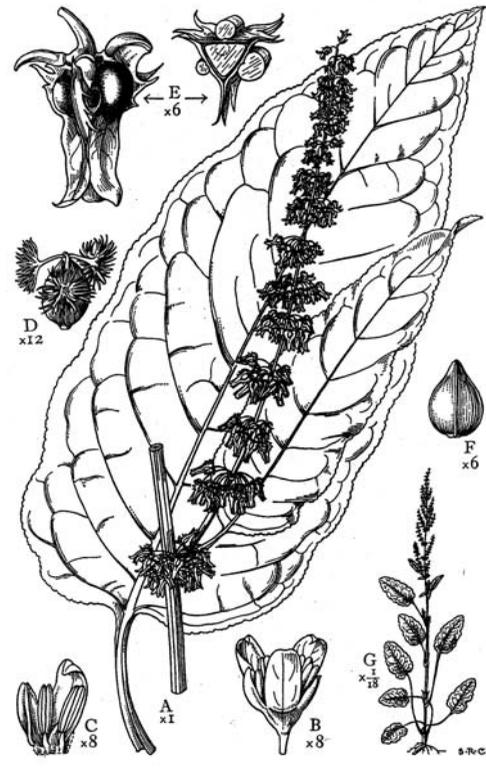
There are many materials, whether organic in origin or not, that it may be best to refuse. It helps to know the reasons, when explaining to the person trying to offload their problems onto you, why you are not willing to take it on.



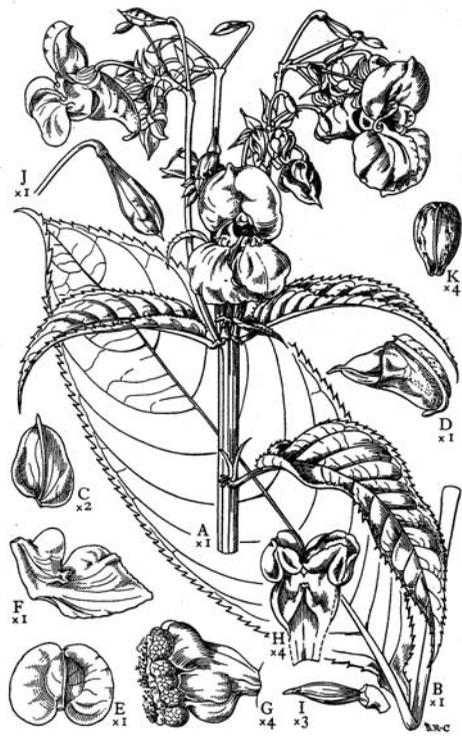
Community-scale composting 13



Curled dock (*rumex crispus*)



Broad leaved dock (*rumex obtusifolius*)



Himalayan Balsam (*Impatiens glandulifera*)



Spear thistle (*cirsium vulgare*)



13 Community-scale composting



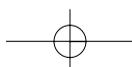
Creeping thistle (*Cirsium arvense*)



Common ragwort (*Senecio jacobaea*)

Weed illustrations: Reproduced with kind permission of the artist Stella Ross-Craig and the library and archives of the Royal Botanic Gardens, Kew.

Please note that the illustrations are not reproduced at their original size and that the scales referred to are not correct. Also, line drawings of Japanese Knotweed and Giant Hogweed were unavailable. Contact CCN if you require further information.



Community-scale composting 13

Common Ragwort	Between 30-120cm tall with deeply lobed small dark green leaves and yellow flat topped almost daisy-like flowers on a branched stem. Flowers from June onwards. Very much like groundsel (its close relative) except it has petals whereas groundsel doesn't.	Ragwort kills livestock. For some reason cows, horses and sometimes sheep find it quite tasty, especially when it is dying or dry. However its poisonous alkaloids build up in the liver, causing irreversible untreatable liver failure and a horrible death.	The code of practice states unequivocally that Common Ragwort should be burnt (after it has been dug up).
Spear Thistle	Our commonest thistle, 30-150cm tall with serrated lobed and very spiny leaves which run down the stem to form long spiny wings. The single reddish-purple flowers are over 2.5cm across. Spiny. Flowers from July onwards.	Produces masses of seed of a very light buoyant nature (thistle down) which have no regard for boundaries of farm and field and can travel miles before settling down to rob crops of light water and nutrients. Fortunately it only spreads by seed.	There is no code of practice for this weed. If concerned you could test your finished compost for viable seeds by the 'seed tray' test (see below).
Creeping or Field Thistle	Between 30-150cm tall, it differs from the Spear Thistle in that it has small clusters of pale lilac fragrant flowers on long unbranched stems. The leaves are sometimes cottony underneath. Spiny. Flowers from June to September.	A perennial that quickly takes over an area by means of aggressive spreading roots. Ploughing or digging only serves to break up the roots which throw up new growth. As it doesn't depend on seeds to propagate (very few are viable), cutting before it has the chance to set seed has little effect.	No specific code of practice. Gentle sieving of the final compost to remove stems and roots. In a soft medium such as mature compost any growing plants can be easily be pulled out.
Broad Leaved & Curled Leaf Dock	Very widespread and familiar plants, both 30-150cm, with large wavy lance-shaped (Curled Dock) or with broad heart shaped leaves at the base and narrow ones at the top (Broad Dock). Small flowers on large prominent often leafy clusters, turning reddish brown as they seed.	Both shed masses of seeds which remain viable in the soil for many years, waiting. Also any broken pieces of the tap root will sprout new growth.	As for Creeping Thistle for root pieces, with a seed tray test to check for seeds
Japanese Knotweed	Between 90-180cm tall. Grows in dense bamboo-like clumps, except with large heart shaped leaves up to 12cm long. The stems are cane-like, slightly zig-zag and hollow with distinct nodes often reddish in colour. Large cluster spikes of frothy greenish white (sometimes pinkish) flowers between September and October.	Very invasive and aggressive weed that displaces natural habitats. The underground rhizome (fleshy root-like stem) will spread up to 7m and produce shoots which can push up through tarmac and roots that can reach a depth of 3m, so as well being a hazard to local wildlife it can cause structural damage to human habitats.	Environment Agency guidance states that the crowns should not be composted, but buried or burnt in accordance with Environment Agency advice. There are only female plants present in the UK so any seeds are sterile, so in theory it should be fine to compost the dead stems, but check with your local E.A. office.
Giant Hogweed	Impressively huge plants, growing up to 5m high, with leaves up to 1m long, deeply lobed with spikes at the ends. The large white flat flower heads grow up to 1m wide on top of the long central unbranched stem, which is hollow, green with red or purple blotches, and also spiky.	An aggressive invader, especially along watercourses, which leaves banks susceptible to erosion. Each plant can produce up to 50 000 seeds, which are viable in the soil for up to 15 years. It also has poisonous sap, which causes severe blistering and changes to skin pigmentation.	It is fine to compost this plant (although some check for viable seeds would need to done); the issue is protection of the workforce while handling it. Symptoms occur 24-48 hrs after contact, and the pigmentation changes can last for years.
Himalayan Balsam	Up to 1.5m tall, the stems are hollow and jointed, branched, sappy and brittle. Leaves are up to 15cm long, lance shaped with slightly toothed edges and dark midribs and stems. The clusters of pretty purple, pink or white flowers have an 'orchid' look, and form seed pods which when ripe 'explode' when touched, scattering their seeds widely. Flowers from July onwards.	Not listed under Schedule 9 of the Wildlife and Countryside Act, so although it wouldn't be an offence to "cause to grow" it is listed as problem plant. Grows in dense stands which suppress the growth of natural plants. As it likes damp areas, this can cause problems with erosion on banks of waterways.	Can be composted unless seeds are present, in which case burn or send to landfill.



13 Community-scale composting

Diseased plants

Provided your compost heaps reach over 55°C for a couple of days, most plant pathogens will be destroyed by the heat. In addition, the gases given off during composting and the compost-maturing process will add to the pathogen death toll, but there are some pathogens that seem to survive the whole ordeal unscathed. If you suspect that material you are handling is infected by these it is best to burn or send to landfill.

There are no laws or regulations governing the control of plant pathogens in composting, but common sense and the good name of your project dictates that you should be aware that the following common pathogens can survive composting:

- * Clubroot (*Plasmodiophora brassicae*);
- * Tobacco mosaic virus;
- * Honey fungus (*Armillaria Mellea*).

13.5 Uncompostables

Fairly obviously, you can't compost anything that won't compost; materials that don't have any or an immediate biological origin such as glass, plastic, metal, stone.

Animal faeces and bedding

It is recommended that cat and dog faeces or bedding are not composted, because of the potential risk to children, pregnant women and anybody with a compromised immune system from toxoplasmosis. For more information see HDRA's Factsheet GG4 – Dog and Cat "Manure" (www.hdra.org.uk).

Manure and bedding from herbivores (gerbils, guinea pigs, rabbits, horses, cattle etc.) is good for composting but may have implications with respect to the ABPR.

Nappies

Disposable nappies are not compostable and are rapidly getting a reputation as an environmental time bomb because of the time they take to break down in landfill. Reusable nappies are becoming better to use and there may even be a local nappy project that supplies and launders them for you. For help and advice on reusable nappies call the Women's Environmental Network (WEN) on 0207 481 9004, or email nappies@wen.org.uk.

Ash

Coal ash is best avoided altogether – it is very acid, sulphurous and adds nothing to the composting process. Wood ash, on the other hand, is a rich source of potash, albeit in a very soluble form. If adding this to the compost heap,

mix well in small amounts with the other materials to avoid a nutrient imbalance.

Used compost and peat

Gardeners often give you old plants with their root ball intact or still in a pot of compost. Many others will give you whole bags of used compost. The main problem here, projects have found, is detecting and removing the plant labels and ties rather than dealing with the compost itself, which will blend in with the remaining materials.

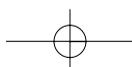
Plastics, compostable and otherwise

It is important to try to exclude this at the collection stage rather than picking it out of the finished compost. Remember that, once shredded, one piece of plastic becomes tens or hundreds of pieces. Dependant on your style of riddler, plastic will usually be excluded at this stage, but it will still need to be removed from the rejects pile.

Recently, there have been developments in biodegradable plastics, with many claiming to be environmentally benign with terms such as 100 per cent degradable, photo-degradable, hydro-degradable etc. To find a way through the maze of claims and identify those that are truly compostable, there is a new certification scheme. Plastics that reach certain standards (BS EN 13432:2000, DIN V 549000, and ASTM D 6400) are awarded either a DinCerto logo (UK, Germany and the Netherlands) or an OK Compost Logo (Belgium). Other countries, such as the US, Japan, Finland and Norway, also have compostable plastic certification logo schemes of their own.

If you find you have a significant amount of compostable plastic coming through your project, please take note of how it performs and let CCN know.

One area where compostable plastic is a benefit is in the collection of kitchen waste; projects have found that there are no problems with starch-based plastic bags, which compost easily. However, other bags that may claim to be compostable have been found just to break up into smaller pieces rather than break down completely.



Designing and running a site 14

14.1 Site design

The most important principle in designing your site is that it has a logical flow. Material should move in one direction around your site, starting at one end and finishing at the other. Smaller garden waste sites will process material through a bay system, with brick, wood or concrete bay structures containing the heaps. The material will start in a reception bay and progress through the system with each turning until it reaches the final maturation heap.

The site needs to be designed so that the whole system does not 'log jam'. This is especially critical where space is at a premium. Being well organised with everything in its proper place saves you time, you really want to cut down on double handling of materials. This will be partly solved by having a logical and linear process through your site. Larger sites using a tractor must be even better designed to avoid crossing areas of entrances and areas of human traffic too often.

The best sites, irrespective of system, take material in at one end and produce finished product at the other. Look at your site layout and draw a line representing the movement of material between stage of the process (e.g. from the sorting area to the first bay, through the bays to the last one, from the last bay to the sieving area etc). The

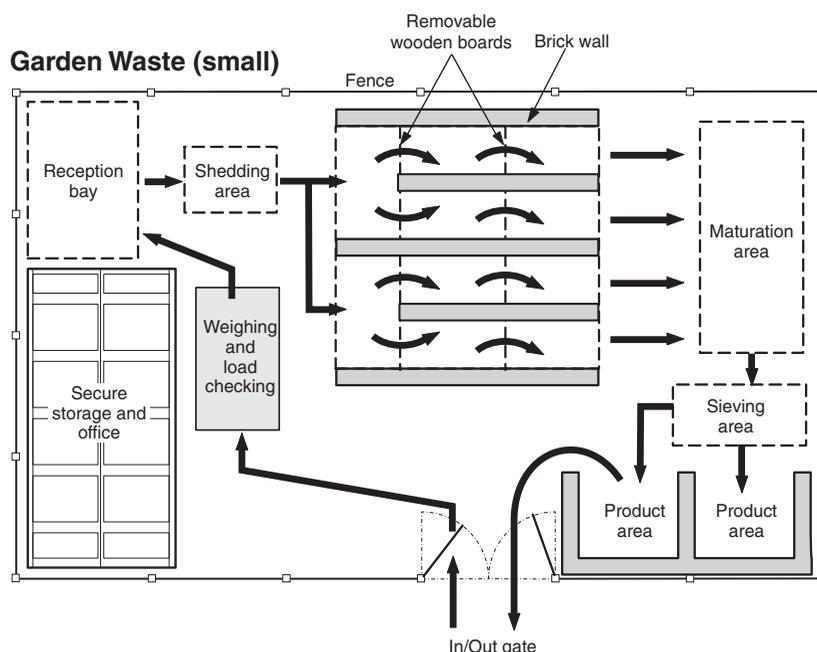
fewer times these lines cross over each other the better. This will give you a greater degree of control over your process and it will make it easier for you to identify where a batch of material (that has been either been collected by you or delivered to your site at a specific time) is in your system.

Besides, it's incredibly satisfying to have a good-looking, organised site and you will almost inevitably have an open day at some stage.

14.2 Security

One thing you will have to consider when choosing a site is security. The level of security you wish to install depends upon the nature of your project, what you intend to leave on site, the level of interaction with the surrounding community, your insurance cover and not forgetting the money available for security measures. Resist a Fort Knox mentality; fencing can actually attract trouble by advertising the fact that you have something worth stealing or creating a "challenge" for the local street gang. Don't forget obvious security measures in the way you work and communicate within the project; a fence will not create a secure site if your gate is left open or unauthorised copies of the key are passed around or lost.

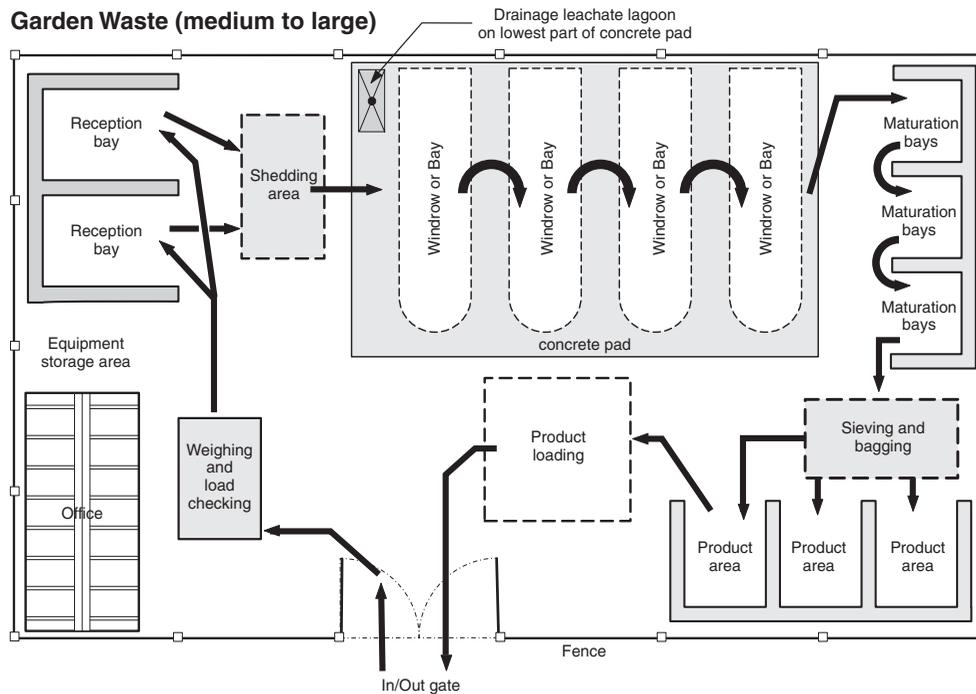
Young people on your site may just be looking for somewhere quiet away from nagging grown-ups and may in fact be useful allies against crime.



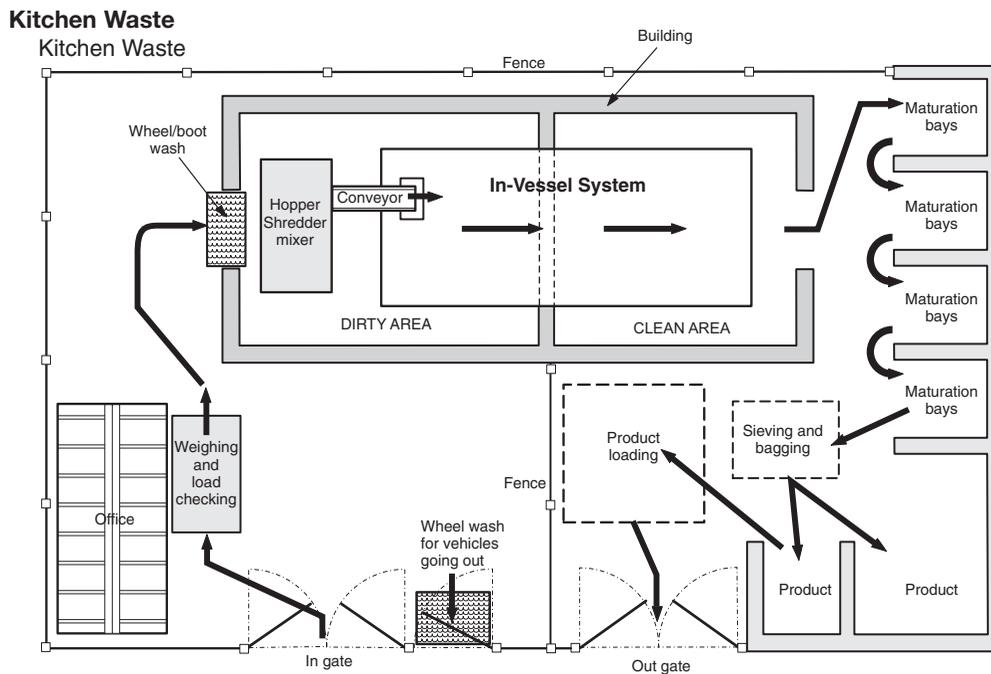
Illustrations:
Graham Edwards

Small garden waste projects have the greatest degree of freedom in how they arrange site elements. The work is mainly by hand and often has a significant voluntary input so the emphasis maybe more on making it an attractive place to be rather than efficiency of working. The material moves around the site in a clockwise fashion, into the reception area (where excess material can also be stored) before being composted in the walk through type brick wall bins in the central area. Often smaller systems are part of a bigger project with plant growing activities, so there may be more than one 'exit point' for the finished product.

14 Designing and running a site



Again the material moves around in a clockwise direction, but because machinery is involved, the whole approach is more co-ordinated and there is less freedom in how the elements can be arranged. Turning circles, blind spots and cross-over areas of machinery and human traffic all have to be taken into account when planning the layout. Where space is limited, co-ordinated timing of windrow turning is also needed to avoid confusion in batches and blockages in the flow of materials through the system.



To gain ABPR approval for kitchen waste composting the strict observance of clean and dirty areas to avoid cross-contamination of the pathogen-free finished compost with potential pathogens from the source or immature material is very important. This extends to tools, footwear and vehicles which need to be kept separate (some advise colour coding) or thoroughly cleaned. Most systems are contained within a building to prevent access by birds and vermin. This layout is for sites operating to the European standard or processing meat-excluded waste. Meat-included waste normally requires a separate second barrier stage such as separate windows or a second in-vessel chamber, unless sufficient internal turning allows for two barrier stages in one unit.

Designing and running a site 14

Some fencing options	Pros	Cons	Cost per linear metre
Palisade (vertical metal strips with spikes on top)	Low maintenance Long lasting	Not invincible Unfriendly impression	£35–60
Barbed wire	A liability, not recommended	Try anti-climb paint on top of walls and gates instead	
Weldmesh/chainlink	Good visibility of site	Chainlink will “unzip” if attacked with bolt-croppers	£34
Chestnut paling	Good in conjunction with thorny hedging	Low security Requires replacing every five years	£15
Thorny hedging	Very attractive and good for wildlife	Low security Requires 2–3 years to create effective barrier Requires maintenance	2–3 ft whips, £200 per thousand

Evidence shows that vandalism and other offences are greatly reduced by regular contact with people in the surrounding community. Involving youth organisations such as Connexions, Millennium Volunteers, New Deal for Youth or the Probation Service may help your site be seen as a local common resource worth protecting, rather than a target for crime.

Theft can be deterred by not having anything on site worth stealing, by using old tools or defacing new ones (painting them bright pink has been suggested by Northumberland Police). Obviously some sheds are more secure than others; a number of projects have invested in old steel shipping containers and adapted them quite cheaply to make strong, secure sheds. Big items of machinery, such as shredders and tractors, will need very secure overnight storage if left on site. It may be worth asking around to see if you could use or rent space from a local farmer, the local council depot or a local transport firm rather than having to spend time and money on a large secure building (and any required planning permission).

A tidy site is not only good Health and Safety practice, it discourages vandalism and fly-tipping. If fly tipping becomes a persistent problem you can ask the local authority to put up notices stating the legislation and maximum statutory fine (£20,000 and imprisonment) or ask people to take the car or van registration number of anyone fly tipping (the owner can be prosecuted even if they weren't doing the dumping).

If crime is a problem, join in the fight against it, join or start a neighbourhood watch scheme, and build a relationship with the community beat officer. Keep a crime logbook and note the incident number the police give you when you report the occurrences, this can help identify patterns of increased crime activity and maybe even the perpetrators.

Much of this advice comes from the Safe Sites fact sheet published by Allotments Regeneration Initiative. This can be found, along with other useful fact sheets, at www.farmgarden.org.uk/ari or telephone 0117 963 1551.



14 Designing and running a site

14.3 Managing the site

Signs

If your site has public access then you must have very clear signs saying what can and can't be left for composting. If you want people to sort their own material you will need to specify what types of materials to put where. For example:

“Woody materials here”

“Grass cuttings and fresh green weeds here”

“Unsure/mixture – Leave in bags”

The trouble with this last category is that if you are not on the ball, everything will end up here.

You need to continually educate and cajole people to separate material into the categories you require – unfortunately, lots of people don't read signs and just want to dump and run, so it's important to maintain your profile with articles in local papers, bulletins and displays at events. Sites with public access must be checked very regularly, preferably daily, so that any soft green materials can be layered into the heaps with some tougher soak materials, which you can keep in a heap or sacks nearby.

Storing prior to processing

Even if you are not planning on having an open accessible site, everybody still needs to be clear about how the site is run and where everything should be put, especially the compost and the materials being composted.

Have clear designated places for:

- * *Woody material awaiting chipping (see Shredding below);*
- * *Soft material which can go straight into a heap (although be aware that too much very soft green stuff will need to be mixed in with something else within a day or two to prevent compaction);*
- * *Leaves: it's very useful to have a separate area for autumn leaves – especially if you can get your local authority to deliver whole lorry loads to you;*
- * *Finished compost: un-sieved;*
- * *Finished compost: sieved.*

Contingency planning

Remember that, however long you have been composting at home, running a community composting site requires some different expertise. Having a thorough understanding of the principles is vital. On an unmanned bring site, it helps to know what do you do when someone brings you half a mile of leylandii hedge or tips a massive trailer load of grass cuttings all over your site.

A more measured approach to contingency

planning is to have a 'carbon store', where you can save extra woody material as woodchips to offset the inevitable sudden influx of grass clippings.

14.4 Shredding

Deciding how to process all the woody materials arriving at your site is crucial to the success or otherwise of your project. You need to consider:

- * *Your anticipated weekly tonnage;*
- * *Type and size of feedstock;*
- * *Possibility of diverting for other uses – worth considering wood above a certain size for firewood, and maybe taking out bean poles/pea sticks;*
- * *How many days storage space you have – how often do you need to shred?*
- * *If you can store several weeks worth of material, you could consider sharing or hiring a shredder some local authorities support projects by providing a shredder service;*
- * *Conversely, if you are able to buy a shredder and will have spare capacity, maybe you can*

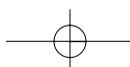
offer a shredding service or hire to other groups;

- * *How mechanised do you want to be – if you already have a tractor, can you use it to load the shredder, and can you run your shredder from the power take off (PTO) on the tractor;*
- * *If the speed at which you can shred dictates how much you can process, you need to get the best shredder you can;*
- * *When costing, it is essential to include realistic figures for maintenance and consumables;*
- * *Last but not least – can you afford the size of shredder you need, or do you have to scale down your ambitions?*

Shredders and chippers – what's the difference?

Chippers are the machines you commonly see being operated at the roadside when contractors are thinning trees. They have blades, which chip the branches up and are designed to work best on freshly cut material. The result is a pretty uniform material which can be used as a mulch. The bigger the chipper the larger the diameter piece of wood you can put in it.

Shredders have hammers, which smash the material up and produce a mixture of particle sizes. Shredders are designed to take a variety of materials; generally, though, they are not as effective as chippers when handling very large diameter pieces of wood. (Large pieces of wood shouldn't be shredded or chipped anyway – far better to saw them up for firewood.) Shredders are better with wet, partially decomposed materials,



Designing and running a site 14

including grass cuttings and weeds, and don't mind the odd stone or earthy weeds. The bigger shredders have belts, which pull materials into the machine and out the other end, and some can be loaded via a front loader. Shredders have to be far more powerful to achieve the same throughput as chippers, but are more versatile.

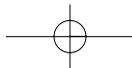
There are also machines that use flails, and hybrid machines with a chipper chute as well as a shredder chamber. A newer type of machine on the market is the shredder/mixer; not only is it quiet to run but it also mixes all the material thoroughly before discharging it. The prices for these machines vary enormously, as do their pros and

cons, so see the members' area of the CCN website for a forum on bits of kit and their use (and inevitably abuse).

Tips for choosing a machine

- * *Get the best you can afford. If you get something too small you will seriously regret it later.*
- * *If you have a tractor, consider a PTO-driven machine.*
- * *Ask for advice – talk to your local authority (landscape services or similar), CCN and other community groups. Go and see machines working for real.*
- * *Shop around – it is a big investment both of*

Machine type	Method of working	Materials	Through-put	Approx. cost	Comments
Quiet electric shredders	Slow-turning toothed roller, which chops and crushes the material into short pieces.	Small prunings and branches up to 3 cm.	Small	£300	Suitable for small projects and home composters. Can be used by special needs groups.
Chipper	Revolving blades cut material into chips.	Woody prunings and branches up to 18 cm in diameter.	Small – Medium	£2k-£25k	Towable by a van. Not suitable for grass and leaves. Can be driven by tractor PTO.
Shredder	High-speed hammer mill smashes material into small, random-sized particles.	All woody material including grass and leaves up to 18 cm in diameter.	Small – High	£12k-£100k	Vary hugely in size and cost. Can take a variety of materials. Can be driven by tractor PTO. Noisy to operate.
Bio-shredder/mixer	Slow-turning augers shred and mix material inside a part-enclosed trailer.	Takes all biodegradable materials including card. Takes wood up to about 10cm diameter.	Medium – High	£18k-£80k	Quiet. Needs to be towed by tractor or be stationary. Runs off PTO or independent engine.
Tub grinder	Serious equipment – big tub with hammer mill.	Takes huge bits of wood and pallets plus all biodegradable materials.	High	£lots+	Normally semi-stationary on sites. For very high throughput.



14 Designing and running a site

money and in the future of your project. The wrong choice might be costly.

- * Work out how long it takes to load and produce the required material. Can it handle your throughput?
- * Consider the price and availability of spare parts.

Safety

Shredders are potentially dangerous beasts, and it is essential to ensure that proper procedures are followed. These are only the basics:

- * Only trained personnel must use the shredders;
- * A clearly defined responsible person is in charge of shredder operations;
- * There is written procedure defining who can operate and whether training and protective gear is required;
- * A full risk assessment of operating the machinery must be undertaken.

Practicalities

- * Keeping a firm grip on the way material is stockpiled, sorted, and shredded is important.
- * If mixed material comes in – wood and soft green stuff – make sure this only goes through the shredder if it can handle it – stopping to clear blockages is time-consuming.
- * Fresh wood shreds much easier than dry; some woods are much harder than others (e.g. holly, berberis). Manufacturers' recommendations for the maximum size are only a rough guide.
- * Try to establish efficient routines for shredding so that the shredder is kept steadily supplied with material – maybe one or more people preparing material while one is feeding the shredder, swapping jobs every hour or so to make it more interesting for all.
- * Stop machines immediately there is a blockage or fault, before further damage occurs, and make sure all operators know how important this is.
- * Regular cleaning and maintenance is much cheaper than dealing with breakdowns.

Running costs

You will need to consider not only the fuel costs but also insurance and maintenance costs. Remember that if you have a diesel shredder you can run it on red diesel, which you may be able to get from your local authority depot. This will help to keep costs down considerably. Allow time each day for daily maintenance and each week for routine maintenance including greasing and checking bolts etc. Replacing hammers and blades is inevitable and major repairs are certain to be expensive. Enquire about getting repairs done at

your council depot where they are likely to have experience of working on these machines – they might also do it a bit cheaper.

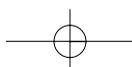
14.5 Sieving and screens

Sieving and screening enhances the appearance of the compost, but although cosmetic considerations are not necessarily a priority to community composters it can have a practical purpose; if selling or returning to the public or using for specific purposes (e.g. potting compost), then sieving would be a benefit. Composted materials bear little resemblance to the peat mix in a bag with added chemicals, that most people have come to understand as compost, and though it makes sense to make your compost as acceptable as possible, a good product is not just about sieving. The whole process needs care and attention; make sure that materials are properly mixed, composted, regularly monitored and turned and then sieved, bagged (if applicable) and presented as attractively as possible. Sticks, stones, and clumps are all removed by sieving or screening, along with certain things that mysteriously find their way in occasionally like plastic, glass and string, this makes selling compost much easier.

There are hand-operated or electric models of sieves and screens as used by CCN members, some of which are self-build, which keeps costs down. You may be lucky and find a cheaper second hand machine that you could adapt to be a compost sieve. The Seagull project in Skegness uses an old sand and gravel grading machine. Other projects (Lymestone and The Shaw Trust) have adapted old potato riddles.

If you are dealing with larger amounts, you could emulate WyeCycle in Kent. Their operations depend on using a tractor with front-end loader. They have built a flat screen from old bed frames, which they can mount on a trailer at 45 degrees. The compost is picked up and poured over it – a few whacks of the screen with a shovel dislodges any blockages. This system has the added advantage of having the material loaded at the same time for bulk sales, or it can be bagged up from the trailer. Using this system it is probably best to have two screens and produce two grades.

If you produce a lot of compost you can always hire in a screener for a day or so a couple of times a year. Van-towable screeners can be hired for about £400 a week – you would probably also need a tractor to load it. It might only be cost effective if you have a big pile that you need to screen, but it is considerably faster than a hand-turned one.



Designing and running a site 14

14.6 Monitoring and quality control

In order to be sure that the compost is sanitised (meaning that every part of it has heated up properly), the heaps must be turned at least twice. Of course, if you are composting kitchen waste much of this will be dealt with in your HACCP plans under the ABPR. For green waste, the temperature is carefully monitored and the heaps turned at the optimum time (i.e. when the temperature begins to drop off). They should be turned until they stop heating up and then left to mature. In practice, this is difficult to achieve in largely voluntarily run organisations, when jobs are done as and when weather and labour permit. Luckily, compost is benign; heaps can be turned later and it will still re-heat. Seasonal variation can also be a problem – in the summer you can be inundated with grass cuttings, whereas in the winter it's difficult to get enough green material. However, in the winter it is less likely that there will be so many seeding weeds and roots, and it is easier to stockpile the woody materials, without them composting, prior to chipping.

Temperature and moisture of the heaps should be monitored as often as possible, preferably on a daily basis. This will show when the heaps are ready to be turned and if more water is required.

Each bin or heap should be allocated a number by which it can be identified, and the number attached to the heap, for example by a small wooden label that can be hung on a nail or hook and moved as the batch is transferred from bin to bin. Keeping a simple card system recording dates turned and any special features will help in keeping track of the process.

Compost stability and maturity

Compost is mature and therefore in a stable state when the original constituent parts are no longer obviously identifiable, (apart from woody bits and plastic, which can be sieved out if required) and doesn't give off heat or odours. This end product is the result of all the rottable material being converted into humus, microbes (and remains of dead microbes) and lignin. During the process a lot of CO₂ has been given off because of the respiration of the microbes. Ammonia is also produced from the breakdown nitrogen sources which is toxic to plants and an irritant to animals, but is converted by more microbes into nitrates which are plant food. Less and less activity means less heat, ammonia and CO₂ are produced as the composting process comes to the end (although it never completely stops). Testing your compost for maturity is basically testing for remaining composting activity as indicated by these factors,

and can be done in a number of ways, from very simply and crudely to very technical and specific:

- * *Use the soil animals as an indicator that the levels of ammonia and CO₂ are low. They won't move into your heap unless they are (but they will move into the edges first, so don't just assume your whole heap is mature on the basis of a few worms round the edges).*
- * *When the heap no longer heats up after turning, the compost is usually ready. Make sure that if you are turning a sample that it is big enough (at least 1m³) to generate self-heating;*
- * *Put a sample in a plastic bag, seal and leave for a few days. When opened it should smell pleasantly of compost and not be horribly putrescent. This test is used by the Forest of Dean Composting Group;*
- * *Do a bioassay. As ammonia is a toxin to plants it will kill or suppress germination, so plant a known number of seeds in seed trays and see what percentage germinate. You will need to measure the percentage of your test batches against a control batch of compost that you know to be mature and don't forget to use the same batch of seeds and keep the two under the same growing conditions, otherwise it won't be a fair test.*
- * *Use a Compost Maturity Testing kit such as SOLVITA, which tests the carbon dioxide and the ammonia with a colour-indicating gel stick. It can also yield useful information on the active part of the composting process, especially with regard to the C:N ratio of your composting mix (this costs around £88 for a pack of six tests).*

14.7 Compost standard PAS 100

PAS (Publicly Available Specification) 100 is not a British Standard (BS) although it was prepared and published by the British Standards Institution jointly with the Composting Association and WRAP and is due to be updated in 2004. It is intended to be a transparent and freely available standard. It specifies minimum requirements for compost and the composting process, including:

- * *Source separation of biodegradable materials from other non-biodegradable materials;*
- * *Monitoring and recording, including HACCP (Hazard Analysis and Critical Control Points);*
- * *Documentation of every batch or portion of production to allow complete traceability from start to finish;*
- * *Trained and competent personnel;*
- * *Compost quality tests for human pathogens (indicator species), PTE (potentially toxic*



14 Designing and running a site

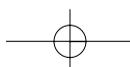
*elements such as cadmium and chromium)
physical contaminants, phytotoxins (plant
poisons) and weed propagules;*

- * *Minimum testing intervals of at least every six months;*
- * *Storage, classification and labelling of final product.*

If you are already producing compost to meet ABPR regulation standards, many of the above requirements will already have been met and it may not require much more input to meet PAS100 requirements as well. The lab fees for a project making less than 5,000 tonnes of compost are likely to be around £750, although some may be willing to offer a discount for community groups.

You can make a claim of conformity that your process and compost meets PAS100 standards, but you must be prepared to back this up with lab test reports, documentation, HACCP plans and visits round your site by any customers wanting to be sure this claim is valid before they buy your compost. Many potential customers wanting PAS100 standard compost would only be happy with third-party validation and certification, as carried out by the Composting Association. Initial assessment costs £550, after which there is an annual post-certification fee of £550.

For more details of certification and more information on PAS100 generally, see the Composting Association's website www.compost.org.uk and click on information, compost resources and search for compost certification scheme. Alternatively, telephone 0870 160 3270.



Health and safety 15

15.1 Key points

Community composting is typically a healthy activity that aims to improve our local environments. Nevertheless, this doesn't necessarily imply that the process of making community compost is free from risks. Health and safety considerations should be taken into account by all community composters – indeed, putting together a health and safety policy and carrying out a risk assessment is essential. This chapter covers some key points to think about when preparing your health and safety risk assessment. It is not necessarily a definitive list and you must carry out a full inspection of your own site to be sure you are doing everything properly and that you have considered all the possible risks.

Key points are:

- * *Make sure all those involved have had a health and safety induction course.*
- * *All personnel working on the site must read the risk assessments to all tasks and tools. Members of the public coming onto the site must be made aware of any risks pertaining to them.*
- * *Only trained personnel should operate machinery. Many insurance providers insist on some kind of certified training to minimise risks.*
- * *Site layout and design are integral to maintaining safe working conditions – slips and trips can be avoided by keeping a tidy and well-ordered site. Accidents could be minimised by creating a safe systems at work policy and ensuring all involved on site are made aware of it.*
- * *Never turn dry, musty compost. This is when bioaerosols are released in huge quantities – especially dangerous are the fungal spores, which cause "farmer's lung". Dry heaps do not compost well anyway, and this is why it is especially important to keep an eye on the moisture levels and keep them moist. It may be necessary to wear a dust mask or respirator while turning heaps.*
- * *Wear the appropriate clothing for the job – this is part of any machinery training, but even handling thorny branches requires proper protection. Eyes, hands and feet are especially vulnerable. Always wear stout gloves and boots as a minimum precaution.*
- * *Make sure anyone likely to lift heavy loads has had manual handling training.*
- * *Always wash your hands after a composting session – especially before eating.*

15.2 Health and safety policy

The following are typical items to be covered in a health and safety policy, but as each situation is different, it is essential to formulate your own. For

further information see the resources at the end of this chapter.

Collecting material

Use appropriate vehicles for collecting heavy organic wastes. Ensure a risk assessment is undertaken for each different type of vehicle and that the driver is made responsible for the vehicle, its load and passengers. High-visibility vests should be worn when working on kerbside collections.

Equipment and machinery

- * *Ensure everyone is properly trained in the safe use of tools and equipment. Those handling high-powered machines should undergo certified training, especially if they are to be responsible for other staff and volunteers.*
- * *Wear appropriate personal protective equipment – goggles, masks etc. When using machinery, a chainsaw helmet is the best form of protection as it covers all requirements. Goggles based on glasses are easily scratched, knocked off or lost. They also offer no protection to the rest of your face. Don't forget ear defenders when operating noisy equipment.*
- * *Ensure a cordoned off-area around the machine, with only trained staff in that area (follow the plan laid out in your safe systems at work policy). This will not be possible if you are*





15 Health and safety

shredding on the roadside, so ensure adequate look out for pedestrians or vehicles.

- * Ensure that only trained staff operate machinery, and that everyone operating or close to the machine has read the risk assessments for that machine.
- * Make sure at least two trained staff are using the machine at any time. No untrained persons should use the machinery. If you have untrained persons helping they could be employed sorting the green waste or dealing with the product. Most insurance providers will insist on certified training when using machinery.
- * Make sure the area immediately around the machine is clear of debris.

Supervision

- * Make sure there is a responsible person supervising at all times.
- * Effective communication between all people is essential. Shredding is a noisy activity; this, coupled with the fact that all operators should be wearing ear defenders, creates an environment where it is not easy to hear someone. All machines should be fitted with easily accessible stop buttons in case of emergencies and operators should, as part of the safe systems at work policy, have a system of hand signals that are easily understood.
- * Lack of enthusiasm and motivation means you are at a greater risk – the job must be made interesting.

First aid

- * All machine operators should undertake the four-day First Aid at Work certificate, and everyone else should undertake a one-day emergency aid certificate geared towards possible accidents using that type of machinery.
- * The first aid kit should be clearly labelled and signposted on site or in vehicles.
- * First Aid at Work Regulations for reporting and recording accidents should be followed.
- * A procedure in the event of an accident should be with the first aid kit, informing staff of who to call and location of the nearest hospital with an Accident and Emergency Department.
- * Operators should know where they are at all times (keep an A-Z in the vehicle if working off site) in order to be able to inform ambulances of their location over a mobile phone.

Vermin

- * Make sure materials coming in for composting are properly enclosed or stored on site;

- * Try to mix putrescible materials into your heaps as soon after they come on site as possible;
- * In-vessel composting is an option;
- * If you think you have a vermin problem employ a pest-control company and remove the vermin's food source.

Other issues

- * Safe lifting and turning;
- * Tetanus and Weils Disease;
- * Bioaerosols and leachate;
- * Public health considerations (e.g. advisory signs in areas open to the public);
- * Nails;
- * Poisonous plants.

15.3 Further information and advice

The Composting Association has published Health and safety at composting sites – a guide for site managers. This is aimed at operators of large centralised composting sites, but nonetheless provides a useful overview of the following composting health and safety issues, much of which may be of interest to the community composter:

- * Legal obligations;
- * Composting and bioaerosols;
- * COSHH Regulations 1994;
- * Personal protective equipment;
- * Health surveillance;
- * Consulting, informing and training employees;
- * The Management of Composting Facilities: Code of Good Practice.

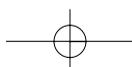
The guide is available priced £65 from The Composting Association. Tel: 0870 160 3270.

Health and safety enquiries

As a first port of call for health and safety enquiries, try the Health and Safety Executive (HSE). Telephone the HSE's information line on 0870 154 5500 or write to:

HSE Information Services,
Caerphilly Business Park,
Caerphilly,
CF13 3GG.
Fax: 029 2085 9260
Email: hseinfoservices@natbrit.com
Website, with listings for area offices:
www.hse.gov.uk.

An HSE leaflet is available, aimed at farms open to the public, but which has relevance for community composting projects.



Using and marketing compost 16

16.1 Marketing compost products

The first stage for any project wishing to market compost is sieving it. Finished compost will still have twigs and bits of wood in it and will be very clumpy. While this might be fine for a mulch-type product it will not realise the real value of the compost. Sieving the compost is almost magical, as suddenly something that looks grotty (to the uneducated) takes on a more uniform quality that will attract customers.

Promoting the project should include marketing your compost, and for a small project this may be enough. For many projects the “compost club”, where the providers of the waste material use the resulting compost, has been a sufficient market. However, with the changes to the Waste Management Licence, community composters can now look to actively market their product to bring in much-needed income. Thought needs to go into product development and marketing. Do you want to market to the public or to bulk-buying customers such as landscape gardeners and the various landscaping departments of the local authority?

To develop these markets, one of the first steps should be undertaking growth trials. For domestic customers, this could be demonstration borders in a publicly accessible space such as a community garden or the composting site itself. For bulk-buying customers, it is worth developing trials with landscape gardeners, plant nurseries and/or farmers. All of these will potentially have a need to purchase large amounts of compost and as such may be interested in starting off with some trials to see if they like the product. Each of these markets is slightly different and will require different things from the compost. A product may be right for one but not for the others. By entering into trials the project is building a relationship with the potential customer so that it can develop the product for them. Once the trials have worked they will hopefully be loyal customers who can develop joint publicity with the project.

16.2 Using compost products

Composting sites tend to produce a range of products, such as:

- * Fully mature and screened compost;
- * Unscreened compost;
- * Growbags;
- * Tailings (the reject materials from the screening process);
- * Fresh woodchip;
- * Part-rotted wood chip;
- * Leachate;
- * Plants grown in the compost.

Depending on the volumes of compost you are producing and the target for sales, it may be worth looking at compost standards and certification programmes. These include the BSI PAS 100 standard. With this you can either self certify your product or you can be certified by The Composting Association, which means you can use their accredited logo on all your product packaging. Other certification schemes include organic schemes such as the HDRA and the Soil Association. Organic status can be quite difficult for waste-derived composts to achieve, as there is no way to guarantee pesticide, herbicide and genetically modified organism content in waste plant material.

Fully mature and screened compost

This is the stuff to incorporate in your potting/seed mixes – you may want to re-sieve it through an even smaller mesh. Some hand-turned rotary sieves can be used as a mixing device as well if you block off some of the inside with plastic sheeting or something similar. You can load up your buckets of compost, leaf mould and river sand etc, turn the handle and it gets mixed up. You will have to repeat the operation to get it really well mixed. Another method is to use a clean cement mixer.

Fully mature compost can also be used neat as a potting mix (made from plant material – not kitchen waste or high-nitrogen material). You can also dig it in or use it as a mulch.

Compost mixtures

All kinds of compost mixtures can be made for plants. A low-nutrient mixture is needed for seed raising, and progressively stronger mixes for pricking out and growing on. Plants need a mixture that both holds water and allows drainage. Most of the materials for compost mixes can come from the garden, principally sieved compost, leaf mould and even molehills or good sieved soil (many growers steam sterilise soil for mixes to kill weed seeds; some even use the heat from the composting process to achieve the same end).

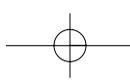
Recipes

Recipes don't have to be slavishly copied in cookery or gardening; the raw materials vary, for one thing. Use your senses, feel the mix, squeeze it, smell it, put some in a pot and water it, see what it does.

Seed compost – fine leaf mould with sand or vermiculite.

Pricking out – leaf mould, compost and sharp sand or vermiculite.

Potting – compost, soil and sharp sand.



16 Using and marketing compost

Unscreened compost

This can be used as mulch around all but the youngest and most tender plants.

Tailings

Tailings consist of sticks, clumps and stones. Most composters just put them around the cycle again. They add the right micro organisms and the sticks and clumps gradually decompose. Alternatively, they are fine for a rough mulch around trees and shrubs, or in the bottom of pots or tubs.

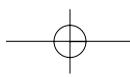
Woodchip

Fresh woodchips are useful where you want to discourage plant growth altogether. Fresh coniferous chippings can have high levels of terpenes – like raw turpentine, these can have a toxic effect on plants. For use as a mulch around plants it is much better to use composted woodchips, but even then be sure not to dig them into the soil as this causes what is known as “nitrogen robbery”, where the soil micro organisms use up all the available nitrogen in the soil in their efforts to further break down the wood chip, leaving none for your plants to use.

Leachate

Although better known as a problem pollutant if not contained, leachate from composting operations is great stuff. It's ideal to mix with woodchip to help balance up the carbon-nitrogen ratio. Applying it to the woodchips via a trickle system is best, as woodchips tend to be so free draining that applying it in large quantities will just result in a large run-off and very little soaked into the woodchips themselves.

Alternatively, it can be used as a compost tea: water it down by 10–100 parts of water to one of leachate, until it is a very weak tea colour. It can be used as a foliar feed for plants or as a drench around the roots (preferably test before use – it can be too acidic or strong). Wormeries give the best balanced compost tea.



Spreading the word 17

17.1 Promoting your enterprise

For a community composting scheme to work you need the goodwill of a lot of people: the volunteers on the management committee; donors of materials; officials who deal with licensing and other permits; those holding the purse strings for funding; the public and those who can sway public opinion and, not least, the respect and commitment of your workforce (paid or volunteer).

Positive publicity can be used to your advantage to gain support in many areas. Hopefully, once you have people on your side, you will soon find that you have enough workers for your scheme, funds coming in, plenty of composting material, sales for your product if you so desire, and little in the way of antagonism.

Attracting volunteers and members

If you are operating within an existing group there will already be a mechanism such as a newsletter to inform the membership about new developments. If the newsletter regularly promotes the work in a positive way, members of the group are more likely to come forward. Where you are starting from scratch, or need to attract new blood to an existing scheme, it will be necessary to reach the general public.

Options for reaching the public

- * Leaflets and fliers;
- * Posters and stickers;
- * Local newspaper;
- * Local radio and television;
- * Open days and other events;
- * Community internet sites or forums;
- * Education initiatives in local schools;
- * Presentations to local interest groups;
- * Canvassing/door knocking.

Using a combination of different methods reaches a wider range of people. Don't forget, the community grapevine is a powerful tool and can work for you if you are in touch with the right community members.

Counteracting negative publicity

In general people are less likely to complain about a scheme that is popular; however, it's well known that bad news travels ten times faster than good! There are bound to be concerns raised and complaints made so it makes sense to establish a system in anticipation of these. Complaints, real or imagined, should be dealt with swiftly before they have the chance to develop into an intractable problem.

People should know whom to contact in the event of a complaint. That person should adopt an

open and straightforward attitude towards the complainant and explain any reasons for the problem. This is a very personal sort of public relations exercise, but it can be a useful tool to aid the smooth running of your enterprise. A reputation for dealing promptly with complaints can also be useful in the promotion of your operation. Even though you may have a designated trouble-shooter for complaints, those in the first line of fire for complaints are the workforce and/or volunteers. So it is very important that they feel good about the organisation they are working for, because they are its best advocates when dealing with the general public.

There are two likely sources of complaint, official sources such as the Environment Agency, and the general public. The chances of such problems occurring can be reduced by seeking advice from the relevant officials and/or the CCN and by advance planning. Making sure you act within any licence restrictions, adhere to health and safety guidelines and are adequately insured will minimise the risk of official complaints.

Complaints from the public could be about noise, pollution (which may involve the Environment Agency) and quality of the compost or availability. Problems such as dust, noise, exhaust fumes or smell can be minimised by careful siting of operations. Some queries such as those about smells, diseases or vermin may simply be expressions of concern rather than a response to an actual problem. In such cases, questioners will need to be informed of the relevant facts in a friendly but not patronising way. If the same concerns are brought up frequently, it would be a good idea to address them in a newsletter or leaflet for public distribution, for example at open days or on the collection round. If they persist despite there not being a tangible problem call an open meeting on your site so that people can see for themselves or best of all pre-empt this by having an open day.

17.2 Running open days

As long as your site is able to accommodate the public, an open day is a good public relations exercise. If it isn't, there may be alternative venues for an event.

Samples of the finished product should be displayed. Preferably show a variety – for instance, your unsieved soil conditioner and some sieved product, as well as composted wood chippings for mulch, leaf mould and a potting mixture (with the recipe shown). A mock up of how they are used – plants growing in your compost, a



17 Spreading the word

mulch spread around plants – makes a very persuasive visual argument.

Planning

It's always better to plan well in advance, so you can promote it via other organisations – monthly newsletters often go to press almost a month ahead of publication, so you might easily need two months lead time.

Decide the main reason for having the event – is it to get more households in your collection round, find volunteers, sell compost, promote home composting, celebrate your first year, etc? Then plan the event and PR around that objective, rather than vaguely doing it for publicity.

2–3 months before event - Committee decides on an objective and agrees to hold an event or open day. Decide on scale and timing of event. Make plan and agree responsibilities.

1–2 months before event - Arrange PR, advertising, corporate sponsorship, prizes as appropriate. Pencil in volunteers.

1 month before event - Prepare final plans, handouts, competition, prizes, volunteer rota.

1 week before event - Check equipment, displays, signs, tidy site, health and safety, ring volunteers (again), compost.

Public relations

- * It can be worthwhile finding someone not directly involved with your group to look after your PR. As well as the obvious – local press and local radio there are hosts of other organisations that are often only too keen to support environmental activities, such as church magazines etc. Most of them use electronic copy. Keep a record of their copy dates.
- * Remember that a good photo will give you a far greater chance of getting your story published, and the readers are more likely to remember the story if there is a picture.
- * Try and think of a memorable angle to promote – the biggest compost heap in the village, the hottest place in town, a best and worst compost competition. The sillier the better.

The event

- * Have a reception point where you can give out handouts, and briefly explain what is going on.
- * If you have a free raffle (for a home composting bin donated by your local

authority for example) you can use the entry form to collect names and addresses and information about householders composting habits/whether they would use your facilities/buy your compost etc. If appropriate, ask if they want to go on a mailing list (free if email, probably for a fee if you have to print and post).

- * Offer them a sample of compost to take home (when they have registered).
- * Decide if you are going to take people round in groups, or will be letting them wander around to manned stations.
- * Make sure there are plenty of samples on view. Show finished compost first, and show compost at different stages, as well as your raw materials.
- * If you can show plants growing in your compost mixture, it completes the circle convincingly.
- * Don't forget if you are only composting green waste to point out and encourage people to begin or continue composting kitchen waste at home.

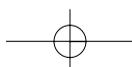
Health and safety

Remember that if the public are coming on your site, that includes toddlers, inquisitive children, the elderly and the infirm. Look around your site with them in mind and identify possible problems:

- * Tools and chemicals locked up;
- * Machinery if operating, manned at all times, or reliably disabled;
- * Clear signs, indicating No-go areas (remember toddlers and some adults can't or don't read);
- * Toilets if none, best to put up a sign to say so and maybe come to an arrangement with the local pub or library;
- * Mark trip hazards, such as cables and hoses on the ground.

Afterwards

- * It's often hard to keep up the momentum, but it is worth sending a press release to your local paper, even if it's only a two-liner with a photo "Highly successful Open Day etc... photo shows the Splogg family testing compost". Remember to include your contact details.
- * Keep a brief record of the number of attendees, a register of volunteer time, what went well and any mistakes; it will be invaluable when planning the next event.



Spreading the word 17

17.3 Running training events

Running a training event is very much like an open day with many of the same items and issues that need attention.

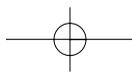
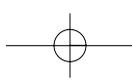
In addition

- * *As in any (adult) teaching situation, try to avoid the teacher/pupil syndrome. Ask them questions, find out their background and which areas they want to know about. You still want to cover all the ground, but can vary the detail to suit the group. If you omit anything, you can be certain someone will ask it as a question later, or you can tack the extra information onto an answer.*
- * *Make sure the start time is clearly indicated. Best to start with coffee so stragglers don't upset proceedings. Indicate eating and drinking arrangements, and where toilets, fire escapes etc are.*
- * *If the event is primarily outdoors, advise on clothing and footwear ahead of the event*
- * *Specify a rough programme in advance, even if you change it, but stick to the finishing time.*
- * *On the day, if timings have changed, try to give announcements and an update sheet. Keep to time.*
- * *Printed notes are useful, but if it is a hands-on event, don't spend a lot of time giving PowerPoint presentations.*
- * *Try to have some sort of contingency plan for foul weather, even if you have specified the event is on whatever the weather.*
- * *Make sure there is plenty of time for networking and questions.*
- * *Feedback from the event is always useful – usually by using a feedback form. Alternatively, you could try getting verbal feedback at the end by asking how the event could be improved.*

17.4 Passing on your knowledge

Once you become a community composter you will almost inevitably be called upon to share your composting expertise. One of the problems here is that there is such a wealth of composting information, much of it conflicting. How do you chart a course through this potential minefield? First by personal experience of course, but also by talking to other composters and reading some of the best books on the subject. Nearly everyone has an idea that there is something or other that you just can't compost, whether that is rhubarb leaves, grass cuttings or tea bags. If you are not certain of the answer to a query, say so, and take a contact so you can reply when you have found out. Build up your own resources, starting with this guidebook. The ring-binder format was chosen so that it could be added to and updated, by yourself and CCN.





Keeping volunteers 18

18.1 Volunteer numbers

When a project starts, there is usually a good core of volunteers. The important thing is to nurture them, and always keep looking for more volunteers, remembering there is always “wastage” of people to new jobs, moving away or ill-health.

Inevitably for some projects, the lack of volunteers is the main problem, and the same few people end up doing all the work and it becomes



too much like hard work for little return. Maybe it's time to look at the possibility of employing someone part-time – a few hours a week could make all the difference (see section 2.8 Volunteers or paid workers?).

If you are a project with paid workers and have volunteers joining in, make them feel welcome and part of the team. Just because they are free does not mean they are cheap; you are very lucky to have them.

18.2 Keeping volunteers

Look after your volunteers:

- * *Make sure they are properly briefed and therefore able to give out correct information;*
- * *Check they have suitable protective gear for job in hand – gloves, goggles etc;*
- * *Ensure everyone knows who is in charge for a given activity;*
- * *Keep health and safety issues up-front – washing hands before eating is crucial;*
- * *Provide drinks (and lunch if the budget allows);*

- * *Make sure you have a system for claiming expenses, and tell everyone their entitlement. Many will not claim, but it is important that those who want to can easily do so.*

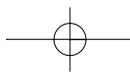
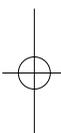
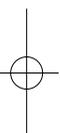
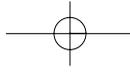
Most volunteers get a buzz from the composting activity, but it's good to offer bags of compost or firewood in return for their time. One group offers volunteers the loan of a domestic shredder pro-rata for the time they put in.

18.3 Flexibility

Another way to keep volunteers is to look at additional ways to generate income and allow them to keep a percentage of the materials. To avoid misunderstandings and ensure fairness make sure this sort of arrangement is clearly defined and agreed in committee first and then clearly explained to everyone.

Such an additional activity may be:

- * *Sorting woody material into bean poles, pea sticks or sawing up for firewood;*
- * *Dividing/propagating plants from plants bought in for composting;*
- * *Growing plants for sale, using compost produced on site;*
- * *Building compost enclosures from pallets for sale.*



Social inclusion 19

19.1 Personal comment on working with people with learning difficulties

by Alistair Simmons, Compost Project Officer, Piccadilly Garden, Lancaster.

Piccadilly Garden is a local charity and training organisation in Lancashire, providing training and work-experience for disadvantaged groups, mostly adults with learning difficulties.

The community composting project has been running since 2000, recycling about two tonnes of garden waste a week.

These are my personal experiences from running the group for the last three years.

- * *Clients/service users generally enjoy repetitive manual work. But always add variety to the work. Fortunately composting consists of a variety of physical tasks.*
- * *They enjoy being part of a team where they can see the end result.*
- * *Explain as much as possible what's going on in the composting process. Why sieve, why chip, why turn etc?*
- * *Be aware of the language you use in explaining tasks that need doing.*
- * *Be as clear and precise as possible in giving instructions.*
- * *Be very aware of a client's initial fears and apprehensions regarding the use of power machinery.*
- * *Go over health and safety many times. Explain clearly about safety switches, personal protective equipment, etc.*
- * *Best to work in small groups, work with and alongside them.*
- * *Supervise each client as an individual, with individual abilities.*
- * *Get out in the community as much as possible, talking to customers on collection rounds etc.*
- * *Let them show initiative and come to their own decisions.*
- * *Remember every person, including us, is an individual with individual strengths and weakness, individual needs and abilities.*
- * *See the individual, you'll soon find a strong personality.*
- * *Be yourself, don't put on an act (it will show).*
- * *Give clients space if they need it; if they are feeling stressed, anxious or angry etc (like we all do at times).*

19.2 What is meant by social inclusion?

Most of us have no problem understanding everyday things and manage to get on with our lives, live happily in our community and get treated

with dignity and respect. We are all different however – many people living in the community have problems with communication, learning and socialising with other people. Sometimes these difficulties are small and sometimes they can be very complex and require a lot of support to help them to live normal lives.

People like this who need help to live their lives used to be classified as having “special needs”. The world is changing, however, and people who have difficulties with communication, learning and socialising no longer just include those with a disability. People from different social backgrounds, who come from another country where English is not a first language, have a drug dependency, have a learning disability or have a mental health problem might all need support to communicate, learn and socialise because of a difficulty which the majority of people in society do not have.

The majority of people who require more support to communicate and learn have a learning disability.

19.3 Social inclusion

People with learning disabilities are one of the most vulnerable groups in society, and the government is committed to improving their life chances. The Department of Health has worked with several other government departments on a white paper designed to improve support for people with learning disabilities and their families.

The white paper “Valuing people: a new strategy for learning disability for the 21st century” was published on 20 March 2001. It is the first white paper on learning disability for thirty years and sets out an ambitious and challenging programme of action for improving services.

The proposals in the white paper are based on four key principles: civil rights, independence, choice and inclusion. Valuing people takes a life-long approach, beginning with an integrated approach to services

Service users at Piccadilly gardens with Rotary Sieve





19 Social inclusion

for disabled children and their families and then providing new opportunities for a full and purposeful adult life. It has cross-government backing and its proposals are intended to result in improvements in education, social services, health, employment, housing and support for people with learning disabilities and their families and carers.

“People with learning disabilities can lead full and rewarding lives as many already do. But others find themselves pushed to the margins of our society. And almost all encounter prejudice, bullying, insensitive treatment and discrimination at some time in their lives.

“We have to change this situation if we are to achieve our goal of a modern society in which everyone is valued and has the chance to play their full part. There has been progress often through the efforts of families, voluntary organisations and people with learning disabilities themselves. But a great deal more needs to be done.” Tony Blair, Learning Disability Strategy ‘Valuing People’.

Most of us enjoy being able to make choices, do the things we want, be on our own if we like, have friends and relationships, get a job, have a family and lots more. These things are a big part of being respected and valued in the community, we take them all for granted yet vulnerable people and people who have a learning difficulty miss out on these things because the support may not be there to help them.

19.4 Horticultural therapy

Horticultural therapy is seen by many as a specific kind of occupational therapy, with additional benefits because it involves people in natural environments and processes.

A definition of occupational therapy:

“Occupational therapy is the treatment of physical and psychiatric conditions through specific activities in order to help people reach their maximum level of function and independence in all aspects of daily life.” World Federation of Occupational Therapy.

Thrive is a national organisation promoting horticultural therapy and offering professional development and qualifications in the field, (see the resources section for contact details).

Some benefits to be found in horticultural therapy:

- * *Rehabilitation, acceptance and social inclusion;*
- * *Positive group interaction and dynamics;*
- * *Employment;*
- * *Skills development;*
- * *Social interaction and esteem building;*
- * *Attention restoration;*
- * *Recovery from stress;*
- * *Nature appreciation and learning opportunities;*

- * *Physical activity and knock on effects to mental well-being;*
- * *Tranquillity, peace and spirituality;*
- * *Evolutionary psychological benefits from being in a natural environment.*

19.5 Employing people on benefits

If you are thinking of employing people with a disability there are organisations that can help.

Access to Work is a government organisation, that is part of Job Centre Plus. It can help with paid, part time, full time, permanent and temporary work. They have advisers and grants available to help organisations with the practicalities of employing a disabled person. This can mean communication tools, support workers to be there with the person at work, special equipment, alterations to premises, help with transport etc.

Your local Job Centre Plus is a good place to start for any advice about employing people with disabilities, where you can find out lots of information about Access to Work and other schemes.

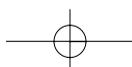
For people with learning disabilities, there is an organisation run by Mencap called Pathways in most areas of the country. This is a good place to go for help and advice as well.

For anyone on benefits who you are thinking of paying a wage to, it is essential that you support the person to contact their local Benefits Agency before you begin paying them. People can be paid what is called “therapeutic earnings” or a “disregard” without it affecting their benefits. This “Disregard” is not very much, but it is good if people can be paid something for the work they do (even if it just pays for transport to get there). Sometimes the Benefits Agency may write to the person employed on “Disregard” and ask them to prove their wages. Make sure all the people you employ get wage slips and say they must keep them somewhere safe at home. It’s always a good idea to keep a copy as well. The law about benefits and working is changing all the time. Pathways or your local Job Centre Plus should be able to help you with this.

19.6 Protecting vulnerable people

Ideally, everyone in your organisation who comes into contact with vulnerable people should be police checked, however this is expensive (and only shows cases proved, not alleged or acquitted or never taken to court in the first place), so many organisations opt for a percentage of their staff to be police checked.

The law is complicated on this matter and likely to change; what kind of organisation you are also has a bearing on what you are obliged to do under law. For help with this contact your local Voluntary Action group.



Appendix 1: Case Studies

Heeley City Farm

Started	1981
Background	Heeley City Farm is a community organisation creating economic opportunities for disadvantaged people in Sheffield. Having rescued two hectares of land, set aside for the construction of a dual carriageway, the organisation has transformed the area into green fields and gardens and built community facilities.
Type of organisation	Charity and company limited by guarantee. The objectives of the project are to confront and address poverty, inequality and lack of opportunity within the community by using a mini-farm to provide both a source of environmental work opportunities and a place where local communities can meet. The farm is a valuable local employer; most of the 50 staff live within a mile of the farm and many were previously unemployed or on training schemes at the farm.
Activities	<p>The range of activities at the farm are diverse, including animal husbandry, solar and renewable energy, youth work, training adults with learning disabilities, organic food growing, recycling and composting and outside catering. The farm has a peat-free garden centre, a recycling centre and a community café.</p> <p>Most activities are based at the farm's main headquarters in urban Sheffield; however, three new composting sites have been developed across the city and are leased from the council. The farm also undertakes horticultural training on a further three sites in the city.</p> <p>The composting facilities will process green waste diverted from the waste stream at the recycling centres across Sheffield. By operating a network of smallish sites we hope to reduce transport costs of hauling this low-value material across the city and, as these are smaller sites, they will also allow us to operate within the current waste management licence exemption.</p>
Site	Each site has a target of 400 tonnes per annum to recycle, but it is likely that some of the sites may be capable of exceeding this target, while others may fall short. Achieving this target will make a valuable contribution to Sheffield's recycling rate. Both the city council and waste contractors Onyx are part of the steering group for the project and monthly progress meetings are held.
Collection	Material for composting is delivered to the sites. This includes green waste from civic amenity sites in the city, contracts with the council's housing department and some private contracts with landscapers. We also undertake contract work on other sites, for example Meadowhall Shopping Centre, and some material is brought back to the composting sites.
Data	The material that comes onto the sites is carefully monitored, particularly that which comes from Onyx, as a payment is agreed on an amount per tonne basis; transfer notes are also required by the Environment Agency. Our shredding machine has the facility to weigh material as it is processed, giving a fairly accurate figure. Traceability of the material is necessary to help improve product quality.
Systems	<p>A windrow system is used, forming the shredded material into long piles measuring approximately 2.5m high and up to 3m wide at the base. All material is composted on an impermeable tarmac pad which drains into a lagoon; the run off collected is pumped back onto the heaps.</p> <p>Green waste is shredded by means of a tractor PTO-driven shredder – we use a SEKO SAM 4 machine, which is a shredder/mixer combination. We also use a second independent diesel engine shredder, a Caravaggio Bio 600D; this can take larger pieces</p>

Appendix 1: Case Studies

of wood but is a lot more labour intensive. Screening is carried out using a motorised screener; we use a SEKO SAM45/MD, which is quite a large machine.

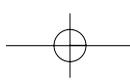
Although not used for the composting project, we also have a PCV that we use for collecting cardboard from local businesses; we used to use the machine for a kitchen waste collection.

- Funding** The organisation gets funding from a lot of sources, particularly training money from the Learning Skills Council. The composting project has been funded for 2003/04 through the DEFRA Waste Minimisation and Recycling Fund. Further funding is being sought to develop the project further, but contract income through gate fees to receive material and eventually sales will be essential to support this enterprise.
- Partnership work** Working in partnership with Sheffield Wildlife Trust, Sheffield City Council and Onyx Sheffield Ltd as part of the project steering group for the Dispersed Compost Network for Sheffield.
- Waste education work** We have regular visits to the farm from schools, some specifically to look at composting and recycling. We run home composting workshops, sell home composting bins and provide information for the public about all aspects of composting.
- Insurance** Currently, much of our equipment is insured through the council, as technically it owns all of the equipment purchased with the DEFRA grant. This means that our insurance has been covered in kind. Sites are covered as an extension to the farm's policy.
- Workforce** In total, the organisation employs 47 people, of whom three full-time staff are involved in composting.
- Licences** All sites are registered as exempt from a waste management licence with the Environment Agency.
- Products** The compost produced is currently being used for growing organic food and for potting on plants in the garden centre. When regulations allow, we hope to develop the sales of compost to the public, to local landscapers and back to various council departments.
- Training** We currently run accredited training in Horticulture, which includes units on composting, and are hoping to develop some accredited, stand-alone units in composting in the near future. We try to involve trainees at the farm in the composting activities where possible.
- Contact** Mark Baker, Compost Manager
Heeley City Farm
Richards Road, Sheffield S2 3DT
Tel: 0114 258 0482 Fax: 0114 255 1400
Email: recycling@heeleyfarm.org.uk
Internet: www.heeleyfarm.org.uk

Appendix 1: Case studies

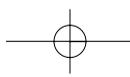
East London Community Recycling Project (ELCRP)

Started	Initiated by a group of six people with different backgrounds and skills in December 2000. Official launch July 2001.
Type of Organisation	Company limited by guarantee, any profits being re-invested in the company.
Activities	Green-waste composting. Food (catering waste including meat and fish) composting. Dry recyclables collected. Recycling shop.
Site	Green-waste composting facility on Hackney Marshes, a green-space amenity site. Two separate sites on the Nightingale Estate for food waste and dry recyclables. Near-entry site on Woodberry Estate used for central collection of dry recyclables collected by Ealing Community Transport (ECT), another larger social enterprise and community composter. Recycling shop on Nightingale Estate, selling anything that is reusable (including clothes, furniture, CDs and LPs and bric-a-brac) plus selling service for residents for a 10 per cent fee.
Collection	Collects from 574 households on Nightingale Estate and 1,000 on Woodberry Estate. Residents on both estates source separate dry recyclables into used carrier bags, which are emptied into collection containers by the collection teams. On the Nightingale Estate, food waste is collected into cornstarch plastic bags. The collection is staggered over two days between the two housing blocks to ensure a smooth feedstock flow for the Rocket System.
Data	Bathroom scales are used and recognised as valid by local authority (London Borough of Hackney) for data on diversion rates. This is checked by counting the number of collection containers (of known average weight). For food waste collection, the check is the output of the Rocket, which has a steady throughput of known volume.
Systems	Food waste is collected in containers using the Bokashi system (a fungi-based system that out-competes the usual putrefying bacteria to prevent bad smells and vermin problems) and then composted in accordance with ABPR regulations in a Rocket system followed by a second stage. Green waste is composted in short windrows or large heaps, contained by rigid metal mesh fences, on a large concrete pad laid over a large leachate and rainwater collection tank. Heaps are turned by hand and watered from the collection tank.
Funding	Initial ERDF funding supplemented by NOF SEED fund (now finished). A single dedicated SRB grant for Woodberry Estate. Diversion rate credits are paid retrospectively by the London Borough of Hackney. Sales of green waste mulch, leaf mould, woodchip and ericaceous mulch/woodchip to London Borough of Hackney, with which there is a contract to supply 8,000 tonnes.
Insurance	Standard insurance plus public liability.
Workforce	Paid staff, full time: Project Manager, General Manager, Finance and Human Resources Manager, Horticulturalist, Collection Team Supervisor. Paid part-time: Compost Manager, three-person Nightingale Estate Collection Team (two days), five-person Woodberry Collection Team (one morning). Voluntary: a three-person team from the Tenants' Association runs the Recycling shop.



Appendix 1: Case studies

Licences	Waste Licence Exemption. Currently going through ABPR approval process.
Products	Mulch: 60 tonnes. Leafmould: 100 tonnes. Woodchip: 100–200 tonnes. Ericeaous mulch/woodchip: from end of January for three months, in variable quantities. Logs: we found it was cheaper to give these away than paying to repair fences after people had helped themselves. Food-waste compost is currently stored for pathogen testing. After the system has been proved to comply with ABPR the plan is to use the compost to green the estates from which the food waste derived.
Training	Majority provided by project partners, Groundwork East London; in-house training on health and safety, Rocket and Bokashi systems for staff, volunteers and outside interested parties.
Getting the word out	To ensure smooth running of the projects and resident involvement, leafleting and open meetings inform residents and generate feedback, as well as word of mouth and being a constant presence on the estates they serve. Estate residents are among the workforce.
Biggest problem	Getting people to believe that the innovative techniques used would work and not cause more problems; this was overcome by demonstration of techniques.
Biggest success	Getting the CRED bid awarded, which guarantees employment for the next three years.
Contact	Contact details are available on the website: www.elcrp-recycling.com



Appendix 1: Case studies

Lochaber Environmental Group (LEG)

Started	1998
Type of organisation	Charity and company limited by guarantee. Kinlochleven Community Compost Scheme was set up and run as an independent site by a local group. LEG took over the management of the scheme in 2000.
Activities	A kerbside collection of garden waste is offered and until 2003 kitchen waste was also collected. Volunteers carry out regular work sessions. Extra volunteer sessions are organised when there is lots of bagging, riddling or chipping to be done. A small wormery was established in 2004. Open days and training sessions are run each year and Outward Bound students complete volunteer sessions. There is also a plant bank, where any plants and bulbs that come in for composting are planted. This botanic resource is added to or used by locals.
Site	The site serves a village of around 1,000 people. It has a receiving area for materials brought to the site and large area for storage of woody material before and after shredding. The compost worker and volunteers sort and move material into the compost bays. There are twenty 1m ³ wooden pallet bays and a small windrow, a variety of demonstration compost bins and tyre planters for comfrey. A small tool shed houses the hand tools and equipment and a wormery has been established in an adjacent garage with six wooden wormeries and three tyre wormeries.
Collection	A garden waste collection is offered on a weekly basis to around 85 households in the summer. Around 30 households use this. A Smart Cart barrow is used for the collection. The rest of the village brings material to the site and leaves it in the receiving bays.
Data	Material collected is weighed and the weight of brought material is estimated. These records are used for judging the diversion from landfill that is achieved by the site. This has been useful for funding applications and reports to the Highland Council. A temperature probe is used to record temperatures in selected heaps during the composting process.
Systems	Material is composted in a series of wooden pallet bays. Compost is turned and moved to the next bay in line on an irregular basis, dependant on temperature and available labour. Once ready, compost is sieved using a Devon rotary sieve.
Funding	Financial support for set up was received from Highland Environmental Network and Lochaber Health for All. Since 2000, LEG has secured funding from Robertson Trust, Scottish Co-op, Shell Better Britain Campaign, Waste Highland Action for Minimisation, Ernest Cook, Forward Scotland, Alcan, Scottish Natural Heritage, CCN and Entrust. It also has funding from the Esmée Fairbairn Trust to support a Compost Officer and in-kind support from Highland Council (use of shredder).
Insurance	Insurance for public and employer liability, personal accident and site and contents, provided by Keegan and Pennykid under its Voluntary Organisations Insurance Policy.
Workforce	One Compost Officer who manages the development of the site and funding. One worker (10 hours per week) who carries out the kerbside collection and organises sorting, shredding and riddling. Four regular volunteers (total 20 hours per month), plus extra volunteers and Outward Bound students.

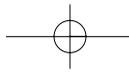
Appendix 1: Case studies

Licences	Planning permission was not required to set up site in 1998 and a waste licence exemption is held.
Products	The site composted three tonnes of kitchen waste and seven tonnes of garden waste in 2002/03. Compost is offered free to volunteers or to villagers for a small donation. Our compost won top price at the local agricultural show and recent analysis by Scottish Agricultural College described the compost as being an excellent soil improver and conditioner with useful amounts of nitrogen, phosphorus and potassium.
Training	The compost officer and compost worker train new volunteers on tool use and organise work tasks based on practical experience. Health and safety training and basic first aid training are offered to the Compost Officer and worker.
Getting the word out	A quarterly newsletter is distributed to the collection round and a members' newsletter to LEG members. Posters advertise volunteer sessions. The compost officer visits schools and community groups to promote composting. Articles in local newspapers and on the local radio keep the public aware of what the compost scheme and LEG are doing.
Biggest problem	Finding continued funding is an ongoing problem. The scheme is looking to become sustainable with potential income from the wormery. Giving up kitchen waste collection after changes to ABPR was a blow, and this has still not been overcome.
Biggest success	Making lots of compost and distributing it to the community, keeping going year after year and starting our new wormery. Our team has regular get togethers at the local brewery, whose spent hops are composted at our site.
Contact	Compost Officer Lochaber Environmental Group Dubh MacDonald Road Inverlochy Fort William Tel: 01397 700090

Appendix 1: Case studies

Kent Compost Advisers

Type of project	Promoting home composting by recruiting and training Compost Advisers throughout Kent to provide a network of support for the public. The project works in partnership with Kent County Council (KCC), which promotes and provides subsidised compost bins.
Structure	Part of BTCV Kent. One full-time Project Officer (currently Pauline Chamberlain), who recruits and supports Local Group Co-ordinators – approximately one per local authority area. They in turn recruit and support Compost Advisers – around ten per authority. Funding Kent County Council provided financial support in the first year development phase. In years two and three funding came from the Landfill Tax Credit Scheme, and a CRED application is in for the current year.
Activities	Giving compost advice to the public by phone, in person and via email. Demonstrating practical composting at allotment sites and in situ at homes. Attending events such as Kent County Show, gardening shows or fetes with a compost display and helping to promote the free-trial compost bins. Assisting at training sessions and workshops. Giving talks to groups such as Women's Institutes, residents' associations and other community groups. Attending local council meetings to encourage incentive schemes and use of the project. Top tips and Compost Doctor notes with expert advice. Teaching children in an interactive manner at schools and youth groups such as Scouts. Encouraging the start-up of community composting groups. Writing articles for newspapers and local parish magazines. Undertaking research (e.g. home composting behaviour and best use of materials).
Resources	Compost Advisers are provided with literature, an information directory and resources such as (free) mini bags of compost to give away, quiz sheets and materials for creative activity (mini-beast mobiles, decorating pots of compost/planting seeds). Display boards, a gazebo and a display compost bin are available for events. Help with press releases and contact with local radio and TV. A quarterly Newsletter – "Rotters Ramblings" – is produced for Compost Advisers, with useful tips, articles and information on events and further training. An annual get together to hear updates on the scheme and exchange experiences. BTCV provides an excellent communication network with councils, at both parish and local level, volunteer bureaux and other environmental organisations.
Training	Potential advisers receive an introductory training day before they are appointed and then have the opportunity to attend further courses as required. These are all provided free of charge, as is a composter and compost reference books. T-shirts are available for promotional events.
Successes and difficulties	The support and promotional activities of Compost Advisers has meant that compost bin sales have considerably exceeded estimates (23,000 in six months). Looking official, or as if you are trying to sell something, was found to be a turn-off for the public. Events where people were out to enjoy themselves, such as shows and fetes, tended to be better than shopping centres, where people were usually in a hurry. The best events were where a friendly, fun atmosphere was generated, helped by wearing Rotter t-shirts. Free raffles (for a composter, for example), free give aways (mini bags of compost),



Appendix 1: Case studies

quizzes – all help to get attention and ultimately get people composting.

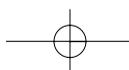
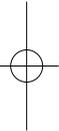
Some areas particularly successful in recruiting Compost Advisers – primarily down to the enthusiasm and time commitment of local Co-ordinators.

Standing back and waiting to be approached at events doesn't work. Advisers have to lose their inhibitions and approach everyone in sight, and soon achieve results.

Continual promotion is needed to ensure people know how to get help from a Compost Adviser when they need it.

Contact

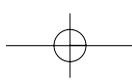
Fiona Houghton
BTCV Kent
Sidelands Farm
Wye
Ashford
Kent TN25 5DQ
Tel: 01233 812033



Appendix 1: Case studies

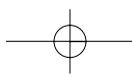
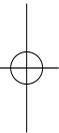
Wyecycle

Started	Started doing compost trials with the Wye Agricultural College in 1989.
Type of organisation	Not-for-profit company limited by guarantee.
Activities	Weekly kerbside collection of dry recyclables (clothes, scrap metal, batteries and light bulbs) and kitchen and garden organic material. Fortnightly collection of WEEE (Waste Electrical and Electronic Equipment) and HHW (Household Hazardous Waste) items. Furniture sales and pickup. Fortnightly farmers' market. Swap days, making biodiesel, Re-paint scheme and trade-waste service .
Site	Main site is the Old Brickworks, approx 4-5 acres, not open to the public, with the Greenhouse (furniture reuse store) in the village of Wye, open to public.
Collection	Collect from 1,000 households in two parishes (Wye and Brook), using a tractor for kitchen and garden (organic) waste (the tractor runs on red diesel). Tag system for garden waste, 25p per bundle/bag. Specially adapted trailer for kitchen waste tank system. Renault master vans running on biodiesel collect everything else. Householders source separate. Residuals are collected by Ashford Borough Council.
Data	Weightings of residual refuse have shown that average waste production is 250 kg per household per year; all the rest is collected by Wyecycle. Wyecycle bases quantities of what it collects on known volumes of collection vehicles and weights provided by its paper mill. Data are used for collection credits awarded by Kent County Council and collection and disposal credits from Ashford Borough Council.
Systems	Two parallel systems are used for kitchen waste: an in-vessel system of Wyecycle's own design (currently being put through an independent risk assessment process for ABPR compliance) and a Big Hanna in-vessel system. Windrows are used for green waste, built using a tractor and grab and bucket. The material is not chipped or shredded.
Funding	Internal funding: Wyecycle trading activity, tags for green waste. External funding: previous funding from Landfill Tax Credit Scheme; CRED funding for Zero Organic Waste Project; disposal and recycling credits. Other: in-kind incoming from probation service and volunteers.
Insurance	National Farmers' Union (vehicles); Sun Alliance (public and employees).
Workforce	Paid staff, full time: two Managing Directors, Waste-Minimisation Coordinator, Compost Manager, two drivers/operatives. Part time staff: one recycling operative with special needs; part time operative for peak days. Volunteers: work experience, college students and probation service.
Licences	Exemption licence, seeking ABPR compliance.
Products	Compost produced from green waste is sold back to villagers in 25kg bags with occasional bulk orders. Last year Wyecycle sold 125 tonnes of compost from garden waste. Visual and tactile assessment of quality. The 75 tonnes produced from kitchen waste is stored on site to be tested as part of ABPR compliance process.



Appendix 1: Case studies

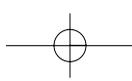
Training	Staff sent on courses as required. Two staff with first aid certification. Probation service volunteers provided with in-job training.
Getting the word out	Advertise at farmers' market, promotions during Compost Awareness Week (CAW), leaflets and letters. However, Wyecycle is a constant presence in the village and staff are known by residents on a first-name basis.
Biggest problem	Getting participation rates up, overcome by instantaneous response to any enquiries and working as an integral part of the community
Biggest success	Waste audit concluded 76 per cent of waste being collected, reducing quantity going to landfill from one tonne per household per year to 250 kg, celebrated by working harder.
Contact	Richard Boden, Giles Hart or Benji Donaldson Telephone: 01233 813298 Email: wyewaste@aol.com



Appendix 1: Case studies

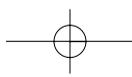
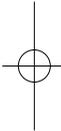
Proper Job

Started	1992, with the official launch in March 1993.
Type of organisation	Proper Job is a company limited by guarantee, a not-for-profit organisation. A committee of Directors shares overall legal and financial responsibility for the organisation. Proper Job is a co-operative organisation. Membership of the co-operative is open to anyone over 18 who supports its objectives. Each member is entitled to vote at general meetings. Directors are elected annually at these meetings. The constitution allows for up to 50 per cent of Directors to be employees.
Activities	<p>The establishment of a multi-purpose site, which serves as the focus for the existing work of the composting project, as well as the wider scope of proposed Proper Job activities (involving training in straw-bale building work, turf roof building, compost toilets and so on). Composting garden and kitchen waste, research on in-vessel technology and promotion of home composting.</p> <p>Other related research and development (R&D), including bio-diesel and using heat from the wood-chip pile for hot water.</p> <p>Reuse of wood, paint, building materials, furniture and bric-a-brac. Refurbishment of furniture and other items for resale and informal training days (saw and tool sharpening).</p> <p>Local organic food production, including training both formal and informal and R&D into compost usage – for seeds, potting, mulching on no-dig systems and for crop health</p> <p>Community café/wholefoods/fresh fruit and vegetables (locally sourced and supplemented from a local organic co-op).</p> <p>Local skill sharing and training opportunities.</p> <p>Job creation.</p>
Site	Approximately one third of an acre of industrial land, low-environmental-impact buildings including a straw-bale building, turf-roof building and a reuse shelter; also a poly-tunnel. The site operates as a bring centre for green waste and all of the above activities. Proper Job also operates occasional one-off collections (charged for) and plans to resume kitchen waste collection when legal compliance is sorted out.
Collection	All materials are brought to a bring site except for occasional one-off collections.
Data	Tonnages are monitored for recycling credits and records kept by issuing receipts for bags of compost.
Systems	Bays are turned by tractor, and the compost is sieved with a machine-powered rotary sieve.
Funding	Various funds have been used, especially when setting up, including European funding (ERDF) and several one-off project funds. However, the aim is to be free from funding. Devon County Council pays recycling credits, which is a form of core funding, and Devon authorities supply a mobile shredding service.
Insurance	Employers liability, plus equipment and third party.
Workforce	Regular paid staff: Part-time Co-ordinator, Admin Assistant, Special Projects Manager. Various casual staff and volunteers.
Licences	Waste licence exemption.
Products	Compost sold back to the community.



Appendix 1: Case studies

- Training** Have offered formal training (NVQ horticulture level 2) but stopped several years ago. Current training is mostly informal, with one-off special days.
- Getting the word out** No need. Word of mouth is enough and people seem to seek us out.
- Biggest problem** Since setting up as a community co-operative in 1995, Proper Job has undergone rapid growth and increasing recognition. Initially, because everyone was new to the job, there was a recurring need to review internal communication systems, division of work and directors' responsibilities. A lot of time had to be devoted to establishing a good co-operative working structure. The process was helped by setting up support groups attached to the different project activities. Proper Job members with specific relevant skills were invited to join these groups to help support the managers in steering the project development.
Finding a site was also a problem – we had to buy one.
- Biggest success** Getting initial grant from ERDF, RDF etc.
- Contact** Jo Hodges, Co-ordinator, Aaron Custance, Projects Manager
Tel: 01647 432 985.



Appendix 1: Case studies

Crest Co-operative

Started	March 2001
Type of Organisation	<p>Not-for-profit company, limited by guarantee.</p> <p>Crest Co-operative started life in June 1998 from a small office and workshop based in Rhyl, North Wales, to provide soft skills training opportunities to the most disadvantaged members of the community who were excluded from mainstream opportunities. At the time, the work-based training (Skills for Life) took place in a craft project and a metalwork shop, which, although worthwhile projects, had no future as sustainable enterprises.</p> <p>In March 2001, a new project was embarked upon, again delivering Skills for Life training, providing a free kerbside collection of green waste in the Llandudno area of the neighbouring county of Conwy (at the time far more receptive to community recycling initiatives than Denbighshire).</p> <p>In the first year of a very manual-type operation, the project composted about 190 tonnes of local garden waste, which was returned to the participating public free of charge. Based on the excellent support received in its first year, a plan was developed to turn the project into an income-generating and sustainable enterprise.</p> <p>In short, the enterprise now charges for the green waste collected via a label system, invoices the local authority for tonnages diverted from landfill and retails the final products (compost, soil conditioner and woody mulch) back into the community. Although not yet financially independent, the enterprise is gradually increasing its customer base for both the collection service (over 300 tonnes composted in 2003/04) and products, and a contract with the local authority to deliver a countywide bulky green waste service is imminent.</p>
Activities	<p>Crest Community Recycling continues to fulfil the original social aims of the company by providing a range of opportunities to disadvantaged members of the community. We continue to deliver Skills for Life training, a two-day-per-week work-based assessment course designed to improve the employment prospects of those with low self esteem or motivation.</p> <p>During the course of a year we provide numerous volunteering opportunities to students, part-time workers, the retired and many others.</p> <p>We have a contract with the Probation Service to provide placements for offenders in which to serve their community punishment orders (unemployed offenders are also given jobsearch support as part of the contract). A similar arrangement is currently being negotiated with the Youth Offending Team.</p> <p>Work experience opportunities are available for 14–16 year olds who have been excluded from mainstream education, as part of an initiative to equip them with some skills and work-based qualifications before entering the job market; the local Education Department pays for this provision.</p> <p>The Community Recycling enterprise is also an ILM and provides back-to-work opportunities to those who have been unemployed for more than six months. The enterprise has five places available at any one time, each for a maximum of 12 weeks. The places are full time posts with intensive job coaching and jobsearch built into the working week. Participants enjoy all the benefits of being an employee and stand an excellent chance of securing full employment after participating in the programme.</p> <p>Each of the opportunities mentioned above is also available at our other enterprises. Against the Grain is a wood reclamation and reuse enterprise that collects timber from construction sites (a service for which they pay) and then sells the timber to the public for DIY projects or firewood. Some of the wood, if suitable, is shredded for composting.</p> <p>Trash and Carry is a community scrap store. Manufacturing business waste that is suitable for use in art and craft projects is collected and displayed in the scrap store, which is accessed by community groups and schools by way of an annual subscription.</p>

Appendix 1: Case studies

The scrap store also has a low-cost art and craft materials shop to provide the finishing touches to any project.

As a company, Crest Co-operative offers a consultancy service to other social enterprise groups as well as working closely with the local authority to promote home composting together with a countywide recycling strategy.

Site

The composting site covers an area of 2,500m². There is no hard standing, although a hard-core vehicle access runs the length of the site. The site is monitored by the Environment Agency and the local authority on an annual basis, and in three years no problems have arisen. The site also accommodates a recently completed boardwalk project complete with landscaping that will be used as an educational facility by the community and local school groups coming to learn about composting. This project was funded using Landfill Tax Credits. There are also two poly-tunnels and some growing beds, which are used by local retired people who have no gardens to grow fruit and vegetables as part of a joint project between Crest Co-operative and Barclays Bank.

Collection

Green waste is collected by the enterprise team in one of two ways. Crest operates six scheduled collection routes in the Llandudno area. Each route is visited on a fortnightly basis; three of these routes are well established and the others are being developed. The imminent launch of the authority's kerbside recycling programme and the impending ban on garden waste in bins should help our cause considerably, especially as the authority will be promoting Crest as the alternative. Current participation in the kerbside service is around 500 households, but there are many more people using us for special collections. During the time that we offered the service for free we were collecting from over 600 houses regularly, with many more wishing to join from across the county

Crest has also been offering a special collection service since the enterprise began, and this activity has proved to be popular, particularly as it extends outside of the areas covered by the scheduled service. Charges are set to be competitive with local skip companies and, as mentioned earlier, a plan to provide a service county wide on behalf of the local authority should prove lucrative.

We use a crew-cab transit tipper converted to run on unleaded or LPG, but the LPG system has been nothing but bother since being installed (a real problem when you have scheduled routes to service and only one vehicle at your disposal). The vehicle has a custom-built cage on the back with a capacity of 10m².

All of the green waste we collect on scheduled collections is bagged, mostly in bin bags, but we have been selling a reusable box bag, which is emptied into the vehicle and returned to the customer.

Data

From the very first collections in 2001 we have been collecting data to enable us to provide a more efficient service and to generate income.

Tonnages of green waste collected are recorded and used primarily to invoice the local authority for recycling payments. A mechanism for measuring the amount collected was agreed the very first week (one cage full of green waste = 1.75 tonnes); as the vehicle capacity is finite we are able to accurately maintain this data.

Recording the amounts of material being collected from each type of household has allowed us to plan future routes more effectively to ensure that we are able to collect all materials on the scheduled collection day. This information has also been fed back to the local authority to use when planning its recycling strategy for the county.

Currently we are closely monitoring special collections countywide in order that we can quantify our vehicle and staffing requirements with regard to delivering the service on behalf of the local authority.

All data is gathered by the Community Recycling Supervisor, recorded daily and forwarded to the administration department and management team at the end of each month.

Appendix 1: Case studies

- Systems** All green waste collected is put through our trailer-mounted shredder (MV Cobra), which utilises a 60hp Iveco diesel power unit and can shred green waste up to 200mm in diameter and up to a rate of 25m³ per hour.
- We operate a windrow system. Each heap is approximately 3m high, 3m wide and 6m long. The heaps are turned every two weeks by our JCB 3CX, which has proved to be highly versatile with its four-way bucket and back hoe.
- Once the compost has matured it is put through a trailer-mounted mechanical screener (Farwick Euroscreen) and can be produced in either 10mm or 15mm grades.
- The screened compost is then bagged manually (a bagging hopper is currently being designed and constructed by a local engineer) into 20 or 40 litre bags, which are then heat sealed and stacked onto pallets ready for retail.
- Funding** The Community Recycling enterprise has received funding from numerous sources: three-year grants from ENFYS and Cleanstream and Waste Strategy grants from the local authority, together with some capital investment from the Welsh Development Agency, have helped to put in place the equipment and infrastructure.
- Income is generated through the label sales for kerbside collection, bags sales, special collections, recycling payments and sales of the produce. Our business plan states that we need to be collecting regularly from 2,200 households and selling all the compost produced to be breaking even, something that we are sure is achievable once the local authority refuses to collect green waste as part of its service.
- Insurance** Public liability (£10 million); employer's liability (£1 million).
Vehicle and equipment insurance is arranged through our business broker.
- Workforce** The current operation employs two permanent full-time members of staff on site with five additional ILM places (one of which is administrative support) and up to five volunteers, offenders or trainees.
- A full-time Community Environment Officer is also employed to promote the service and market the produce. One third of management and admin resources are also allocated to the Community Recycling enterprise.
- In all, Crest Co-operative employs 30 core staff and provides opportunities for 100+ people per annum.
- Licences** The Community Recycling site is exempt from Environment Agency waste management/carrier's licensing.
- Products** Work is currently being undertaken to accurately record volumes of produce (compost and woody mulch), as in the past this has not happened.
- We do not, at the moment, provide any analysis information for our product, although this work is currently being undertaken by a volunteer (a retired Professor of Horticulture) and Bangor University. This element of the operation is crucial if we are to break into the mainstream outlets with our product, as potential customers are requiring this information before stocking our product. On the plus side, people who have purchased from us have been very happy with the product and have returned for more.
- We are aiming to maximise income from our products and are therefore prepared to respond to customer requirements and not continue to push a product they are not prepared to buy.
- Training** All staff are encouraged to pursue any training that will enable them to more effectively fulfil and further develop their roles. As an Investor in People, we are committed to the development of our staff, trainees and volunteers alike.
- We are an accredited training organisation and deliver OCN units relevant to the work opportunities we provide at the Community Recycling site.

Appendix 1: Case studies

Marketing and PR Drip feeding stories into the local press helps to maintain our profile in the community. In addition, we use selective advertising and produce a quarterly newsletter, which is our most effective marketing tool by far.

We also employ a Community Link Officer, whose role is to attend exhibitions, fetes, fun days and festivals as well as delivering talks and presentations to interested groups. This post is funded by the Lottery and has proved to be hugely successful.

Biggest problem Generating enough earned income to achieve financial sustainability. We haven't solved this problem – yet.

Biggest success Winning the Daily Post Community Business of the year 2003, being listed as the 34th fastest growing business in Wales and achieving Investors in People all in the same month.

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Conwy
LL31 9SF
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Email: jaymartinis@hotmail.com

Appendix 2: Useful organisations

Organisations

Community Composting Network (CCN)

CCN's office (a lurid green Portacabin) is at Heeley City Farm in Sheffield. A management committee oversees the work of the CCN, which is constituted as a not-for-profit company limited by guarantee.
67 Alexandra Road
Sheffield S2 3EE
Tel: 0114 258 0483 and 0114 255 3720
Email: info@communitycompost.org.uk
www.communitycompost.org

Federation of City Farms and Community Gardens

The GreenHouse, Hereford Street
Bristol BS3 4NA
Tel: 0117 923 1800
Fax: 0117 923 1900
Email: admin@farmgarden.org.uk
www.farmgarden.org.uk

Henry Doubleday Research Association (HDRA)

HDRA is Europe's largest organic membership organisation and is dedicated to researching and promoting organic gardening and food.
Ryton Organic Gardens
Coventry CV8 3LG
Tel: 024 7630 3517
Fax: 024 7663 9229
Email: enquiry@hdra.org.uk
www.hdra.org.uk

Centre for Alternative Technology (CAT)

CAT researches, promotes, and demonstrates globally sustainable, ecologically sound technologies and ways of life. Key areas of work are renewable energy, environmental building, energy efficiency, composting, organic growing and alternative sewage systems.
Centre for Alternative Technology
Machynlleth
Powys SY20 9AZ
Tel: 01654 705950
Fax: 01654 702782
www.cat.org.uk

The Composting Association (TCA)

Represents the interests of compost companies at a national and international level. Runs the annual Compost Awareness Week. Established and monitors the national compost certification standards.
Avon House, Tithe Barn Rd, Wellingborough
Northants NN8 1DE
Tel: 01933 227 777
email: info@compost.org.uk
www.compost.co.uk

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BTCV (British Trust for Conservation Volunteers)

Many community composting groups are associated members of BTCV. BTCV has a network of local staff who can provide help and advice. It has a good group insurance policy, which provides cover for all volunteers in a group. It runs training courses and have a quarterly magazine, *Conserver*, and numerous useful guides and leaflets – Organising a group, Health and safety, Risk assessment etc.

Community Unit, Conservation Centre

Balby Road, Balby

Doncaster DN4 0RH

Tel: 01302 572200

www.btcv.org

Thrive

Thrive is a national charity that uses gardening and horticulture to enable disadvantaged disabled and older people to participate fully in the social and economic life of the community.

Geoffrey Udall Centre, Beech Hill

Reading RG7 2AT

Tel: 0118 988 5688

Email: info@thrive.org.uk

www.thrive.org.uk

Community Recycling Network UK (CRN UK)

The Community Recycling Network is a membership organisation promoting community-based sustainable waste management as a practical and effective way of tackling the UK 's growing waste problem. Contact them for the Measure your Treasure pack.

Trelawney House, Surrey Street

Bristol BS2 8PS

Tel: 0117 9420142

Fax: 0117 9080225

Email: info@crn.org.uk

www.crn.org.uk

On-Farm Composting Network

A CCN member based at Harper Adams University College. Promotes on-farm composting at a national level, highlighting the social, economic and environmental benefits of making and using compost on farms, by providing training, support and guidance and conducting research on processes and products.

Tel: 01952 815335

Email: info@farmcompost.com

www.farmcompost.com

Websites

For current links to relevant websites, see:

www.communitycompost.org/links

Equipment

If you are a member of CCN there is a members' forum area where members can post details and experiences of the machinery they use and those considering buying can read the experiences of others before they decide what to buy.

There is also a market place under the info section of the website, which has both new and second-hand items.