

Miní WASTE



Miniwaste Guide

Defining, implementing and assessing bio waste prevention actions in European territories

www.miniwaste.eu



With the financial support
of the European Commission





INTRODUCTION:

This guide has been developed as part of the **Miniwaste** project which aims to help local and regional authorities throughout Europe to deploy and assess bio waste reduction actions within their territory in a qualitative and quantitative manner.

Construction of this document relies on the experience gained and the tools developed by the project's partners: **Rennes Métropole** (urban community), **Town of Brno** (Czech Republic), **Lipor** (waste management department for the Porto metropolitan area), **ACR+** (Association of Cities and Regions involved in the sustainable management of resources) and **Irstea** (Research Institute for Environmental and Agricultural Science and Technology).

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What is the Miniwaste project?

As part of the Miniwaste project, three local authorities from France, Portugal and the Czech Republic have joined a European network of towns and regions and a research centre in order to identify the best solutions to develop for reducing their organic waste production through limiting food waste, promoting individual and shared composting and by developing adapted tools for assessment and implementation.

The aim of this three year (2010-2012) project is to show that it is possible to significantly reduce the quantity of organic waste at source in a controlled and sustainable way, as well as to effectively ensure the assessment of waste reduction actions.



LIFE+

Miniwaste benefits from the LIFE+ co-financing programme from the EU. The total budget for the project is 2,289,402 € with a contribution of 1,126,626 € from the EU.

LIFE is the European Union's financing instrument for supporting environmental projects inside and outside of the EU.

The programme was started in 1992 in order to aid the implementation and development of European policy and law on environmental issues by co-financing pilot or demonstration projects that have European added value.

AIMS

The first objective was to implement demonstration projects in Rennes Métropole (FR), Brno (CZ) and Lipor (PT). These demonstration actions address the prevention of organic waste and consist of promoting new behaviours such as composting by residents or public or private organisations, and the fight against food waste.

The demonstration projects operate on very different scales, from pilot actions (Brno) to large scale general actions (metropolitan Rennes, Lipor) which involve a large portion of the population.

The second objective is to develop a complete system of organic waste prevention for local and regional authorities which includes the following elements:

- Recommendations for European municipalities concerning the minimisation of organic waste,
- An inventory of European good practice for waste prevention issues.
- Scientific procedures ('protocols') that aim to assess the quantity of waste composted and the quality of compost produced.
- An IT tool that enables a diagnosis of the territory to be made and measures the effectiveness of bio waste prevention actions.

The third objective is to raise awareness of the project and its results among as large an audience as possible ('dissemination') and to advise European local and regional authorities confronted with the presence of large quantities of organic waste in their residual waste.

PARTNERS

The Miniwaste partnership is made up of three local authorities, a network of local and regional authorities and a research centre. As reflected by the diverse nature of European local authorities, the partners are very different, whether this is in regard to their size, geographic location or experience in the field of bio waste prevention.



Rennes Métropole (FR), project Leader

Rennes Métropole, which includes the town of Rennes and its surrounding urban areas, is responsible for managing the waste from the 38 communities in the conurbation.



ACR+ (Europe), Communication officer

ACR+ is a network of international local and regional authorities which promotes the sustainable consumption of resources and waste management using methods such as prevention at source, reuse and recycling.



LIPOR (PT)

LIPOR is the organisation responsible for managing municipal waste products in eight municipalities across the Porto region.



Brno (CZ)

The town of Brno is an autonomous territorial unit in the Czech Republic that manages waste for 29 districts.



Irstea (FR)

Irstea is a French national institute for research into environmental and agricultural science and technology.





I >> Glossary and abbreviations

I.1 GLOSSARY

- **Composting:** the transformation under controlled conditions of biodegradable materials in the presence of water and oxygen using micro-organisms. The resulting product is organic compost.
- **Mulching:** an operation that consists of covering the ground at the base of cultivated plants with plant material, while still allowing air and water to pass through. This practice protects the structure of the earth and limits water loss and the growth of weeds.
- **Individual composting:** the practice of composting individually in the home in one's garden or apartment.
- **Shared composting:** the practice of community composting by several households through the depositing of organic waste and the maintaining of a compost bin.
- **Composting in collective catering:** the composting of organic waste that results from the preparation of meals in the collective catering industry and/or leftovers from guests of the establishment.
- **Worm composting:** a method of breaking down organic waste using worms which produces two natural fertilizers: worm tea (or compost tea) and wormcompost.

• **Bio waste:** In household waste this is formed of kitchen waste (vegetable peelings and other food waste) and green garden waste (hedge trimmings, grass clippings, dead leaves, etc.).

• **Composting site officer:** the person at an apartment building or establishment site involved in providing information on overall conduct and on how to use the independent, shared composting system in operation.

• **Compost guide:** the ambassador for the prevention and correct management of household bio waste and the like. It may be a resident of the community that volunteers to carry out the task.

• **Master composter:** technical adviser and facilitator for the prevention and correct management of bio waste. They are employed by a relevant local authority to collect and/or treat waste, by a bridging organisation (association, company) or by a consultant specialising in the field.

• **Food waste:** products potentially intended as food for humans which are lost or discarded along the food chain (report by the FAO in 2011 'Global Food Losses and Food Waste').

I.2 ABBREVIATIONS

- **GRPAS:** Rennes Group for Pedagogy and Social Action



II >> What actions can be taken to reduce bio waste in european territories?

II.1 INDIVIDUAL COMPOSTING

This action aims to promote and develop composting practices for households residing in individual dwellings and who have a garden able to accommodate a composting system.

[» Access case file: INDIVIDUAL COMPOSTING](#)

Several detailed examples of domestic composting initiatives have been analysed in the Miniwaste [good practice](#) inventory, particularly in the regions of Piedmont (Italy), Kent (UK), Lípor (Portugal) and Chambery (France).

II.2 SHARED COMPOSTING AT NEIGHBOURHOOD AND HOUSING ESTATE LEVEL

This action aims to promote and develop shared composting practices for households residing in individual dwellings.

[» Access case file: SHARED COMPOSTING AT NEIGHBOURHOOD AND HOUSING ESTATE LEVEL](#)

II.3 SHARED COMPOSTING IN APPARTMENT BUILDINGS

This action aims to promote and develop shared composting practices for households residing in apartment buildings.

[» Access case file: SHARED COMPOSTING](#)

Several detailed examples of shared composting initiatives have been analysed in the Miniwaste [good practice](#) inventory, particularly in the regions of Flanders (Belgium), Zurich (Switzerland) and Freistadt (Austria).

II.4 WORMCOMPOSTING

This action aims to promote and develop composting practices for people living in buildings or houses that don't have anywhere available for individual domestic composting or have no green space or green spaces that are too small.

[» Access case file: WORMCOMPOSTING](#)

II.5 REDUCTION OF FOOD WASTE

This action aims to act on different links in the production and consumption chains for food products:



In 2010, the European Commission undertook a study into food waste in the 27 European countries. The total volume of food waste in Europe represented around 89 million tonnes, which equates to 179 kg per resident per year:

- households: 43% (76kg/resident/year)
- agro-food industry: 39% (70kg/ resident/year)
- distribution: 4% (8kg/ resident/year)
- non-domestic catering: 14% (25kg/ resident/year)

In order to reduce this waste, it is therefore possible to act upon the different links in this chain and target different audiences:

- Households

This action aims to promote and develop practices to limit waste within households.

[» Access case file: REDUCING FOOD WASTE IN HOUSEHOLDS](#)

A detailed case study on reducing food waste was analysed in the Miniwaste [good practice](#) inventory, namely a communication campaign carried out by WRAP in the UK.



- Collective catering establishments

As regards managed **collective catering**, it has been estimated that one meal (preparation and consumption) generates 150g of bio waste on average, consisting of 50g of peelings and preparation waste and **100g of leftovers** (within this 100g, an apparently marginal portion is made up of unavoidable waste such as bone, fruit stones, etc.).

This action aims to promote and develop practices to limit waste within collective catering establishments.

[**>> Access case file: REDUCING FOOD WASTE IN COLLECTIVE CATERING ESTABLISHMENTS**](#)

- Food stores

This action aims to promote and develop practices to limit waste within food stores.

[**>> Access case file: REDUCING FOOD WASTE IN FOOD STORES**](#)

II.6 RECYCLING AND THE REDUCTION OF GREEN WASTE

Sustainable gardening practices are methods that limit the production of waste products in gardens and green spaces and reuse these waste flows.

- promoting sustainable gardening among households

This action aims to promote and develop sustainable gardening practices that can be implemented within private gardens, shared gardens or allotments.

[**>> Access case file: PROMOTING SUSTAINABLE GARDENING AMONG HOUSEHOLDS**](#)

A detailed case study on preventing garden waste has been analysed in the Miniwaste **good practice** inventory, namely a ‘closed-loop gardening’ initiative run in Flanders (Belgium).

- draw on local stakeholders to relay local green waste prevention policy

This action aims to promote and develop different methods for local stakeholders in the region to participate in in order to relay information put forward by the local authority concerning the prevention of green waste.

[**>> Access case file: RELAYING INFORMATION PROVIDED BY LOCAL AUTHORITIES**](#)

II.7 ANIMAL FEED

Leftovers can be used to feed animals. Animals well-suited to this type of activity include chickens, rabbits, as well as bovine and porcine farm animals.

This action aims to promote and develop domestic management of food waste in individual dwellings using animal feed solutions in order to contribute towards reducing waste collections.

[**>> Access case file: ANIMAL FEED FROM KITCHEN WASTE**](#)

Animals can also consume **green waste** in place of using conventional equipment for mowing lawns or maintaining ditches. Animals well-suited to this type of activity include goats, sheep, donkeys and llamas.

This action aims to promote and develop domestic management of food waste using animal feed solutions in order to contribute towards reducing waste collections.

[**>> Access case file: ANIMAL FEED FROM GREEN WASTE**](#)

II.8 COMPOSTING IN COLLECTIVE CATERING

This action aims to promote and develop the practice of composting food waste resulting from the preparation of meals in collective catering environments (canteens, school meals, private restaurants) and/or leftover waste.

[**>> Access case file: COMPOSTING WASTE FROM COLLECTIVE CATERING ENVIRONMENTS \(SCHOOL CANTEENS, BARS, CAFES, CANTEENS, CATERERS, ETC.\)**](#)



III >> Factors for success

III.1 PARTNERSHIPS

The partnership is defined as an active association of different stakeholders who, while remaining autonomous, agree to pool their efforts with a view to achieving a common aim linked to a clearly identified problem or requirement in which, pursuant to their respective tasks, they hold an interest, a responsibility, a motivation, or even an obligation.

The domestic management of bio waste cannot be achieved without developing a close partnership with different regional actors such as associations, local authorities, public or private institutions and residents.

The European Miniwaste project enables links that can be developed between these different stakeholders to be identified and the roles of each party to be defined.

Associations represent significant partners, enabling information to be relayed to residents. These structures may already be in place and have a good knowledge of the territory. Associations working in the field concerned should be mobilized following the theme of waste prevention developed by the local authority such as composting, the fight against food waste, sustainable management of green waste, etc.

In the Rennes Métropole region, a certain number of partner associations, whose members are already aware of the subjects that interest us, are in place within the territory of 38 communities.

An example of the associations mobilised by Rennes Métropole:

- GRPAS in the fight against food waste (Rennes)
- 'Environmental' associations: associations subsidised by Rennes Métropole to acquire garden shredders or mulch mowers (Rennes)
- Association Rennaise des Centres Sociaux (Rennes Association of Social Centres): in the fight against food waste (Rennes)

Lipor has developed partnerships with different types of social and cultural associations in order to alert members and participants to the issues.

An example of associations mobilised by Lipor:

- Espaço Compasso Association – Association for cultural, arts and entertainment events (Porto)

Brno is cooperating with the Pensioners Club in Brno eb tín, along with the Mothers Club and Gardening Club. The Pensioners Club has collaborated on preparing green events. It has been very effective to associate the actions of this club with the project's green actions in order to raise awareness among a large part of the ebetíne population.

An example of associations mobilised by Brno:

- Pensioners Club – an association for pensioners that organises cultural activities
- Mothers Club
- Gardening Club

It is also important to develop the partnership with **local authorities**. In France, the Regional Council is an essential body in that it runs the region's Waste Prevention Plan. It represents a financial partner but it is also an indispensable asset in terms of linking up with a region-wide network.

In the case of an inter-communal structure such as Rennes Métropole, member town halls are important partners thanks to their knowledge of the region and the different stakeholders in place there (associations, institutions, etc.). They also have a close relationship with their constituents and as such are concerned in the same way by subjects that affect their environment and well-being.

Town halls can provide important support in terms of distributing information and setting an example environmentally. This is achieved by implementing practices in accordance with the actions led by the relevant inter-communal body. Finally, local government staff can be an important resource, particularly as far as the sustainable management of green waste at a local level is concerned.

In the municipalities of greater Porto, the local authorities are key partners. They allow access to social and technical information associated with their areas and enable contact with citizens to be promoted by organising specific actions within their areas (fairs, stands). Indeed, local promotion of the project is undertaken by the municipalities. In addition, the information also goes through local government agents



who can respond to questions from citizens. The link with these partners represents the basis for successfully promoting actions put forward by the relevant local authority regarding waste prevention that involves everyone.

In the case of Brno, good cooperation was developed with the administration in the Brno – Žebětín area.

Within the context of implementing composting systems at the bottom of residential blocks, the partnership with **building managers** (lessors and property management companies) is essential. Lessors and property management companies have excellent knowledge in the area concerned of the property stock in place and their residents. They are therefore in a position to direct the local authority towards sites that could potentially be equipped with compost areas. Some of them also have staff nearby who can be very important contacts on the ground. Others, via an internal newspaper, can also support the local authority in getting information across.

In the greater Porto area, in order to promote and implement community composting in apartment buildings, the involvement of businesses in charge of maintaining communal areas is also essential. Lipor made contact with businesses in order to present the project and the support they could provide. In some cases, a representative from one of these businesses is nominated to manage the communal composting site. The involvement of this type of partner is still done on a voluntary basis and has not been the subject of a written agreement.

The partnership with **public or private institutions** carrying out public service tasks is to be developed as part of targeted implementation actions for composting in collective catering environments. Public and private institutions also offer the opportunity to raise awareness among the young, elderly and disabled.

An example of public or private institutions involved as partners in the Rennes Métropole area:

- Secondary/grammar schools
- Retirement homes
- Outreach centres for the disabled
- Crèches

In Porto, the involvement of public or private institutions enables a large number of people to be informed via, for

example, the organising of conferences or practical courses for their employers or customers.

An example of public or private institutions involved as partners in the Lipor area:

- Universities that have organised training in composting for students
- Gardening centres and social centres that have implemented composting practices in their green spaces
- Shops
- Libraries
- The 'Cristal' and 'Les Amis' Restaurants.

An example of public or private institutions involved as partners in the Brno area:

- Žabka nursery school
- Žebětín primary school
- Pramínek primary and secondary schools

Finally, without doubt the most difficult partnerships to set up are those with **households**. Citizens who are informed about bio waste prevention practices become promoters of these good practices and can ensure their neighbours, friends and families receive any pertinent information. Over the short term, garnering the support of people already concerned with organic waste prevention policy such as composting guides or shared site composting officers is relatively easy. Nevertheless, one sociological study produced in Rennes Métropole as part of the Miniwaste project showed that local support is required for the full duration in order to maintain motivation over the long term.

In the Rennes Métropole area, mobilising control households over periods not exceeding 6 months proved to be possible. However, it is important to note that in these cases, people who applied were already aware of and motivated by the issues. Beyond 6 months it was very difficult to get to the end of the experiment with all of the people who started it.

An example of partnerships developed by Rennes Métropole with households:

- A network of composting guides and building officers
- Weighing bio waste in individual and collective dwellings
- Tests on three models of wormcomposter
- A network of composting guides

In the Porto region, participants show interest in joining specific initiatives. Nevertheless, a lot of information must be given to these people through training and follow-up in order to maintain their motivation to contribute actively.

An example of partnerships developed by Lipor with households:

- A trial of an electric composter model and a wormcomposter model
- Weighing bio waste
- A network of composting guides

In Brno, the aim was to mobilise citizens on an individual level and to develop the partnership between the town and its residents. Composters were distributed on the basis of an agreement between the town and households. The composters were free of charge but the agreement enabled future cooperation to be ensured (assessing compost quality, etc.).

An example of partnerships developed by Brno with households:

- Individual households
- Composting guides

In order to contractualize these different partnerships, Rennes Métropole drafted an agreement which defines the role of each party over the period of the Miniwaste project. Three types of agreement were signed in this way - with [communities](#), with [property managers](#) and with [public or private institutions](#) involved in public service missions.

Two charters were developed concerning the partnership with households: [the charter for participation in community composting](#) and [the charter for participation in individual composting](#).

Lipor developed a fact sheet that defines the [appointment](#) of composting guides and [regulations](#) for good conduct at community composting sites.

III.2 TARGETED COMMUNICATION

In order to raise awareness among the population and local involved parties, a communication plan should be defined. A [graphic charter](#) should be drawn up in a way that provides the project with an identity and enables it to be instantly recognisable.

However, care should also be taken with regard to the multiplicity of graphic charters and logos which can tend to overload the layout and leave less and less space for the content.

The tools created as part of the Miniwaste project took into account:

- The different target audiences identified across the conurbation
- The characteristics of the territory
- The actions to be promoted

The communication tools deployed as part of the Miniwaste project are as follows:

Miniwaste website ([RM](#)), website for the local waste prevention programme ([RM](#)), Facebook ([Lipor](#))

- Nowadays, developing a website or web pages in order to promote a project is essential for lots of reasons – visibility, accessibility without the constraints of time and space, etc.

- However, this type of communication tool demands the regular and frequent updating of content, reactivity, strictness and therefore requires lots of time! Being a webmaster is a job in its own right. The objectives must be in line with the resources available. The important question to consider is whether the communications officer has the time required to be a webmaster or whether it is preferable to out-source the writing and management of content. At Rennes Métropole, freelancers write content for the website (photos + articles) and the communications officer then puts it online.

- It is thus preferable, wherever possible, that the service provider assuring maintenance of the website manages content uploading also.

- composting guide network blog ([RM](#))



- e-marketing – regular distribution of information via email (Lipor)
- films about organic waste recovery ([RM](#))

As part of the Miniwaste project, Rennes Métropole produced two types of film:

- films for the **general public** which present a subject in a general way via three profiles in order to highlight several different practices and points of view
- **e-learning/training** films which enable good practices to be taught via a detailed presentation showing concrete examples

- poster campaign on the urban network ([RM](#))
- stickers added to collection vehicles ([RM](#))

For Rennes Métropole this was a communication tool that ensured very good visibility given that the vehicles travel around the entire territory and drive slowly.

- Žebětínský zpravodaj magazine (Brno)
- Purchasing of advertising space ([RM](#))

The purchasing of advertising space is essential for publicising a project. A presence is necessary across a diverse range of media in a way that reaches different target audiences.

- Promotional objects ([RM](#))

As it is involved in the local waste prevention programme, Rennes Métropole has chosen **practical objects of everyday use** so they are not thrown away or left in a cupboard.

Rennes Métropole has also taken care to ensure that all **goodies should interest all age groups**.

- Tools for raising awareness about promoting organic waste reuse:
 - [Posters \(Lipor\)](#), [flyers \(Lipor\)](#), [brochure \(Lipor\)](#)
 - Wormcomposting [brochure \(Lipor\)](#)
 - Conservation guide for food (Lipor), leftover food recipes ([Lipor](#)), recipe book ([Lipor](#)), monthly recipe plan ([Lipor](#))
 - Advice on sustainable gardening ([Lipor](#))
 - Composting guide for the general public ([RM](#))

- Guide for reducing food waste ([RM](#))
- Pamphlet about reusing organic waste ([RM](#))
- Training pamphlet ([RM](#))
- Programme of conferences ([RM](#))
- Factsheets for purchasing materials ([RM](#))
- Stickers about kitchen waste caddies ([RM](#))

- Rennes Métropole's communication tools used upstream of the project were improved based on feedback from composter users and the service provider responsible for setting up and monitoring composting sites. This feedback is crucial.

- Developing a communication tool through information received 'on the ground' enables a better response to initial requests.

- In addition, attempting to respond to all requests from users presents the risk of having to create a new document each time. The creation of modifiable sections within the document enables it to remain personalised and to respond to a one-off request (e.g. specific information associated with the life of a composting area, etc.)

- Tools for raising awareness about promoting community composting:
 - Signage about community composters ([RM](#))
 - Posters and flyers about community composting ([RM](#))
 - Composting site traffic signs ([RM](#))
 - Participation charter ([RM](#))

• Local stands, events and actions:

- Exhibition signs about promoting composting ([RM](#))
- Exhibition signs about recycling green waste ([RM](#))
- Demonstration stands ([Porto](#)), green events (Brno)



- Public events ([RM](#))

Events aimed at the general public enable projects to be publicised with both the general public and local involved parties.

Within the context of projects such as Miniwaste, these events enable actions to be 'deinstitutionalised' and made more fun!

This also enables other target audiences to be reached – in effect, diversifying subjects during a single event enables a non-aware audience to become better informed and more aware.

Finally, we make the most of these events to promote and develop our network of partners.

points covered during the training in order that they do not forget the essential information to be retained (examples of educational fact sheets can be found in the [tools](#) section).

In Porto, training sessions were organised at the Horta da Formiga (Lipor) demonstration site or locally within partner organisations. Courses were organised around a theory section with a PowerPoint presentation and [films](#) and a practical section that involved a composting demonstration ('how to start off and maintain a composting process', observing different composters). The courses last 3 hours and each participant receives [information material](#). The courses are free of charge and are compulsory if the participant wishes to obtain a composter.

In Brno, two types of training session were organised: for the general public and for master composters. Training for the general public took place at the school in eb tñ in order to be local to the residents in that area. On a few occasions it was linked to cookery lessons in order to increase visibility of the action. They were available to everyone and entirely voluntary. Courses for master composters took place at the premises of the municipal utility company SAKO (responsible for collecting, sorting and incinerating waste). These master composters are at the same time responsible for the demonstration sites at waste collection centres.

Assessing training (content, speakers, and pedagogy) is an important element that enables certain aspects to be improved if necessary. In the Rennes Métropole area, an [assessment fact sheet](#) was completed by each participant at the end of the session. In addition, a follow-up questionnaire can also be sent to participants 6 months after training ends in order to, for example, check whether they have actually put what they learnt into practice and whether they have encountered any difficulties. This initiative undertaken in the Rennes Métropole area shows that participants are satisfied with the training content and that they don't experience any difficulties subsequently.

Likewise for Lipor, the training course [evaluation](#) sheet handed out to each participant after the session reveals that participants are satisfied with training content. A questionnaire was later sent to participants in order to assess their practices.

Support for residents in their composting practices is essential over the long term.

III.3 THE SUPPORT OF PARTICIPANTS

Subscription of residents to domestic bio waste management involves their support which can be presented in several ways.

Training sessions can be offered to people who want to learn composting practices or how to sustainably manage green waste.

In the Rennes Métropole area, training sessions lasted three hours, were free of charge and accessible to any private individual interested. Four training models about composting were offered (see annexe doc). In addition, another module covered recycling green waste.

In order to maintain the attention of participants, it is necessary to alternate theory and practice. Visual information can also be provided to participants, particularly for the theory section (examples of training support materials can be found in the [tools](#) section).

Training sessions should take place at a demonstration site that has several composters at different stages of maturity. A 'badly managed' composter can also be analysed in order that the participants appreciate the importance of certain practices more easily (aeration, assessing dampness, etc.). Finally, participants can be left with a reminder of the main



Domestic composting requires certain rules to be followed in order that the process takes place under the correct conditions. The type of support will differ depending on whether people are composting individually or collectively.

As regards **individual composting**, and other than training, people can be offered the opportunity to make contact a few months after purchasing a composter in order to see whether they have encountered any difficulties. This follow-up enables people to be trained individually and where necessary, to provide encouragement for them to carry on. In the Rennes Métropole area, people buying a composter fill in a questionnaire in which it specifically asks whether the resident would like an officer from the local authority to check the condition of their composter. However, this type of follow-up requires not insignificant human resources. A less resource-intensive solution may be to organise meetings in different neighbourhoods with a volunteer who will listen to his neighbours and talk to them about composting practices.

An example of the result of a study carried out by Rennes Métropole in July 2012 of 460 people that had owned a composter for more than 6 months: only 23% of households that responded to the questionnaire wanted an officer from the local authority to check the condition of their composter.

In Brno, several tools were used to motivate and support citizens in their individual composting. The first tools were the [website](#) and the [Žebětínský zpravodaj magazine](#) which helped to catch the attention of residents in the neighbourhood. Once initial contact has been made, people were supported through:

- Communication about composting and signing an agreement
- Being given a composter
- Being given a [composting guide](#)
- And over the medium and long term through analysing their compost's quality, discussions, and the support they receive

As regards shared composting in apartment building or housing estates, support must be reinforced compared with individual composting. Within the context of shared composting, several people deposit their kitchen waste at the same site. The risk of error or non-compliance of rules can be more frequent. Rennes Métropole, via a service provider, is offering support of around one year while a shared composting site is established. This support includes:

- Making contact with the applicant, the property manager and possibly the community
- Validation of the location
- A presentation and launch meeting
- Provision and installation of composters
- Monitoring of the site during a composting cycle
- A closing meeting for the site

In the Rennes Métropole area, in order to avoid nuisance issues, instructions for shared composting are stricter than for individual composting. Only raw fruit and vegetable waste, tea bags and coffee grounds are permitted. On housing estate sites, green waste is accepted in accordance with the capacity of the bin provided.

Lipor offers support while a community composting site is established. This support includes:

- Making contact with the applicant, the property manager and possibly the person in charge of the common spaces company
- Validation of the site
- Presentations setting out the rules and its launch
- Provision and installation of composters
- Training for participants on a local level
- Monitoring of the site during the process and also for as long as the site manager requires it. Each visit is followed-up with completion of a feedback sheet.

Support and rules for use are different again for composting in collective catering environments. The deposits, types of waste to be composted and staff available to manage composting are all different and it is important to carry out a diagnostic study before starting an initiative. In the Rennes Métropole area, support via a service provider was offered. This support includes:

- Validation of the site in conjunction with the different departments that may be involved in the composting (technical staff, catering staff, elected representatives)
- Training officers
- Monitoring over a composting cycle
- A review meeting when support ends

Whatever the type of support offered, the objective is to make people autonomous in using their composter. Community/neighbourhood level meetings once or twice per month can be organised in order to carry out monitoring of sites and to respond to any potential issues.



In Porto, each community composting participant receives follow-up visits, as well as local training in composting. Monitoring visits ([composting](#), [wormcomposting](#)) are all recorded in a database.

If they are in any doubt, the participant can contact LIPOR by phone, email, or through the website, forum and Facebook. If the problem persists, the participant can request a site visit.

Support and management of a network of composting officers and guides also allows practices to be maintained effectively.

Support for site officers and composting guides is also required alongside any technical assessment that is offered. Results of sociological studies undertaken by GECE for Rennes Métropole show that 'autonomous' site volunteers, in other words those that receive no support, show signs of demobilisation after a few years. In addition, the population at some shared composting sites can tend to change over the years and new arrivals don't necessarily have the required information on composting.

So, support seems important in order to:

- inform new arrivals at a site already in place
- maintain the dynamic and motivation of composting volunteers
- promote the actions of site guides and officers, who are more heavily involved in the goings on of the composting site than volunteers.

In the Rennes Métropole area different actions have been put in place in order to try and create a network dynamic at composting guide and building officer level. As such, a meeting was organised in 2012 for around thirty people where a great deal of information was exchanged and experience was shared. Via a service provider, Rennes Métropole also involves composting guides during communal events on the subject of composting. In this way several people have been able to promote community composting, particularly during the European weeks for waste reduction in 2011 and 2012. The involvement of guides at these events enables them to highlight and thus promote their actions and also allows people to benefit from their experience on the ground.

In Brno, master composters operate on demonstration sites throughout the area. Training sessions and [composting guides](#) for master composters were put in place.

LIPOR has decided to recruit volunteer composting guides from their resident population in accordance with their ability to promote composting practice, reduce food waste and their ability to drive others towards a change in behaviour. After being selected, the steps are as follows:

1. Signing the [agreement](#), which includes a [document](#) in annex defining the role of the composting guide
2. Filling out a [questionnaire](#)
3. Taking part in meetings and training sessions during which communication tools are distributed.





IV >> Stages for implementation and assessing actions

IV.1 CARRYING OUT A DIAGNOSIS OF THE REGION IN TERMS OF BIO WASTE PREVENTION

This diagnostic aims to establish an initial review of existing practices in terms of prevention and a review of the quantities of waste collected. In addition, in accordance with the demographic characteristics (average age, population density), the type of dwelling (vertical or individual), the composition of residual household waste and economic activity, one or several categories (or groups) of actions may be selected as a priority action, adapted to the local context from among five groups in total:

- 1 - Domestic management in an individual dwelling
- 2 - Domestic management in a collective dwelling
- 3 - Domestic management of green waste
- 4 - Reduction of food waste
- 5 - Composting in collective catering

This regional diagnostic can be determined using the [Miniwaste tool](#) that was developed during the project.

After 13 indicators have been obtained concerning the global territory of the relevant authority, along with 24 indicators for each sector created, the result of the diagnostic is determined and indicates:

- the degree of relevance calculated for each group of actions in the sector(s) defined
- a maximum reduction potential of kitchen waste and/or green waste for each group of actions in the sector(s) defined.

This table of results enables the user of the tool to make choices from among the five possible action groups and to define their reduction objectives.

IV.2 IMPLEMENTING ACTIONS CHOSEN IN THE SECTOR(S) SELECTED

The principal stages for implementing actions are: the involvement of partners and key actors, the preparation and launching of the action, communication, training and general

administration, launch, monitoring and on-going improvement, assessment of the initiative, reproduction of the initiative. The fact sheets below also provide an estimate of costs and human resources required and examples of results that have been obtained in Europe.

1 - Domestic management in an individual dwelling [View procedural fact sheet](#)

This group of actions includes the promotion of individual composting, shared composting in low-rise housing, and animal feed.

2 - Domestic management in a collective dwelling [View procedural fact sheet](#)

This group of actions includes the promotion of community composting in buildings and the practice of worm composting.

3 - Domestic management of green waste [View procedural fact sheet](#)

This group of actions includes the promotion of sustainable gardening and animal feed with a view to reducing the amount of green waste collected and favours the recycling of waste within the garden.

4 - Reduction of food waste [View procedural fact sheet](#)

This group of actions includes actions that favour reducing food waste among households through their modes of consumption and use of food products.

5 - Composting in collective catering [View procedural fact sheet](#)

This group of actions includes promoting composting in collective structures such as school and business canteens, restaurants, etc.

IV.3 ASSESSING THE IMPACT OF ACTIONS

Good monitoring and correct assessment of actions put in place enables their impact to be measured and for the system to be improved if necessary. To do this, defining

monitoring and impact indicators is essential.

Indicators of achievement

- Indicators of participation
- Indicators of behaviour
- Indicators of collected waste flows
- Indicators of avoided waste flows

The Miniwaste tool includes a monitoring table for assessing actions:

- A regional fact sheet enables the impact of actions to be followed on an annual basis and the level of a sector (or sectors) to be compared with the average observed over the region
- A sector fact sheet enables monitoring data to be followed on a quarterly basis at sector level and graphic development to be observed for the current year.



V >> Human and financial resources

V.1 HUMAN RESOURCES

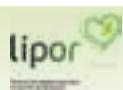
The deployment of awareness raising and communication actions and the technical monitoring of them require staff with skills in proximity management techniques (composting, mulching, etc.) as well as skills in networking in order to act as a go between for the residential population.

Coordination of these actions must take place internally in order to ensure prevention policy is put forward in a coherent manner across all actions deployed within the region. Regular assessment of this policy enables the definition of actions and their implementation methodologies to be adjusted if necessary.

As for networking, this can be carried out either internally or externally. It requires technical skills in terms of domestic bio waste management practices: composting, worm composting, kitchen waste disposal units, mulching, etc., as well as skills in communication and guidance. Externally, this can be provided by structures such as associations, consultants or specialist consultancy firms.

1 - LIPOR organisation

LIPOR, the inter-community waste management department for the greater Porto area, is responsible for collecting and processing municipal waste products in eight municipalities: Espinho, Gondomar, Maia, Matosinhos, Porto, Povoa de Varzim, Valongo and Vila do Conde. In 2011, there were 220 members of full time staff for a population of nearly 1 million residents.



The human resources required in deploying communication, awareness raising and monitoring actions among participants have consisted of four master composters and two coordinators.

Seven other people are employed - one person to run the cooking and sustainable gardening courses, two people to coordinate the Dose Certa programme for reducing food waste, three people for implementing and monitoring school composting sites and an administration officer for training registrations.

During the Miniwaste project, with the setting up of an additional 70 community composting sites and 4000 individual composters distributed, monitoring corresponded to:

- 6 additional community composting sites per year per master composter plus the monitoring of existing ones
- 470 individual composters per year per master composter plus the monitoring of existing ones
- 45 training sessions per year per master composter

2 - Brno organisation



Human resources:

Environmental department: four members of staff
SAKO (collection, sorting and processing of waste): 380 members of staff
MINIWASTE project – cooperation with three members of staff from the eb tří district

During the Miniwaste project, Brno set up 4 community composting sites and distributed 350 individual composters.



3 - Rennes Métropole organisation

Rennes Métropole guarantees the public household and similar waste collection and elimination service for more than 400,000 residents in its 38 municipalities.

Since 2009, it has been committed to the deployment of a local waste prevention programme and a team of three technicians and one coordinator is assigned internally to run this programme. The coordination of organic waste prevention policy is provided by one technician who is also in charge of monitoring individual composting. As far as community composting is concerned, a local business has a team of four master composters available to work with the regional population.

During the Miniwaste project, with the setting up of an additional 170 community composting sites and 5000 individual composters distributed, monitoring corresponded to:

- 14 additional community composting sites per year per master composter plus the monitoring of existing ones
- 1700 individual composters per year per master composter
- 16 training sessions per year per master composter

V.2 FINANCIAL RESOURCES

Financial resources can vary widely from one authority to the next depending on the intensiveness of communication actions desired and the types of tools that are chosen.

A few costs that have been observed:

- Between 1500 and 2000 € per site for fitting out, equipping and supporting a shared composting area
- Between 1 and 3 € per composting guide
- Between 400 € and 700 € per training session for 15 to 20 people; 900 Euros for guide composters in Brno
- Assessment survey into practices: 16,500 € for a representative sample in Rennes Métropole (600 households); 3800 € for a samples of 350 non-representative households in the town of Brno-Zebetin





VI >> A few examples of good practices in europe

As part of the Miniwaste project, the principal mission for the ACR + was to identify and describe good practices in terms of bio waste prevention in Europe that could be reproduced by local and regional authorities. The final report includes ten information sheets and a certain number of annexes. Nine sheets are devoted to preventing bio waste and the tenth concerns recycling:

- 1 - Promoting domestic composting and reducing the use of packaging in the north east region of Turin, Piedmont, Italy
- 2 - Promoting domestic composting in the county of Kent
- 3 - Terra a terra – domestic composting project, Porto
- 4 - Domestic and community composting in Chambéry Métropole, France
- 5 - Community composting in Flanders, Belgium
- 6 - Community composting in Zurich
- 7 - Farm proximity composting in Austria

8 - ‘Love food, hate waste’ campaign

9 - Closed-loop gardening and domestic composting in Flanders, Belgium

10 - Re-use centres in Flanders, Belgium

For each of these, ACR + provided detailed information about the general characteristics of the responsible body, local context, the strategy applied (objectives, approach and methodology), relevant instruments, stakeholders, resources and actions (including communication), the legislative context and financial aspects, results, indicators and monitoring tools used, as well as any challenges encountered and factors for success that were identified.

View the [inventory report](#)



ACCESS TO TOOLS

TOOLS	COUNTRY	ACTION GROUP	TARGET	FIELD
Miniwaste leaflet	FR	1 + 2 + 3 + 4 + 5	Public + organisations	Communication
Miniwaste memo	FR	1 + 2 + 3 + 4 + 5	Organisations	Communication
Miniwaste: reducing your organic waste	FR	1 + 2 + 3 + 4 + 5	Public	Communication
Composting guide	FR	1	Public	Technical
Composter sales poster	FR	1	Public	Communication
IRSTEA weighing protocol fact sheet	FR	1 + 2	Public	Monitoring
Bio-bucket sticker	FR	1 + 2	Public	Technical
Individual composting participation charter	FR	1	Public	Monitoring
Community composting participation charter	FR	1	Public	Monitoring
Survey questionnaire	FR	1	Public	Monitoring
Composting display stand	FR	1 + 2	Public	Technical
Green waste management display stand	FR	1 + 2	Public	Technical
Training schedule	FR	1 + 2 + 3	Public	Communication
M1 training educational sheet	FR	1 + 2 + 3	Public	Technical
M2 training educational sheet	FR	1 + 2 + 3	Public	Technical
M3 training educational sheet	FR	1 + 2 + 3	Public	Technical
M4 training educational sheet	FR	1 + 2 + 3	Public	Technical
M5 training educational sheet	FR	1 + 2 + 3	Public	Technical
M1 training slide show	FR	1 + 2 + 3	Public	Technical
M2 training slide show	FR	1 + 2 + 3	Public	Technical
M3 training slide show	FR	1 + 2 + 3	Public	Technical
M4 training slide show	FR	1 + 2 + 3	Public	Technical
Training assessment sheet	FR	1 + 2 + 3	Public	Monitoring
Conference schedule	FR	1 + 2 + 3	Public + organisations	Communication
Shared composting slide show	FR	1 + 2 + 3	Public	Technical
Natural gardening slide show	FR	1 + 2 + 3	Public	Technical
Compost and mulching slide show	FR	1 + 2 + 3	Public	Technical
Food waste slide show	FR	1 + 2 + 3	Public	Technical
Biodiversity slide show	FR	1 + 2 + 3	Public	Technical
Conference assessment fact sheet	FR	1 + 2 + 3	Public	Monitoring
Conference poster	FR	1 + 2 + 3	Public	Communication
Worm composting cafeteria poster	FF	2	Public	Communication + Technical
Worm composting protocol	FR	2	Public	Technical
Worm composting weighing fact sheet	FR	2	Public	Monitoring
Composter poster	FR	2	Public	Technical
Community composting promotion poster	FR	2	Public	Communication
Building poster - information	FR	2	Public	Communication
Building poster – call for volunteers	FR	2	Public	Communication

TOOLS	COUNTRY	ACTION GROUP	TARGET	FIELD
Shared composting promotional flyer	FR	2	Public	Communication
Shared composting volunteer flyer	FR	2	Public	Communication
Building fact sheet	FR	2	Public	Technical
Building demonstration sign	FR	2	Public	Technical
Housing estate demonstration sign	FR	2	Public	Technical
'Je composte, ça change tout!' sticker	FR	2	Public	Communication
Waste disposal unit management poster	FR	3	Public	Communication
How to form/run an association	FR	3	Public	Communication + technical
Guide about sustainably managing green waste	FR	3	Public	Technical
Example association statute	FR	3	Public	Technical
Example association internal regulation	FR	3	Public	Technical
Example use of material charter	FR	3	Public	Technical
Example materials loan request	FR	3	Public	Technical
Example disclaimer	FR	3	Public	Technical
Example association activity report	FR	3	Public	Technical
Example municipalities activity report	FR	3	Public	Technical
Folder for document	FR	1 + 2 + 3	Public	Communication
Promotional items (forward to Tifenn doc)	FR	1 + 2 + 3 + 4 + 5	Public	Communication
Example document type	FR	1 + 2 + 3 + 4 + 5	Public + organisation	Communication +Technical
Hanging banners	FR PT EN CZ	1 + 2 + 3 +	Public	Communication
Street furniture poster campaign (forward to Tifenn doc)	FR	1 + 2 + 3 + 4 + 5	Public	Communication
Films	FR	1 + 2 + 3 + 4 + 5	Public	Communication +technical
'Hum! Extra tes restes' book	FR	4	Public	Communication + technical
Wormcomposting survey	PT	1	Public	Monitoring
Survey (awareness)	PT	1	Public	Monitoring
General poster	PT	2	Public	Communication
General flyer	PT	1	Public	Communication
Stands	PT	1 and 4	Public	Communication
Training program (composting)	PT	3	Organisations	Technical
Training program (food waste)	PT	3	Organisations	Technical
Demonstration sites panel	PT	3	Public	Communication
Movies/Documentaries	PT	3	Public	Communication
Composting course poster	PT	4	Public	Communication
Composter poster	PT	4	Public	Communication
Community composting poster	PT	4	Public	Communication
Food waste poster	PT	4	Public	Communication
Course flyer	PT	4	Public	Communication
Community composting flyer	PT	4	Public	Communication



ACCESS TO TOOLS

TOOLS	COUNTRY	ACTION GROUP	TARGET	FIELD
Composting process flyer	PT	4	Public	Technical
Wormcomposting process flyer	PT	4	Public	Technical
Bio waste bucket	PT	4	Public (participants)	Technical
Food conservation Guide	PT	4	Public	Technical
Food recipes using leftovers	PT	4	Public	Technical
Chained Food recipes	PT	4	Public	Technical
Meals monthly planning	PT	4	Public	Technical
Monitoring sheet (composting)	PT	4	Public	Monitoring
Monitoring sheet (wormcomposting)	PT	4	Public	Monitoring
Portfolio (all communication documents)	PT	1 + 2 + 3 + 4 + 5		
Demonstration site	CZ	1 + 2	Public	Communication
Public training sessions	CZ	4	Public	Communication
Green Events	CZ	1 + 2	Public	Communication
eb tisk zpravodaj magazine	CZ	1 + 2	Public	Communication
Composting guide				
Leaflet	CZ	1 + 2	Public	Communication
Flyer	CZ		Public	Communication
Poster	CZ		Public	Communication
Questionnaires	CZ	1 + 2	Public	Communication + Monitoring
Survey	CZ	1 + 2 + 4	Public	Monitoring

- 1 - Domestic management in an individual dwelling
- 2 - Domestic management in a collective dwelling
- 3 - Domestic management of green waste
- 4 - Reduction of food waste
- 5 - Composting in collective catering

OTHER TOOLS

Food waste:
<http://optigede.ademe.fr/outils-gaspillage-alimentaire>





Miniwaste Guide



With the financial support of the European Commission

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