



Comhshaol, Pobal agus Rialtas Áitiúil  
Environment, Community and Local Government



Composting & Anaerobic Digestion  
Association of Ireland

## **Final Report**

### **Review of Best International Practice on**

### ***How to Educate Households on Using the Brown Bin Correctly***

---

## ACKNOWLEDGEMENTS

This report has been kindly joint funded by

- the Department of the Environment, Community and Local Government and
- Cré—Composting and Anaerobic Digestion Association of Ireland.

The report was written by Josef Barth, Informa Consultants, Germany.

The report was edited and reviewed by Percy Foster (Cré) and Fiacra Quinn (Greenstreets).

Special thanks are due to Pat Fenton and James Blake from the Department of the Environment, Community and Local Government for their valuable support and contribution to this report.

The author of this report is grateful for the considerable help provided by the following key stakeholders involved in educating households in the separate collection of bio-waste:

- Johanna Leutgöb, Eco Counselling, Austria
- Kristel Vandenbroek, VLACO vzw, Belgium
- Gijs van Bezooijen, formerly of the National Waste Management Association (NVRD), Netherlands
- Prof. Werner Bidlingmaier, former Professor at the University of Weimar, Germany
- Enzo Favoino and Marco Ricci, *Scuola Agraria del Parco di Monza*, Italy
- Florian Amlinger, Compost—Development & Consultation, Perchtoldsdorf, Austria

## DISCLAIMER

Although every effort has been made to ensure the accuracy of the material contained in this publication, complete accuracy cannot be guaranteed. Neither the Department of the Environment, Community and Local Government or Cré or the author(s) accept any responsibility whatsoever for loss or damage occasioned or claimed to have been occasioned, in part or in full, as a consequence of any person acting, or refraining from acting, as a result of a matter contained in this publication. All or part of this publication (except the images) may be reproduced without further permission, provided the source is acknowledged. Please note that all the images used in this report are copyright protected.

© Cré, August 2013

---

## **CONTENTS**

---

<b>EXECUTIVE SUMMARY .....</b>	<b>1</b>
<b>1. METHODOLOGY .....</b>	<b>2</b>
<b>2. EDUCATION AND ITS LIMITATIONS.....</b>	<b>3</b>
<b>3. TARGET GROUPS.....</b>	<b>5</b>
<b>4. IMPLEMENTATION OF BROWN BIN SCHEMES .....</b>	<b>7</b>
4.1 Timing of implementing .....	7
4.2 Cost of education campaign .....	7
<b>5. MOST SUCCESSFUL EDUCATION TOOLS .....</b>	<b>8</b>
Case Study: Successful educational tools in Germany .....	8
<b>6. KEY MESSAGES TO COMMUNICATE .....</b>	<b>10</b>
6.1 Feedback on contamination .....	10
6.2 Closed loop cycle–brown bin to compost .....	12
<b>7. BROWN BIN EDUCATION PLAN FOR IRELAND .....</b>	<b>13</b>
<b>APPENDIX A- DETAILS OF THE EXPERTS CONSULTED.....</b>	<b>16</b>
<b>APPENDIX B- DUTIES OF BROWN BIN ADVISORS.....</b>	<b>18</b>
<b>APPENDIX C- EXAMPLES OF EDUCATION TOOLS.....</b>	<b>20</b>

## Executive Summary

In March 2013, the Department of Environment, Community and Local Government introduced the European Union (Household Food Waste and Bio-waste) Regulations 2013. These Regulations are designed to promote the segregation and recovery of household food waste.

Contamination of the brown bin with non-compostable materials such as glass bottles, cans and plastic bags is increasingly becoming an issue for the industry. A Cré survey of composting plants processing brown bin material found some plants had contamination rates as high as 8, 9 and 14%. It is vital that this type of contamination is kept to a minimum in order for composting facilities to produce quality compost and be able to fulfil the requirements of the National Compost Quality Assurance Scheme. The education of households on how to use the brown bin correctly is key to improving segregation practices. Therefore, the industry and the Government wish to establish the best way to educate households on using the brown bin properly and avoiding contamination. It was considered that best practice in other countries with long-established collection systems could be of assistance in framing a national programme.

Following a review of best international practice, the main findings of this report are:

- A brown bin scheme must demonstrate the CCCs<sup>1</sup> of source separation, which are '**C**LEAN, '**C**OMFORTABLE and '**C**OMPACT'. To achieve high participation and low contamination rates in a brown bin scheme. It was shown that the success was entirely due to the collection method being easy and comfortable to use.
- Education alone cannot ensure the acceptance of a brown bin collection system by householders.
- The key message to communicate to people is that there has to be no contamination in the brown bin in order to produce high quality compost for garden use.
- Education must be engaging and must be direct and personal, showing local references and the benefits (e.g. identifying local composting plants and providing samples of compost produced from brown bin material). When people can relate to compost, they understand why it is important to use the brown bin correctly in order to get quality compost which they can then use in their own garden. People should not only be educated on how to use the brown bin, but educated on the benefits and how to use quality compost in their own gardens.
- An effective way of controlling contamination is to encourage 'peer pressure of householders'. Bins which have been contaminated should not be collected and 'red tagged'. This element of 'peer pressure' amongst householders can make red tags a successful enforcement option, i.e. not wanting to have one's bin marked as contaminated in front of the neighbours.
- The key to the success of a brown bin scheme is the provision of brown bin waste advisors during the initial implementation phase. They help encourage participation and motivate people to use the brown bin system.

After consultation with stakeholders, this report recommends a national brown bin education plan for Ireland.

Ireland should have a national education programme which consists of a website, standardised instruction leaflets on using the brown bin, which would also address frequently asked questions (FAQs), contamination tags, the provision by waste collectors of kitchen caddies which have information stickers on them, a school programme, and the provision of brown bin advisors.

The Department of Environment Community and Local Government will set up a small contact/implementation group. This group's remit will be to review this report's findings and to agree the content and format of the core messages for a brown bin awareness-raising campaign in Ireland.

---

<sup>1</sup> Ricci-Juergensen, M.; Favoino, E. (2013): *How to plan and start separate collection—Two examples of an urban and a rural situation*. Seminar Proceedings Biowaste—Sofia 2013. Download from [www.biowaste.eu](http://www.biowaste.eu)

## **1. Methodology**

The methods of educating people to use the brown bin in Germany, Italy, Belgium, Austria, and the Netherlands were reviewed for this report. These countries have a long track record in the separate collection of food and garden waste. Most of the countries established brown bin collections in the nineties. Further details of when the schemes began are presented in Appendix A.

Key people who were involved in establishing brown bin collections in these countries were interviewed by phone or in person. Further details of those interviewed are included in Appendix B. These people provided a limited amount of literature which had evaluated schemes.

From this review, the authors evaluated the tools used to educate householders on how to use the schemes, to reduce contamination and to increase participation rates.

After consultation with stakeholders in Ireland, the author recommends a brown bin education plan to be implemented in Ireland.

## 2. Education and its limitations

The recommendation from the brown bin experts contacted during this report was that *education in the teaching sense did not and does not work*. Imparting the 'why' and the 'how' of source segregation does **NOT** mean that people will accept it and do it. The public relations chapter of the publication *Biobin Vienna*<sup>2</sup> confirms these experiences with '*To understand the principle does not mean to change permanently day-to-day behaviour*'.

This is the real challenge of any education programme. In order to get brown bin collection schemes successfully running in terms of effective participation and segregation quality, there is a need to change the day-to-day behaviour of people. To achieve this, the key message for using a brown bin needs to be become second nature to people. After the first implementation phase of the brown bin scheme, it is important to remind people continuously of these key messages, otherwise, as experience has shown elsewhere. When education programmes end after 3–4 years, the contamination levels in the brown bin increase.

Education must be **engaging** and must be **direct and personal**, showing local references and the benefits (e.g. identifying local composting plants and providing samples of compost produced from brown bin material). When people can relate to compost, they understand why it is important to use the brown bin correctly in order to get quality compost which they could use in their own garden.

The way in which education on brown bin systems is provided should not be based on traditional teaching methods but should consist of the elements outlined below:

**Table 2:** Elements of education programmes for effective separate collection

Key Elements	Examples
<b>1. Information</b>	Instruction leaflet on using the brown bin
<b>2. Consultation</b>	Face-to-face consultation—brown bin advisors
<b>3. Motivation/acceptance</b>	Show samples of quality compost made from uncontaminated brown bin material
<b>4. Control</b>	Contamination tags
<b>5. Confirmation of good behaviour</b>	Article in local newspaper on contamination rate and details on how to buy compost

If a brown bin education programme does not consist of all of the elements noted above, it will fail.

Education does not mean simply imparting information and subsequently confirming its practice (elements 1 and 5 only). Experience also shows that insufficient education can lead to non-participation/acceptance. If people do not understand how to use a brown bin scheme, they will not accept it and will protest by putting the wrong waste into the brown bin, leading to high contamination rates.

Ultimately, the householder will require a scheme which **demonstrates the CCCs**<sup>3</sup> of source separation, namely '**CLEAN**, **COMFORTABLE** and **COMPACT**'.

**Clean** means the use of paper or compostable bags in the kitchen caddy. This is **comfortable**, because only the bags are presented for kerbside collection. Little kitchen caddies/buckets do not need a lot of space in the kitchen which meets the requirement for a **compact** system. People tend to prefer grey-coloured kitchen caddies as they are a neutral colour.

This approach was the key for the success of the brown bin schemes in Italy and Spain. In Italy, food waste is collected in compostable bags on a weekly basis. This has resulted in a system which is very user friendly because it is clean and has no odours, maggots or flies. As a result, it is easier to convince people to use the system and has reduced the need for an education programme.

It is unlikely that an uncomfortable or unusable collection system will be accepted by the householder, regardless of the extent of education provided.

<sup>2</sup> Amlinger, F. (1993): "*Biotonne Wien—Theorie und Praxis (Biobin Vienna—Theory and Practice)*", edited by Magistratsabteilung 48—Stadtreinigung und Fuhrpark, Wien—ISBN 3-7031-0686-7

<sup>3</sup> Ricci-Juergensen, M.; Favoino, E. (2013): *How to plan and start separate collection—Two examples of an urban and a rural situation*. Seminar Proceedings Biowaste—Sofia 2013. Download from [www.biowaste.eu](http://www.biowaste.eu)



**Figure 1:** Bucket with compostable bag insert/liner

### 3. Target Groups

The most important target groups for education, information and communication on brown bin schemes are:

#### Householders

Householders need to be provided with clear and straightforward message on using the brown bin. Ideally householders should be educated with as much face-to-face education as possible (e.g. brown bin advisors).

It is vital that householders understand the reasons why they are going to the effort to separate out their food waste for brown bin collections, *i.e.* to produce high quality compost. Good quality compost produced from brown bin material leads to a positive image of brown bin recycling.

In Austria and Belgium, the approach is not alone to educate people on how to use the brown bin, but to educate people on the benefits and how to use quality compost in their own gardens. This demonstrates to people why they have to use the brown bin correctly in order to get high quality compost.

#### Children/schools/teachers

Children are a group which is the most effective to encourage brown bin use in the long term. Children will educate their parents repeatedly and develop their own environmental awareness for the future. According to experiences in Italy, typically less than 20% of households have children in school, so the actual population coverage is low. For this reason, the education programme in a school needs to be repeated every year.

Common educational tools for schools are:

- Complete teaching units;
- Composting plant visits;
- Home composting units for the schools;
- Presentations by the brown bin waste advisors (implementation year), and
- Toys and paint books with brown bin theme for primary school.

#### Management companies for multi-story buildings

Management companies can encourage residents in apartments/flats to participate in local brown bin schemes.

Currently, encouraging concierges to adopt a brown bin system in their building is a subject of focus in Italy and Germany. Currently, there are initiatives to get large urbanised cities to adopt a brown bin system (e.g. Milan, Italy; Berlin, Munich, and Hamburg in Germany).

Hamburg intends to become the most environmentally friendly city in Germany. The city has developed a special education programme managed by eight specialised waste advisors who support management companies and concierges in the following ways:

- By presenting information at tenant meetings focusing on the problems and solutions;
- By providing appropriate education for tenants, and
- By recommending container types, size and locations for each building—not only for bio-waste but for all waste.

In 2010, a pilot project in Hamburg with 150 tenants showed surprisingly positive results in adopting a brown bin system. It resulted in high participation and low contamination rates. It was shown that the success was entirely due to the collection method being easy and comfortable to use.

The management of separate collections of waste in high rise buildings/apartments requires a special approach as confirmed by Austrian, German and Italian experiences. The main issue to begin with was the resistance of the concierges/management companies to engage. Reasons given were space, odours, hygiene problems, low quality segregation, social class of tenants, building location, and the availability of on-site infrastructure.



## **Local Authorities**

Local Authorities must be convinced that the brown bin system works without any difficulty. Only when they are convinced will they promote the system to householders. The implementation of a new brown bin collection scheme is a significant challenge. Central Government tends to issue policy on it and then Local Authorities are tasked with implementing it. Local Authorities may lack knowledge on brown bin schemes and need to be educated. This is in order to manage a brown bin scheme and so they can answer queries about it when confronted with scepticism from people about such schemes.

The lack of education of Local Authorities can be overcome with regional workshops for Local Authorities.

## **Brown bin advisors/bin roll-out team**

The key to the success of a brown bin system is the use of brown bin advisors. They help encourage participation and motivate people to use the brown bin system. They achieve this through face-to-face contact with householders, explaining how to use the system and answering any questions, problems or complaints which the householder may have. The provision of brown bin advisors is costly but effective.

Brown bin advisors are a requirement in Germany, Austria and Italy. In some cases, students/interns are given temporary jobs for the initial implementation phase of the brown bin where most of the educational needs are required. For example, Vienna had four waste advisors in 1991 and forty in 1992 during the roll-out of the brown bin.

Implementation starts with the roll-out of the bins. During the start of the implementation phase the brown bin advisors role is to announce in local media the imminent roll-out of the brown bin system, the start date and the reasons for it. The education of people starts during this initial two to three month period.

The role of a Brown bin Advisor during the implementation phase includes:

- Education of bin men collecting waste;
- Operation of a hotline;
- Organising events;
- Providing information to the local news media, and
- Visits of households

Post implementation, the advisor may be involved in:

- Operating the helpline (telephone, email) for source separation/brown bin problems and home composting problems;
- Organising an annual compost day at one of the recycling centres or at the compost site;
- Preparing articles for the local newspaper and radio, mainly in spring and in autumn (addressing the success, or otherwise, of the brown bin collection in the previous year, the quality of the compost and use of the local compost products in the garden), and
- Visiting households in areas where contamination is high.

The role of the brown bin advisor is further detailed in Appendix B.

## **Bin men**

Bin men can educate people while collecting the brown bin. However, they must be given consistent information to pass on to householders. Contamination in brown bins is commonly controlled by waste-collection bin men. They do a visual inspection of the contents in the bin and if there is a lot of contamination, they do not collect it. They then put a red tag on the bin which explains why the bin was not collected.

## **Foreign residents**

Information on the brown bin system must be provided in different languages to cater for different nationalities. WRAP food waste collection trials suggest that contamination of bins was highest in less affluent areas or households where residents did not have English as their first language (WRAP, 2009<sup>4</sup>). The use of icons is highly recommended in all leaflets.

---

<sup>4</sup> WRAP, June 2009. *Evaluation of the WRAP separate food waste collection trials*

## 4. Implementation of brown bin schemes

### 4.1 Timing of Implementing

The time to start a brown bin awareness programme is not advisable during the summer months and Christmas. The reasons are:

- **Summer:** Holiday season and hot period with odours, maggots and flies; and
- **Winter:** Christmas season is a period of low interest in collection and education.

The implementation campaign should be designed for a six to eight month period. The recommended timeframe and actions are outlined in Table 2.

**Table 2.** Recommended timeframe and actions

Timeframe	Action
2 to 3 months before roll out	Start education/PR campaign
For next 3 -4months—the roll-out phase	Focus on acceptances, motivation and handling
1 to 2 months aftercare	Control and confirmation of good segregation

After the implementation phase, there will be a reduced education programme for householders. It is recommended that there is at least 70% the initial budget for second year and 30% for the third year.

However, experience has shown that when the education programmes finishes after 3–4 years, the contamination levels will increase in brown bin systems.

WRAP<sup>5</sup> found the amount of food waste produced for collection by householders, in the majority of cases, dropped by the second half of the trial. This represents the need for continuing communication with householders and promoting of the service if householder interest is to be held and participation kept high.

Therefore, it is important that there is a continuous education programme after the implementation phase and a budget should be allocated for this.

Education and implementation of a brown bin system should be started in high-income neighbourhoods. This will demonstrate success to other neighbourhoods and other social economic classes where it might be more complicated to implement a brown bin scheme.

### 4.2 Cost of education campaign

The significance of an education budget should not be understated. An education plan ensures the success of a brown bin scheme. Below is an estimate on a typical brown bin awareness campaign is based on figures from Germany, Italy and the Netherlands.

The estimated cost per person per year is as follows:

- Kitchen caddy (if 2.8 persons/household): €0.5–1 (once)
- Implementation campaign in large cities €0.5–1
- Follow up in large cities €0.2 -0.3
- Implementation campaign in small cities €1–2
- Continuous follow up in small cities €0.5–1

The costs above includes the extra staff (brown bin advisors) required during the implementation phase.

It is important to have a budget for reminding the public on how to use the brown bin in subsequent years. Continuous education and information help change people's behaviour.

<sup>5</sup> WRAP, June 2009. *Evaluation of the WRAP separate food waste collection trials*

## 5. Most successful education tools

After reviewing the limited literature available and interviewing the key experts in The Netherlands, Italy, Austria, Belgium, and Germany, the following have been found to be the most successful educational tools for brown bin schemes:

- **Posters** for the announcement of the implementation steps of a brown bin scheme. The poster can be in public buildings (AO size – 841mm × 1189mm) and in local newspapers.
- **Flyers** of a basic nature using icons indicating what should and should not be in the bin, how to segregate in the kitchen and how to use the brown bin.
- **Kitchen caddies** with information stickers. Stickers should contain icons of what waste is acceptable in the bins and what waste was not. They should be stuck onto the kitchen caddies as this is the first point of contact householders have with the service. They serve as a permanent reminder of how to use the service appropriately, allowing no excuse for contaminated bins. In this way, stickers are very effective but also can be cost effective; if they are stuck onto the bins before the bins are deployed to households.
- **Brown bin waste advisors** informing people during the rolling out the new bins.
- **Meetings/events** with stakeholders/opinion leaders/residents at markets, town halls and at other gathering points and events. It is important that samples of compost made from brown bin material be available for people to see at these public meetings. This demonstrates to people why it is important to use the brown bin correctly to produce quality compost.
- **Primary schools** are provided with a programme and lesson plans on the use of brown bins.
- **Hotline** - After 15 years of brown bin collection in Belgium, people still ring the hotline.
- **FAQ leaflets** for waste advisors, collection teams and the public
- **New digital media:** email hotline, videos on YouTube on how to fill bins, website, SMS/App service on bin collection date. The digital media evolution since the nineties makes communication easier and cheaper (PDFs for download, films, etc.) and local information is more readily available (via relevant websites).

These tools can support or supplement the face-to-face contact which is vital to get people changing their behaviour in their day-to-day life. The provision of enough human resources by means of brown bin waste advisors is still key for the successful implementation of brown bin schemes.

Further examples of educational materials are included in Appendix C.

### Case Study: Successful educational tools in Germany

In 2000, the German Environmental Fund (*Bundesstiftung Umwelt*, Osnabrück) compiled a report (Fricke *et al.*, 2000<sup>6</sup>) based on a questionnaire on the optimisation of separate collection of bio-waste in Germany.

The questionnaire was sent to 419 German public authorities responsible for waste management. One of the questions asked was 'How efficient were the different promotional activities used during the implementation of the brown bin scheme?' The results are shown in Figure 2 below.

The results showed the following trends:

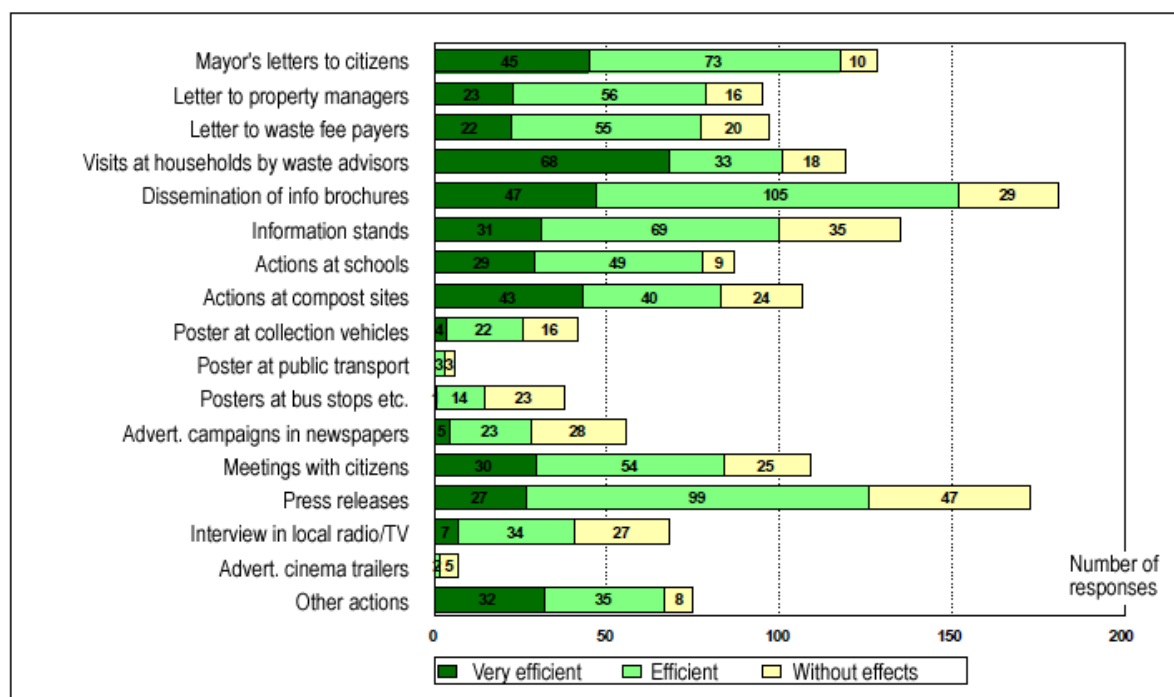
Visits to households by waste advisors was considered a 'very efficient' promotional tool.

---

<sup>6</sup> Fricke, Prof. Dr. K.; Dewald, W.; Einzmann, U.; Idelmann, M.; Kellner-Aschenbrenner, K.; Niesar, M.; *Final report of a German wide questionnaire for the optimisation of separate collection of biowaste*, Report contracted by the German Environmental Fund (*Bundesstiftung Umwelt*), Osnabrück

The top four combined efficient/very efficient promotional tools were:

- Dissemination of information brochures;
- Press releases;
- Mayor's letter to citizens, and
- Visits to households by waste advisors.



**Figure 2:** Results of the German public authorities questionnaire

## **6. Key message to communicate**

The key message to communicate to people is: *There has to be no contamination in the brown bin in order to produce high quality compost to use in your garden.*

### **6.1 Feedback on contamination**

The two main methods for communicating contamination levels are:

1. Bin men providing direct feedback to household using red tags on bins which are contaminated, and
2. Composting sites providing feedback back to waste collectors on collection routes which are contaminated.

#### **Feedback of contamination in brown bin to householders**

Contamination in brown bins is commonly controlled by waste-collection bin men. They do a visual inspection of the contents in the bin and if there is a lot of contamination, they do not collect it. They then put a red tag on the bin which explains why the bin was not collected. The householder should get a visit from the waste advisor too.

This is the most effective way to control contamination is to provide feedback to the householder on their contamination levels to change their behaviour.

People who contaminate their brown bin should get a yellow card or red card attached to their bin (see Figure 3 on next page). The yellow tag provides tips on reducing contamination in the brown bin and the bin is still collected. The red tag means that the bin is too heavily contaminated and will not be collected.

An element of 'peer pressure' amongst householders can make red tags a successful enforcement option, *i.e.* not wanting to have one's bin marked as contaminated in front of the neighbours.

Despite any embarrassment caused with the red tags, it has proven more effective than re-education.

#### **Promoting results of contamination rates to householders**

It is very important to make the results of the brown bin collection contamination rates known to the public. This is mainly done through articles in local newspapers in spring and autumn. These articles report results of the collected bio-waste or the results of a competition between the municipalities in the catchment area of a composting plant, as evaluated by the plant upon receipt of the brown bin material.

This information on contamination rate can be combined with the advertisement for the sale or use of quality compost produced from brown bin material.

#### **Feedback of contamination in brown bin from compost sites to waste collectors**

Enforcement measures may also be employed by composting sites which treat the collected brown bin material to avoid high levels of contamination. The collection route where the brown bin material was collected is noted, so the area if known where additional education is required if the contamination levels are high.

Once the brown bin material is unloaded at the composting site it will be visually checked and given a grading for contamination levels. If the material is declared to be a grade which cannot be treated at the composting facility and must instead be sent to landfill, in this circumstance the waste collector will be charged for the cost. In this way, it places a stimulus on the waste collector to clamp down on contamination by householders.

 <p><b>Step 1: 'Yellow card' with sorting hints as education</b></p>	 <p><b>Step 2: 'Red Card' hook or sticker. The bin will not be emptied because of repeated cases of contamination.</b></p>
<p><b>'Red Card' information can include information such as:</b></p> <p><b><i>Your segregation quality is again insufficient.</i></b></p> <ul style="list-style-type: none"> <li>– <i>We did not empty the bin because of contamination.</i></li> </ul> <p><b><i>What can be done?</i></b></p> <ul style="list-style-type: none"> <li>– <i>Take out the contamination, or</i></li> <li>– <i>Bring the bin to the waste management site at €x additional cost, or</i></li> <li>– <i>Pay for the additional cost for the brown bin with the contamination to be collected with the residual waste.</i></li> </ul>	

**Figure 3:** Feedback and education on insufficient sorting

### Other methods of controlling contamination

Some countries have other methods to control contamination as follows:

- In some areas of Germany, when contamination levels increase to critical levels, the brown bin is collected by vehicles with a metal detector called the 'Waste Sheriff' (See Figure 4). The metal detector gives an overall indicator of impurities before acceptance and affected bins will not be emptied. These households will be visited by waste advisors. Often the announcement that the 'Waste Sheriff' will be in a certain part of the municipality in the local newspaper is enough improve the quality, and
- Transparent compostable bags are used in Spain and Italy as contaminants can be seen and the bag is not collected.



**Figure 4:** The white panel at back of the truck is the metal detector (Waste Sheriff)

## 6.2 Closed loop cycle- brown bin to compost

The public image of the final compost product influences the quality of segregation and the level of contamination in brown bins.

It is important to demonstrate that the brown bin material is composted. Otherwise the general public may ask 'Why should I sort if all the waste ends up in the landfill?' This will undermine the quality of source segregation. This was an issue in the Netherlands where the composting plant was up to 150 kilometres away. Because the material was not composted locally, people were suspicious as to what happening to the material. This was not helped with the fact people could not get compost made from the brown bin material.

This problem cannot be addressed by education alone. It needs to be supplement by giving the public samples of compost produced from brown bin material.

Bad contamination experiences in Germany have led to the approach of marketing quality assured compost, while at the same time introducing a brown bin education campaign in a certain area. They introduced a compost product label (e.g. on the kitchen caddy) with a local touch (e.g. 'Witzenhausen Gold' for the compost produced in the city of Witzenhausen). This allows the residents to 'connect' with the end-product and feel that it is 'my compost'. This prevents contamination because residents do not want to have contaminants in their gardens from compost.

Educating the public on the benefits, quality and use of quality assured compost is very important to help them understand the importance of keeping the brown bin free from contamination.

In educating people, it is important to choose the right words. You should use residues/recyclables instead of waste/refuse. No one wants to spread waste in their garden or eat vegetables grown on waste.

During the implementation phase of the brown bin roll-out, it should coincide with marketing compost for sale, which was manufactured from brown bin materials.



**Figure 5:** Poster for BUS STOPS in Germany—intended for the end of the implementation phase. The Compost Quality Assurance Scheme logo is under the word *Kompost*.



## 7. Brown bin education plan for Ireland

The author prepared a draft brown bin education plan for Ireland. Stakeholders were consulted at a meeting hosted by the Department of Environment, Community and Local Government and were asked for feedback via email. After reviewing the comments, the elements of an education plan were prepared (Table 3).

The Department of Environment Community and Local Government will set up a small contact/implementation group. This group's remit will be to review this report's findings and to agree the content and format of the core messages for a brown bin awareness-raising campaign in Ireland.

**Table 3: Brown bin education plan for Ireland**

<b>Educational tools</b>	<b>Comments</b>
<b>Brown bin waste advisors during the implementation phase</b>	A pilot is recommended to be conducted to determine if the provision of this service is applicable in Ireland.
<b>Primary schools</b> A programme for primary schools should be developed and be part of curriculum. This would include an educational film on how to use a brown bin, how it is composted and how to use compost. The programme should be promoted to green schools. <b>Secondary schools</b> More advanced programme for the transition year: <ul style="list-style-type: none"> <li>- conduct food waste audits of school canteen,</li> <li>- grow food with compost, and</li> <li>- visit compost site</li> </ul>	Schools programme in other countries will be reviewed and a programme for Ireland is recommended. Videos on how to use the bin and how it is composted should be provided on a schools section on a website.
<b>Phone hotline</b> <ul style="list-style-type: none"> <li>- for information, problems and complaints</li> </ul>	Waste collectors should provide their own hotline. It is important all staff managing the hotline are trained on how to answer queries on the brown bin.
<b>Adverts on local radio shows</b>	Regional stakeholders (e.g. waste collector and Local Authorities) should provide this.
<b>National website</b> <ul style="list-style-type: none"> <li>- Contains YouTube clip on how to use brown bin;</li> <li>- FAQs;</li> <li>- Link to <a href="http://www.stopfoodwaste.ie">www.stopfoodwaste.ie</a> and</li> <li>- List of what can go into brown bin.</li> </ul>	A national website as a source of information should be developed.
<b>Frequently Asked Questions (FAQs)</b>	Cré will produce a set of standard FAQs will be prepared which should be adopted by the waste collectors.
<b>Teaser leaflet sent to householder before delivery of the brown bin</b> <ul style="list-style-type: none"> <li>- Introducing the service</li> <li>- How to use the brown bin</li> </ul>	Cré will produce a generic digital copy for waste collectors to brand and print.



<b>Information leaflet</b> To go with brown bin when delivered to the house: <ul style="list-style-type: none"> <li>– Contact details for queries;</li> <li>– FAQs;</li> <li>– How to use the brown bin, and</li> <li>– This would include details on compost and its use.</li> </ul>	Cré will produce a generic digital copy for waste collectors to brand and print.
<b>Contamination warning tag</b>	Cré will produce a digital copy of a red tag for waste collectors to brand and print.
<b>Kitchen caddy with sticker</b> about suitable brown bin materials	Cré will produce a digital copy for waste collectors to brand and print.  All waste collectors should be providing a kitchen caddy to each household.
<b>Local authority letter to households on their obligations</b>	In Germany, a letter of an official such as the town Mayor on a proposed new brown bin scheme is an effective tool. In Ireland, Local Authorities could produce a generic letter which would be delivered by the waste collectors.
<b>Exhibitions/meetings</b>  Mobile exhibition for meetings, education events and information at public places (markets, public buildings, supermarkets). It should include information about compost and its successful use.	Pop-up stands will be designed by Cré. Local Authorities can print them.  Local Authorities and waste collectors should conduct the exhibitions.
<b>Workshop for Local Authorities on the sector /brown bin</b>  Delivered to regional groups of Local Authorities. It would include a site visit to a brown bin composting plant.	It is recommended that it is organised by Local Authorities and presentations from Cré and Department of Environment.
<b>A two-hour workshop for collectors in a region</b> <ul style="list-style-type: none"> <li>– Introduce the regulations</li> <li>– Explain the awareness campaign</li> </ul>	It is recommended that it is organised by Local Authorities and include presentations from Cré.

### Challenges to implementing brown bin education programme in Ireland

In many European countries, Local Authorities own the waste and provide the collection service or have it tendered out to one collector.

In countries where Local Authorities own the waste management system and there is only one collector, it is easier to have a successful brown bin scheme. This is because the Local Authority can standardise the type of collection scheme/messages/education on brown bin collection in the region.

In Ireland, we have a free market and this makes it more difficult to implement a standardised brown bin scheme, as collectors use different type of bins, some providing food waste only collections, and many having different charging mechanisms.

For the same reason, implementing a national education programme will be challenging and will require cooperation from many stakeholders such as:

- Assistance by Local Authorities to waste collectors on raising awareness of brown schemes in the area;
- Commitment by waste collectors to use the standardise messages/tools and to provide a quality service;
- Commitment from the composting plants to provide assistance to collectors and Local Authorities in raising awareness;
- Enforcement of the *Household Food Waste Regulations* by Local Authorities, and
- Use of educational tools by teachers.

## Appendix A- Details of the experts consulted

The literature review carried out for this study was supplemented with interviews with experts who were involved in implementing separate collection systems on a national level in the countries in the Table below.

**Table:** Background on countries reviewed

Expert	Country	Background of the brown bin scheme in each country
Florian Amlinger Johanna Leutgöb	Austria	Established 1991–1996  Participation rate in rural areas up to 60%, in cities up to 85%.
Kristel Vandenbroek	Belgium/Flanders	Established 1991–2000  Separate collection including home composting is above 70% participation rate.
Prof. Dr W. Bidlingmaier Josef Barth	Germany	Established 1992–2000  First phase, up to 65% of municipalities and 55% of the population,  Restarted in 2013 with mandatory bio-waste collection until 2015.
Enzo Favoino Marco Ricci	Italy	Established 1992-ongoing at the moment in the south and big cities. <i>E.g.</i> Veneto has 90% of the municipalities taking part and of them 80% of the participation rate of householders.
Gijs van Bezooijen, engineer	Netherlands	Established 1993–1998  Around 80% participation

### KEB Compost—Consulting & Development

**Florian Amlinger** is Chief Editor of the book *Biobin Vienna* which analysed the roll-out and the implementation of the separate collection and home composting of the City of Vienna. He contributed in many Austria regions to implementation activities of separate collection of bio and garden waste with local and regional authorities

### Eco Counselling, Vienna

**Johanna Leutgöb** has worked for 25 year in the environmental consultancy *Die Umweltberatung* (Eco Counselling) which managed and accompanied lot of implementation campaigns of separate collection in Austria by means of campaigns, events, education, and training.

### VLACO vzw

**Kristel Vandenbroek** worked at the Flemish Public Waste Organisation OVAM during the implementation of the first master plan for vegetable, fruit and garden waste (vfg waste) and green waste (1991–1995) and the second master plan after 1995 intended to establishing separate collection and home composting in the municipalities. The first master plan led to the foundation of the Flemish organisation for the promotion of composting and compost use VLACO where Kristel has worked up to the present.

### **Prof. Dr W. Bidlingmaier**

Former professor of the University of Weimar was involved in several separate collection projects in practice and scientifically during the start-up phase in the nineties in Germany. He is the chief editor of the CD-Rom on '*Status of separate collection*' which was issued parallel to the Jubilee '*20 years brown bin in Germany*' in 2003.

### **INFORMA compost consultants**

Josef Barth was Executive Director of the German Compost Quality Assurance Organisation during the implementation period of source separation in Germany and the respective quality discussion and development of the compost quality assurance scheme. He contributed in the last 20 years to various EU source separation studies through his consultancy INFORMA.

### **Working group on composting and integrated waste management *Scuola Agraria del Parco di Monza***

**Enzo Favoino and Marco Ricci** are key experts for the implementation of bio-waste separate collection in Italy and abroad e.g. Spain and UK for more than 10 years—most recently for the city of Milan, Italy.

### **Dutch waste processing association NVRD Gijs van Bezooijen**

Gijs van Bezooijen was director of the Dutch Waste Processing Association from 1991 to 2004 and Member of the Government authority and industry which implemented the separate collection of vegetable fruit and garden waste under to a national action plan in the years 1993 to 1997.

## Appendix B - Duties of brown bin advisors

### Implementation phase

During the start of implementation phase the brown bin advisors role is to announce in local media the imminent roll-out of the brown bin system, the start date and the reasons for it. The education of people starts during this initial two to three month period.

Implementation starts with the roll-out of the bins. Often this is done only in pilot projects in parts of the city and therefore can take many months.

The advisors need to develop the residents' confidence in the whole system. Therefore, they need excellent communication and public relations skills as well as knowledge of the technical aspects of composting.

Their duties during this phase:

- *Adaption of information for local situations such as:*
  - collection calendars;
  - guidelines on using bins;
  - national brown bin promotional information, and
  - Waste advisors can help to find a slogan/message with a local connection (composting plant) to which people can relate. This is key for implementation success and acceptance of the system. For example, This can be done by means of a compost product label (e.g. on the kitchen caddy) with a local touch (e.g. 'Dublin Gold') for the compost produced in the city of Dublin
- *Preparation of a mobile exhibition*
- *Education of bin men collecting waste*
  - This is quite important because of their regular contact with people.
- *Providing information to the local news media*
  - They can provide information at different stages during the roll-out to local newspapers and radio stations.
- *Visits of households*

Brown bin advisors can inform and educate people on typical questions listed below:

  - Can emissions from the bin be dangerous?
  - Can I put meat and bones in the brown bin?
  - Can I use my brown bin together with my neighbour?
  - Do I need to clean the brown bins?
  - Do I need to participate if I am doing home composting?
  - How and where is the brown bin material recycled?
  - How can I avoid maggots, flies and odours?
  - Tips for sorting in the kitchen (e.g. wrapping in paper keeps caddy and bin clean, no plastic bags in the bin! Clear message which contaminants endanger quality, use and market for compost)
  - What does it cost?
  - What is the size of the bin?
  - What should be in the bin?
  - When will it be rolled out and how often will the bin be emptied?
  - Where the bin be placed? (not in the sun!).
  - Why bother with a separate collection?

A list of FAQs should be compiled. These can be used for the education of all parties (hot line operators, bin men, brown bin advisors) who are in direct contact with householders.

- *Operation of a hotline*
  - The hotline can answer queries around all aspects of the brown bin, composting, compost use, and home composting.
- *Organising Events*

The brown bin advisors will have responsibility for organising information events in the following target groups:

  - Apartment blocks;
  - Other groups (clubs, scouts, horticulture clubs);
  - Schools, and
  - Waste departments officials in the Local Authorities who often have negative opinions, e.g. that brown bin systems do not work.

- *Coordination of the information flow*  
*Brown bin advisors will coordinate information* between all interested parties such as Local Authorities, waste collection companies, PR agencies, media and householders.

### **Post-implementation phase**

In the post-implementation phase there is still a need for brown bin advisors but the number can be reduced. For example in Germany, the average is one waste advisor (covers all waste streams including commercial waste) per 20,000 people.

In Germany, the duties of the waste advisor, during this phase, are:

- Education and provision of information to commercial food producers;
- Operate the helpline (telephone, email) for source separation/brown bin problems and home composting problems;
- Organise an annual compost day at one of the recycling centres or at the compost site;
- Prepare articles for the local newspaper and radio, mainly in spring and in autumn (addressing the success, or otherwise, of the brown bin collection in the last year, the quality of the compost and use of the local compost products in the garden);
- Provision of information to landscaping enterprises which generate garden waste;
- Support schools by providing presentations or accompany school classes on study tours of composting plants;
- Visit households in areas where contamination is high, and
- Where householders can apply to the Local Authority for exemption from brown bin collection and instead propose to carry out home composting, the advisor would check the application and Google Earth to see (or visit the location) if the householder has an actual back garden for home composting.

## Appendix C- Example of education tools

### Teaser leaflet (A5 size—sent to households 4–6 weeks before getting bin)

### The benefits of recycling food waste

- Gives you the opportunity to recycle more of your waste.
- Reduces the odour caused by rotting food waste by providing a special containment system and regular service.
- It's easy and convenient as householders are provided with doorstep collection services.
- Reduces the amount of waste that has to be landfilled which helps to cut down the cost of waste disposal.
- Reduces the amount of methane gas produced in landfill sites, which is a cause of global warming.
- Your treated food waste will be used for horticultural purposes. **75% recycled**

This newsletter is available in large print, Braille, audiocassette and other alternative formats at your request. Please also inform us if you require this document in a different language. You can contact us on **01483 444499** for the alternative format version you would like. We will send it to you as soon as we can.

If you have any queries about this new collection please contact our helpline below:

**Contact Guildford**  
**01483 44 44 99**  
[www.guildford.gov.uk](http://www.guildford.gov.uk)  
[recycling@guildford.gov.uk](mailto:recycling@guildford.gov.uk)



## Food Waste Recycling

Your New Food Waste Collection Trial



details inside!





### Your new food waste collection service

We are making changes to the way your food waste is collected so that you can recycle more and we can process it in a more environmentally acceptable way.

From mid-May we will be trialing a new food waste collection service for one year. We will be delivering two new containers to your house, together with instructions on how to use them.

All you will need to do is empty food waste from your plate and peelings into the new bin and put it out for collection. Food waste will be collected every week on the same day as your normal waste and recycling collectors from the kerbside.

Your actions will help to cut down the amount of food waste that ends up in landfill sites. Rotting food in landfill generates methane - a greenhouse gas that is 21 times more potent than carbon dioxide.

#### What happens to your food waste?

Once we have collected your food waste, it will be taken to an enclosed composting plant and the end product will be used for horticultural purposes.




### Start of the service

The new one year trial service will start in the week commencing 14th May 2007 and we will collect your food waste on the same day every week.

#### What we will provide

To enable you to separate your food waste easily from the rest of your waste we will provide you with:

- 1 A caddy to collect the food waste in the kitchen
- 2 A roll of corn starch bags to line the caddy
- 3 An outside food waste bin which we will empty weekly

#### What will I be able to recycle?

You will be able to recycle **all your food waste**, including the following:

- meat and fish – raw and cooked including bones;
- all dairy products such as eggs and cheese;
- raw and cooked vegetables and fruit;
- bread, cakes and pastries;
- rice, pasta and beans;
- uneaten food from your plates and dishes; and
- tea and coffee grounds.




**Instruction leaflet supplied with brown bin on how to use it  
(A5 size—6 pages)**

# Food Waste Recycling

**Your New Food Waste Collection Service**

**NEW**

don't delay recycle today

Newtownabbey  
BOROUGH COUNCIL

details inside!

## 1 Why are we making changes?

We are changing your brown bin service to include food waste. This will help you to recycle more from your home and help to meet landfill diversion targets.

Your brown bin will continue to be collected as normal.

**You should have received:**

1. Food caddy

2. Roll of liners

If you have not received these bins please call:

**028 9034 0056/57**

### What happens to your garden & food waste?

Once we have emptied your brown bin, the contents are taken to a dedicated processing plant where it is specially treated and turned into compost.

## 2 How do I use my food caddy?

only use liners provided

**1** Line your caddy with a biodegradable bag and fill it with food waste.

**2** When it is full, tie the bag and put it in your brown bin.

Store your caddy in a convenient location, for example, under the kitchen sink!

This leaflet is printed on 100% recycled paper. Please recycle in your blue bin.

## 3 What can I put in my caddy?

**You can put any raw or cooked food in your caddy.**  
**You can even scrape uneaten food straight into your caddy.**

- ✓ Meat and fish – raw and cooked including bones.
- ✓ All dairy products such as eggs and cheese.
- ✓ Raw and cooked vegetables and fruit.
- ✓ Bread, cakes and pastries.
- ✓ Rice, pasta and beans.
- ✓ Uneaten food from your plates and dishes.
- ✓ Tea and coffee grounds.

food waste

dairy

fish

fruit & vegetables

meat & bones

bread & pastries

tea & coffee grounds

**garden waste** ✓ Remember your brown bin can still be used to recycle garden waste.

### No Thanks

Please do not put any of these materials in your caddy.

- ✗ Packaging of any sort.
- ✗ Plastic bags.
- ✗ Liquids.
- ✗ Oil or liquid fat.

**IF IN DOUBT PHONE AND FIND OUT**

Tel 028 9034 0056/57



### 4 Tips for recycling food waste

Make sure your brown bin is out for collection by 7.00am on your collection day and can be seen clearly.

Keep your food waste caddy and bin clean by tying your biodegradable bags when they are full.

Newtownabbey Borough Council will be providing the bags. We will be delivering bags every few months to ensure you have a steady supply. However if you require extra please contact us on the number below.

Keep your caddy clean by rinsing with water or wiping with kitchen towel.

For further information  
**028 9034 0056/57**  
[www.newtownabbey.gov.uk/foodwaste](http://www.newtownabbey.gov.uk/foodwaste)  
[info@newtownabbey.gov.uk](mailto:info@newtownabbey.gov.uk)

### 5 Frequently Asked Questions

**Q Why are we doing this?**

**A** Approximately 20% of the waste in an average household bin is food waste. When it decomposes in a landfill site it produces methane, which causes global warming.

**Q Will the food in my bin smell?**

**A** Not if you empty your food caddy regularly into the outside brown bin and tie up the corn starch bags.

**Q I don't have time to do this – why should I have to?**

**A** It is important to reduce the amount of food waste going to landfill as it generates methane, a powerful green house gas. It's easy, all you need to do is follow the instructions in this leaflet.

**Q Can I use plastic bags to line my caddy?**

**A** NO, the corn starch bags decompose, plastic bags don't. If you run out of corn starch bags please call 028 9034 0056/57.



Italian poster for the announcement of a separate collection



German sticker for the kitchen caddy or fridge about the in-and-out materials for separate collection—illustrated by little pictures



Design of a sticker (bins/buckets), for a flyer (to households) and for posters in the entrance area of high-rise buildings and the recycling compartments in five (5) languages to educate on separate bio-waste collection in Germany.

### Examples of contamination tags

*Kompostieren  
Müll  
reduzieren!*



**Unfortunately** we detected that you use your **"Brown Bin"** for **residual waste as well**.  
This is the reason why we could not empty your bin. Nevertheless you have the possibility after sorting the biobin material properly to deliver it to our composting site by your own.

We would like to ask you to use your **"Brown Bin"** exclusively for compostable waste from your kitchen and garden.

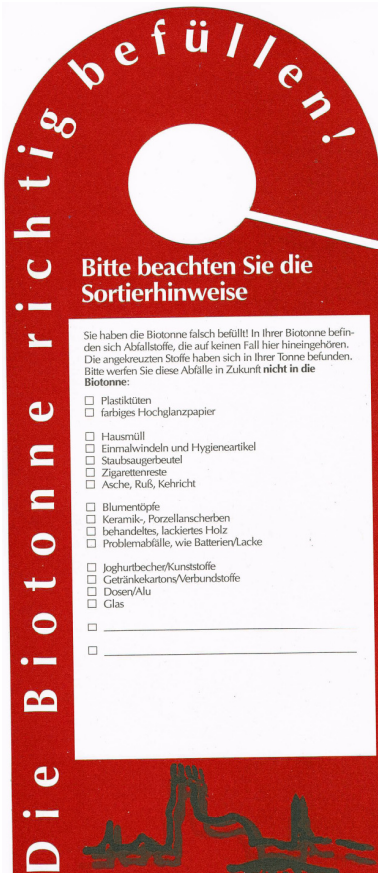

**Only without contaminants** we can produce **high quality compost**.

Thank you very much.

Städtische Müllabfuhr

Stadthaus

**Ideen für die Umwelt**  
Eine Initiative des **WIRTSCHAFTS GUTS** und seiner **STÄDTE und GEMEINDEN**

The collection personel tick the box with the type of contaminants they found.	Recommendations to sort properly and where additional waste advisory information is available
 <p><b>Die Biotonne richtig befüllen!</b></p> <p><b>Bitte beachten Sie die Sortierhinweise</b></p> <p>Sie haben die Biotonne falsch befüllt! In Ihrer Biotonne befinden sich Abfallstoffe, die auf keinen Fall hier hineingehören. Die angekreuzten Stoffe haben sich in Ihrer Tonne befunden. Bitte werfen Sie diese Abfälle in Zukunft <b>nicht</b> in die Biotonne:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Plastiktüten</li> <li><input type="checkbox"/> farbiges Hochglanzpapier</li> <li><input type="checkbox"/> Hausmüll</li> <li><input type="checkbox"/> Einmalwindeln und Hygieneartikel</li> <li><input type="checkbox"/> Staubsaugerbeutel</li> <li><input type="checkbox"/> Zigarettenreste</li> <li><input type="checkbox"/> Asche, Ruß, Kehrlicht</li> <li><input type="checkbox"/> Blumentöpfe</li> <li><input type="checkbox"/> Keramik-, Porzellanscherben</li> <li><input type="checkbox"/> behandeltes, lackiertes Holz</li> <li><input type="checkbox"/> Problemabfälle, wie Batterien/Lacke</li> <li><input type="checkbox"/> Joghurtbecher/Kunststoffe</li> <li><input type="checkbox"/> Getränkekartons/Verbundstoffe</li> <li><input type="checkbox"/> Dosen/Alu</li> <li><input type="checkbox"/> Glas</li> <li><input type="checkbox"/> _____</li> <li><input type="checkbox"/> _____</li> </ul>	 <p><b>Trennen der Abfälle ist Pflicht der Umwelt zuliebe</b></p> <p><b>Richtiges Befüllen garantiert höchste Kompostqualität!</b></p> <p>Alle Bioabfälle aus den Biotonnen werden im Kompostwerk in Engrünger in Naturdünger umgewandelt. Bitte erleichtern Sie das Aufarbeiten der Bioabfälle, indem Sie keine Störstoffe in Ihre Biotonne geben. So helfen Sie mit, die hohe Qualität des entstehenden Kompostes sicherzustellen.</p> <p>Gern schicken wir Ihnen ein kleines Plakat zu, das Sie in der Küche aufhängen können. Es enthält genaue Sortierhinweise, welche Bioabfälle in die Biotonne gehören.</p> <p><b>Haben Sie Fragen zur Abfallentsorgung?</b> Dann rufen Sie bitte die Abfallberatung der Stadtverwaltung Oelde, Herrn Becker oder Herrn Schlüter an: 02522/72419 oder 02522/72459</p>



## Promotional letter (Newry and Mourne District Council)

# Your New Brown Bin Scheme

COMHAIRLE AN IÚIR  
AGUS MHÚRN



NEWRY AND MOURNE  
DISTRICT COUNCIL

Dear Householder,

Newry & Mourne District Council are launching a brown bin scheme for the collection of organic waste (i.e. kitchen and garden waste).

**YOU will be receiving a brown bin at your property during the next few weeks!**

### WHAT WILL BE ISSUED?

- 240 litre brown wheeled bin.
- 10 litre kitchen bin.
- Information leaflet on correct use of bins.
- Calendar showing information on collecting dates.
- Introductory sample of compost (5 litre bag)

### WHY?

Newry and Mourne District Council remain committed to the Waste Management Strategy for Northern Ireland, launched in the year 2000. This Council in conjunction with the Southern Waste Management Partnership aim to tackle the problem of increasing waste within the district through planning and co-ordinated initiatives.

Each Council across Northern Ireland is obligated through European legislation to recycle **25%** of their household waste by **2005**. The Landfill Directive introduced in 1999 also will require Councils to divert **75% biodegradable** waste from landfill by **2010**.

In order to comply with this stringent legislation Newry and Mourne District Council are introducing a **brown bin scheme** for the collection of **organic waste** (e.g. vegetable / fruit peelings, teabags, eggshells, grass and hedge trimmings), throughout the district. This new scheme will be alternated on a fortnightly basis with the present grey bin collection service. This Council's strategy is to work with householders to reduce the amount of waste going to landfill. This is your chance to do your bit for your local environment.

### WHERE WILL THE ORGANIC WASTE GO?

All organic waste collected from the Council via the brown bin scheme and Civic Amenity Sites will be taken to Natural World Products in Keady. Material is shredded at this site and composting takes place under well-managed controlled conditions. The end product is a nutrient rich compost, you will be given a sample of this product along with your brown bin.

When you receive your bin please check that all the above items have been included.  
For further information Telephone: (028) 3031 3220 / 3283 or (028) 3085 1914.

**\*\*THIS LEAFLET IS ALSO AVAILABLE IN LARGER PRINT / AUDIO / BRAILLE AND IRISH LANGUAGE\*\***

Recycling newsletter (Newry and Mourne District Council)



# Recycling Newsletter

## B.B.F.C.

### Brown Bins For Compost

Dear Householder,

Thank You for your continued support with the brown bin Scheme.

To date almost 1500 tonnes of organic waste has been recycled instead of going to landfill.

This is a great achievement and the scheme very much relies on your co-operation.

It is important that each householder checks their brown bin for contamination.

Please remember that no plastic, metal or glass is acceptable. Only small amounts of paper can be deposited in the brown bin.

If in doubt leave it out !



**Newspapers and magazines used to wrap food.**



**Folded Newspaper, catalogues, directories, cereal/pizza boxes.**

## THANK YOU FOR RECYCLING

- HOUSEHOLDERS ARE REQUESTED TO LABEL BROWN BINS CONSPICUOUSLY WITH THEIR HOUSE NUMBER TO HELP RUN THIS SERVICE MORE EFFICIENTLY.



### REMEMBER THE B.B.F.C. RULES

- No Contaminated bins will be collected.
- Present the correct bin on the scheduled collection day.

• BINS THAT ARE CHECKED AND FOUND TO BE CONTAMINATED WILL NOT BE EMPTIED AND RELEVANT DETAILS WILL BE RECORDED FOR FUTURE REFERENCE.

For future information on the brown bin scheme Tel. 028 3031 3233.

## Electronic Media Tools

### Websites

[www.oxford.gov.uk/PageRender/decER/Foodwasterecycling.htm](http://www.oxford.gov.uk/PageRender/decER/Foodwasterecycling.htm)

[www.hungry-harry.co.uk/](http://www.hungry-harry.co.uk/)

[www.recycleforcalderdale.org/FoodWasteRecycling/](http://www.recycleforcalderdale.org/FoodWasteRecycling/)

[www.getitsorted.org/food-waste/](http://www.getitsorted.org/food-waste/)

[www2.wolverhampton.gov.uk/environment/waste\\_recycling2/food\\_waste\\_recycling/food\\_waste\\_recycling\\_what\\_is\\_the\\_new\\_service.htm](http://www2.wolverhampton.gov.uk/environment/waste_recycling2/food_waste_recycling/food_waste_recycling_what_is_the_new_service.htm)

<http://compost4fun.recyclenow.com/>

<http://getitsorted.squarespace.com/milton-keynes/>

### U tubes

Bio-waste collection and treatment

[www.youtube.com/watch?v=dDJ4sdi4-VA](http://www.youtube.com/watch?v=dDJ4sdi4-VA)

[www.youtube.com/watch?v=2VdvED2ruiQ](http://www.youtube.com/watch?v=2VdvED2ruiQ)

City of Fürth —Clean material for the brown bin [www.youtube.com/watch?v=Y02Ch0D9Mu0](http://www.youtube.com/watch?v=Y02Ch0D9Mu0)  
[www.youtube.com/watch?v=71sC10B2g00](http://www.youtube.com/watch?v=71sC10B2g00)

Catalunya  
Our waste, our responsibility (2/4)- Separate Collection in Barcelona  
[/youtube/Vy-7Js31Z1c](http://youtube/Vy-7Js31Z1c)

[www.youtube.com/watch?v=3VcnRpHfMiQ&feature=g-vrec](http://www.youtube.com/watch?v=3VcnRpHfMiQ&feature=g-vrec)  
[www.youtube.com/watch?v=HvxbWc0snxc](http://www.youtube.com/watch?v=HvxbWc0snxc)  
[www.youtube.com/watch?v=3VcnRpHfMiQ](http://www.youtube.com/watch?v=3VcnRpHfMiQ)  
[www.youtube.com/watch?v=2vmsunNMWPo](http://www.youtube.com/watch?v=2vmsunNMWPo)  
[www.vasyd.se/en/wastemanagement/waste\\_sorting/food\\_waste/Pages/default.aspx](http://www.vasyd.se/en/wastemanagement/waste_sorting/food_waste/Pages/default.aspx)

## Apps



**APP on the collection dates/schedule for the different bins for smart phones.** The individual household is identified by a selection of the municipality and the street out of two lists in the App. See *Tonnenticker* (bin app) at [www.awg-waf.de/index.php?id=366](http://www.awg-waf.de/index.php?id=366)

## Educational tools for schools

The attached example is from the waste management department of the City of Nuremberg ASN, Germany, on 'all about waste' for schools and kindergartens.

[www.nuernberg.de/internet/abfallwirtschaft/abfallberatung.html](http://www.nuernberg.de/internet/abfallwirtschaft/abfallberatung.html) ND  
[www.nuernberg.de/imperia/md/asn/dokumente/asn-11-004\\_schulbrosch\\_\\_re\\_miniweb.pdf](http://www.nuernberg.de/imperia/md/asn/dokumente/asn-11-004_schulbrosch__re_miniweb.pdf)



### Unterrichtseinheiten

**„Abfalltrennung mit den Müllmonstern“**

Spielefach lernen die Kinder mit den Müllmonstern, Abfälle aus Kunststoff, Metall, Papier usw. zu entsorgen und dem richtigen Abfallbehälter zuzuordnen.

Ab Klasse 1-2 und Vorschulkindern  
Dauer: 1-2 Unterrichtsstunden



### Unterrichtseinheiten

**„Müllexpertenausbildung“**

An drei Lernstationen erarbeiten Schüler/innen die Schwerpunkte:

- Kompostierung und Mülltrennung,
- Die Kreislauf-Ökonomie und Schatz-Problematic,
- Recyclingmöglichkeiten von Wertstoffen
- und Müllvermeidung.

Ab Klasse 3  
Dauer: 3 Unterrichtsstunden



### Kindermuseum

**Kooperationsprojekt des ASM mit dem Kindermuseum**

**„Gold im Müll – Entdecke die Schätze“**

Die Stationen: Chemische Gemische – wertvolle Rohstoffe, Mülltrennung, Abfallmerkmale, Bodenlebewesen und Computerecycling

Die Kinder erkunden in Kleingruppen, welche „Schatze“ im Müll verborgen sind, warum es wichtig ist, Müll zu trennen, und wie man überflüssigen Verpackungsmüll vermeidet.

In der Computerecyclingstation werden Computer zerlegt und wertvolle „Schatze“ herausgelöst. Im Bodenlebewesen werden kleine Lebewesen entdeckt, die kostenlos als Nährstoffe für den Gießtopf zu verwenden helfen können.

Ab Klasse 3  
Dauer: 9.00 – 11.30 Uhr  
Kosten:  
Der ASM fördert das Projekt.  
Der Eintritt reduziert sich dadurch auf 2€ pro Kind!



**„Mehr Hirn – weniger Müll“**

Die Themen Abfallproblematik, -trennung, -beseitigung, Recycling und Abfallvermeidung werden von den Schüler/innen praktisch erarbeitet. Sie lernen Müll „Interviewen“ zusammen zu dem Thema Recycling und Müllvermeidung und entwickeln dazu eigene Ideen.

Abschließend können sie bei einem Abfalltag ihr neues Wissen präsentieren.

Ab Klasse 3  
Dauer: 4 Unterrichtsstunden



**Impressum:**

Herausgeber: ASM – Abfallwirtschaftsbetrieb Stadt Nürnberg  
Gestaltung: Schulbau-Verlag, www.schulbau.de  
Druck: Werkstatt für Behinderte der Stadt Nürnberg gGmbH  
Auflage: 1000 Stück  
Gestaltungsjahr: Juli 2011

**Buchungsbild:**

ASM – Abfallwirtschaftsbetrieb Stadt Nürnberg  
Abfallberatung  
Frau Beck  
Tel.: 0911 9231-4677  
ulrike.bueckler@stadt.nuernberg.de  
oder  
Kindermuseum:  
Frau Röhrl, Tel.: 0911 4500040  
kindermuseum-im-koerper.de

**Action 1: There is the offer 'We visit your school or kindergarten' and help with 'Education units, information and advice'.**

**Education unit 1 for primary and nursery schools/kindergartens (duration 1 to 2 hours):**

**'Waste separation with the waste monsters'**

With the help of all waste monster puppet kids are learning to distinguish waste like plastic, metal, paper, bio-waste etc. and to allocate them to the right bin.

**Education unit 2 for primary schools/class 3 to 5 (duration 4 hours):**

**'How to become a waste expert'**

At three learning stations the school kids develop the topics:

- waste separation and composting
- the organic loop for bio-waste and the problem of metals and contaminants
- materials for recycling centres and waste prevention

**Education unit 3 for secondary schools/class 3 to 9 (duration 4 hours):**

**'More brain—less waste'**

There are lessons with the introduction and practical development of the waste problem, of separation, treatment, recycling and prevention of waste. School kids separate waste actively and interview citizens about their behaviour when it comes to separation, recycling and prevention. All is used to develop own ideas by the school kids on waste and recycling.

**Action 2: Cooperation projects of the city's waste management department with a local museum for children**

**'Gold in waste—discover the treasures'**

In small groups, children can explore for 1.5 to 2.5 hours the hidden treasures in waste, why it is important to separate waste and to avoid it especially packaging. The treasure-hunt includes a station, e.g. with computer recycling and a microscope where the children can detect how micro-organisms degrading the bio-waste.

Exkursionen
Beratung

### ASN – Abfallwirtschaftliche Stadt Nürnberg

#### Abfallerzeugungsringe

Rau Beck  
Tel.: 0911/231-3700  
Münch Marktplatz 4, 90441 Nürnberg  
asn-muenchen@asn-nuernberg.de

Hier erfahren die Schüler/innen den Weg des Restmülls von der Anlieferung bis zur Verbrennung.

### ASN – Abfallwirtschaftliche Stadt Nürnberg

#### Das Müllräumungs-Schl

Herr Kollke  
Tel.: 0911/488 988  
Mühlweg 201, 90456 Nürnberg  
Auf der Deponie werden nichtbrennbare Abfälle (z. B. Blei- und Zinkblei, Druckversatzstoffe) aus der Industrie angeliefert.

### Werte Bildung

BRK – Bayrisches Rotes Kreuz, Kreisverband Nürnberg-Stadt  
Herr Kochlowski  
Tel.: 0911/530 1234

Auf dem Wertebildungsforum die Kinder sehen, wie die von den Bürgern abgegebenen Wertstoffe, z. B. Papier, Metall, Elektrogeräte, in kleinen Container nach Sorten getrennt gesammelt werden, um sie anschließend einer Verwertung zuzuführen.

### Kompostwerk Nürnberg

Stadt UmweltService SdL GmbH & Co. KG  
Herr Delle Lahn  
Tel.: 0918/79702-12  
Fax: 0918/741 420  
dell@stnue.com  
Grüne Regensburger Straße, in Nürnberg  
Die Schüler/innen erfahren, wie aus dem angelieferten Biomüll und den Grünabfällen ein hochwertiges Kompost entsteht.

### Wir verteilten Medien zur Unterrichtsbegleitung

- In Schulen
- In Kindergärten

Mit Rat und Tat sehen wir Ihnen bei der **Optimierung der Mülltrennung** in Ihrer Einrichtung zur Verfügung.

### Auswertung der Unterrichtseinheiten und Beratung bei:

ASN – Abfallwirtschaftliche Stadt Nürnberg  
Rau Beck  
Tel.: 0911/231-4677  
asn-back@asn-nuernberg.de


Anschliff:  
Am Platanenmarkt 27  
90420 Nürnberg




# RUND UM DAS THEMA ABFALL

## FÜR SCHULEN UND KINDERGÄRTEN



Ein 3D-Modell der Stadt Nürnberg  


### ***Action 3: Rental of media-boxes for the developing of lessons***

Boxes are offered for kindergartens and schools with flyers, stickers, toys, plays, paint books and other education tools. Participation and advice by the waste advisors is possible for optimisation of waste separation there.

#### ***Action 4: Excursions organised by the waste advisors***

To the recycling centres, the compost site, a waste incineration, or a landfill. At the compost site, the children can experience, how the delivered bio- and garden-waste is transformed into compost and which contaminants can be avoided by means of proper separation.



Page in a paint book about separate collection and composting for primary school kids