

# Food recycling bin for the catering trade

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Photo: Maskot / Westend61

In Berlin's catering establishments, very large quantities of organic waste are produced in the preparation of food, leftovers from cut up fruit, vegetables, meat and fish, as well as in the form of leftovers on customers' plates. In restaurants and snack bars, at least 30,000 tonnes of leftover food is still not separated from other waste and ends up in the general waste, which comprises up to 70% leftover food.

Food leftovers are not "waste" because they can be utilised as important recyclable materials in biogas plants. These leftovers are used first in the production of biogas to relieve the burden on the climate and the remainder is used as a natural fertiliser in agriculture after treatment.

### The food waste bin – a legal obligation!

Food scraps are also not considered to be "normal" organic waste either, as hygiene regulations such as the Animal By-Products Disposal Act and the Commercial Waste Ordinance decree that they must not only be collected separately, but also heated in such a way that they no longer pose any health risks (see also leaflet by the Berlin Veterinary and Food Supervisory Authority).

## What are the hurdles and what can be done to improve this situation?

To find out, the Senate Department for the Environment, Transport and Climate Protection launched the pilot project "Preventing waste and promoting the recycling of waste in the catering trade". It was intended to motivate restaurant operators in two selected neighbourhoods to use the food recycling bin correctly. The pilot project took place in the area of Sonnenallee in the district of Neukölln and around Savignyplatz in Charlottenburg-Wilmersdorf. It was implemented in close cooperation with and with the future involvement of the following companies [BRAL](#), [ALBA](#), [Berlin Recycling](#), [Refood](#), [Jakob-Becker-Gruppe](#), [REMONDIS](#), [veolia](#) and [Berlin's municipal cleaning company \(BSR\)](#) as well as the two district environmental offices and the German-Turkish environmental association [Yeşil Çember](#).

From 2020 onwards, the project was extended to the whole of the Neukölln and Charlottenburg-Wilmersdorf districts. Details about this can be found in the chapter "The pilot project".

Even better than recycling is the prevention of waste in the first place, as too much food that is still edible is still being disposed of. You can find information about "Saving food" in the chapter "Tips and Best Practices".

## The pilot project

There is huge potential for food waste to be collected in catering establishments. Unfortunately, the food recycling bin is often not used properly or not used at all for various reasons. What are the hurdles and what can be done to improve this situation?

The pilot project “Preventing waste and promoting the recycling of waste in the catering trade” was initially intended to motivate operators of catering establishments in two selected districts to use the food recycling bin correctly. Approximately 2019 establishments in the areas of Sonnenallee in the district of Neukölln and around Savignyplatz in Charlottenburg-Wilmersdorf were invited to take part in the project.

In these pilot areas, around 140 larger gastronomic establishments were selected and those that previously did not have a food recycling bin were identified. An informative flyer and a landing page were developed for the project in four languages. In May 2019, the senate administration responsible for waste sent the flyer to the businesses without a food recycling bin along with a letter offering free advice on waste separation and energy saving. This advisory offer was taken up by several businesses and was considered highly useful: on the one hand, it enabled the communication of the environmental benefits in the form of helping the climate and additional production of fertiliser, as well as the options for separating waste, including food waste. On the other hand, it also became clear (mostly for the first time) in the joint review of the accounts that a more controlled use of energy can achieve cost savings that far exceed the fluctuations in waste costs.

In addition, a clearly laid out, multilingual poster (PDF 2.9 MB) was developed. This was and will continue to be made available to restaurateurs so that it can be displayed in their respective kitchens, thus providing an ongoing and practical reminder that waste needs to be separated. Over the course of the project, the district authorities responsible provided strong support: by sending out a request for documentation in accordance with the Commercial Waste Ordinance on waste separation carried out in line with the Ordinance and follow-up checks on compliance, a heightened awareness of the legal obligation was once again achieved, which led to a significant increase in orders for the food recycling bin.

Success rate: the survey included about 70 establishments (+/-1) that were expected to have the relevant food waste volume at the start of the project. Enquiries and site visits by the district authorities to the businesses then revealed the concrete need for and options for installing the food recycling bin. Those businesses that were justifiably exempted from taking part must be subtracted from the total number in order to be able to show the relative increase in use among businesses with a real need for the food recycling bin. The take-up rate is very similar in both districts and shows a clear increase from November 2019 after the district authorities started to intervene – from around 30% of the businesses in Charlottenburg-Wilmersdorf at the beginning of the study to around 85% and in Neukölln to just under 70%.

Following these clear successes, the project will be extended to the districts of Neukölln and Charlottenburg-Wilmersdorf as a whole. The aim is to increase the numbers of those using the organic waste bin as well as increase the amount of collected food waste and its quality. The methodology is similar to that successfully tested in the pilot areas:

- Intensive education via information material (e.g. flyer/landing page) on waste prevention and separation.
- Continuation of the free advisory service on waste separation and energy saving.
- Targeted cooperation between public institutions and associations.
- Increased advertising of the food recycling bin by waste management companies.
- Weighing and quantity balancing of the waste fractions at selected companies, evaluation of the results based on the parameters of e.g. take-up rate, collected quantity of waste and quality of the food waste. The weighing and balances will be used to identify additional model businesses, which will be presented as examples in the project.

The measures are part of the “Zero Waste” strategy of the State of Berlin and, based on the experiences gained from the previous project, are expected to enjoy additional, more extensive success.



*Participating institutions*

## The free consultation appointment



*Photo: Syda Productions / stock.adobe.com*

As part of the pilot project, the Senate Administration for the Environment, Transport and Climate Protection is offering consultations to catering businesses in the pilot districts to support them in the practical use of the food recycling bin. The consultation shows catering businesses how organic waste, as well as packaging, paper and glass, can best be collected separately on their premises. Also part of the offer is an energy consultation, which provides business operators with a way to identify the equipment that consumes the most electricity in their business (refrigerator, oven, dishwasher etc.) and gives an assessment of possible savings potentials.

In the two test districts of Neukölln and Charlottenburg-Wilmersdorf, there is the option to contact the engineering office listed below and make an appointment. The free, German-language consultation appointments are conducted by

ICU Partner-Ingenieure  
M. Sc. Paul Sanders / Dr Ulrich Wiegel  
Email: [p.sanders@icu-berlin.de](mailto:p.sanders@icu-berlin.de)

## What is permitted in the food recycling bin?


Many employees in the catering industry do not know exactly what type of waste belongs in the food recycling bin. Food scraps or spoiled food from the refrigerator, including packaging, are often mistakenly thrown into the residual waste bin. In addition, lack of time and stress complicate the careful sorting process in an operating gastronomy business. It is precisely this kind of high-calorie kitchen waste and leftovers on the plate that are full of energy and produce a great deal of biogas in the fermentation plant – which is why correct disposal contributes to climate protection, as described in detail below.

Below you will find a list of the types of waste that are allowed in the food recycling bin and those that are not permitted:

## What is permitted in the food recycling bin?

<b>Kitchen waste from preparation</b> <ul style="list-style-type: none"><li>■ Leftovers from fruit and vegetables, egg shells</li><li>■ Trimmings from meat and fish</li><li>■ Milk products (leftovers of cream cheese, sauces etc.)</li></ul>	
<b>From diners</b> <ul style="list-style-type: none"><li>■ Leftovers on plates</li><li>■ Paper serviettes</li></ul>	
<b>From storage</b> <ul style="list-style-type: none"><li>■ Food that has been stored too long/unopened food that has gone off</li></ul>	

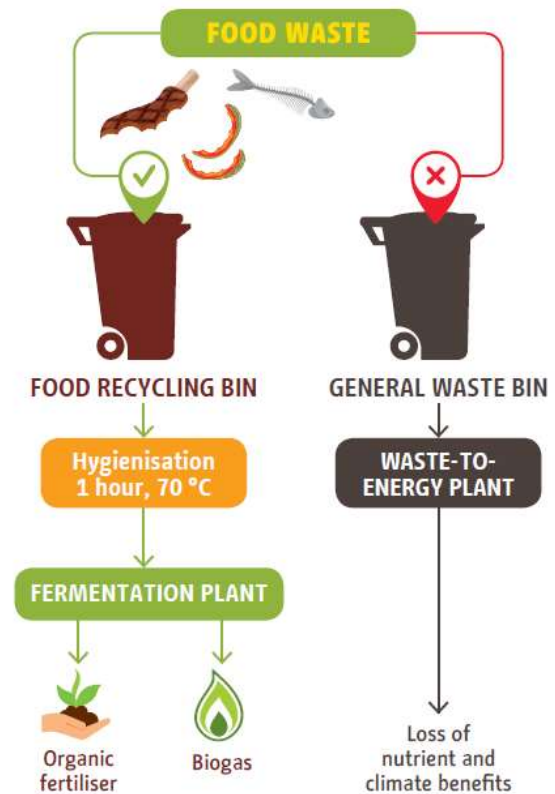
## What is NOT permitted in the food recycling bin?

<ul style="list-style-type: none"><li>■ Plastic</li><li>■ Metal</li><li>■ Glass</li><li>■ Other food packaging</li><li>■ Frying fats and cooking oil</li></ul>	
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## What happens to the food waste afterwards?

When disposing of food leftovers, special hygiene regulations apply in comparison to organic waste from private households ([you can find them here](#)). The larger quantities of animal constituents in food leftovers from gastronomic establishments pose an increased risk due to pathogens. Energetic pre-treatment kills these pathogens. These treatment steps are complex, which is why the costs for the food recycling bin are higher than for the normal organic waste bin.

Following the one-hour hygienisation and subsequent fermentation, climate-friendly biogas is produced from the leftovers. As a renewable energy source, biogas can be used in many ways. It can be used for e.g. CO<sub>2</sub>-neutral mobility: in Berlin, for example, refuse collection vehicles belonging to Berlin's municipal cleaning company (BSR) are refuelled with fuel from the biogas plant. The process also leads to the production of compost as a natural fertiliser for agriculture.



*Recycling of food waste / icons © JokoSusanto, Suesse / stock.adobe.com*

## Collecting separately saves costs



Some gastronomic establishments are already successfully practising the complete separate collection of food waste, glass, paper and packaging. If you are not yet using a food recycling bin, you can obtain an offer from one of the following suppliers who are actively supporting the pilot project. As a guideline, costs are between 13 and 18 euros per emptying.

BRAL: [www.bral.de](http://www.bral.de) Tel.: 030 983 060 898

Refood: [www.refood.de](http://www.refood.de) Tel.: 0333 8706 8330

Becker + Armbrust GmbH: [www.jakob-becker.de](http://www.jakob-becker.de) Tel.: 03378 866 00



Depending on the size of the company, a 120 or 240 litre tonne bin can be ordered. A flexible collection schedule, for example one or several times a week or only every two weeks, can be tailored to your individual needs. The bins are washed and disinfected each time they are emptied. Chains or locks can also be ordered and are a good way to avoid the bins being filled by third parties.

Initial experiences from the pilot project show that companies that use the food recycling bin do not have any problems implementing the system. **All in all, separate waste collection saves costs.** This is because preventing waste and increased separate collection can reduce the amount of residual waste to such an extent that, despite the additional food recycling bin, the total costs for all waste remain the same or even fall when totalled up.

As part of the project, four **best-practice companies** were visited that practice careful separate collection – especially of food waste. The amount of residual waste from these best-practice companies was compared with the volume produced by similarly large companies that also collect “dry” recyclables separately but do not use a food recycling bin (“**reference companies**”). In order to take into account the different sizes of the companies, the amount of waste was linked to dishes served.

The comparison revealed that:

- Reference companies without a food waste bin have a residual waste volume of around 370 grams per dish. This corresponds to an annual waste volume of 20,000 kg per year.
  - The same volume of waste is produced per dish in the four best-practice companies with food recycling bins. However, half of this waste is collected in the food recycling bin, i.e. 10,000 kg per year.
- **The amount of residual waste is thus reduced by around half thanks to the use of the food recycling bin.**

The following example illustrates the **climate benefits of the food recycling bin**: In the pilot experiment, best-practice companies were identified, which collect and separate between 5,000 and 20,000 kilograms (kg) of food waste each year. This corresponds to a reduction in harmful greenhouse gases of around 850 kg per year (corresponding to 340 litres of petrol).<sup>1</sup>



Source: own diagram

<sup>1</sup> The following data serves as the basis for calculation:

- 10 t food leftovers sent to the biogas plant to ferment leads to a 500 kg **reduction** in CO<sub>2</sub>
- 10 t food leftovers sent to the waste-to-energy plant produce 300 kg of CO<sub>2</sub> **pollution**.
- 1 litre of burned fuel (petrol/diesel) produces approx. 2.5 kg CO<sub>2</sub>.

## Tips and best practice

Are you unsure how to collect food waste quickly and easily? Need general tips on how to reduce waste? We've put together some suggestions for you in the following:

### Tips for the simple and practical collection of food leftovers in a catering establishment:

- Wrap moist food leftovers in newspaper. Paper napkins can also be placed in the food recycling bin together with the leftovers.
- A pre-sorting container helps kitchen waste to be collected while the food is being prepared.
- Support your employees in the separate collection of food waste by pinning up a list in the immediate vicinity of the pre-sorting container/food recycling bin to aid correct sorting. You can download this here free of charge
- [Sorting aid panel "What needs to go into the food recycling bin?" \(PDF 2.2 MB\)](#)
- [Poster for the separation of all waste \(PDF 2.9 MB\)](#)
- Frying fats and cooking oils must also be disposed of separately. As is the case for the food recycling bin, containers in various sizes are available, and these are exchanged for new, cleaned bins whenever they are collected. Bins are emptied on a flexible schedule. Ask your waste disposal company for an individual offer.



*Pre-sorting when preparing food  
© Gabriel / stock.adobe.com*

### Tips for the separate collection of paper and packaging

- Paper and cardboard packaging can be disposed of at very low cost – ask your waste disposal company.
- The “yellow bin” for packaging/valuable materials is free of charge and is designed to relieve the burden on the expensive residual waste bin of bulky packaging waste in particular. If there is enough space available for a yellow packaging bin, its use is mandatory. To find out whether you are eligible for this bin or to order one, please contact ALBA (Tel: 030 35182 3260).

### General tips to reduce waste

Waste is cheaper if you can avoid producing it in the first place. Often an analysis of internal operations can help to identify where waste can be reduced.

There are many areas where waste can be reduced:

- Offer different portion sizes and inform your guests about the option to avoid leftovers on plates.
- Buy food in bulk to eliminate packaging waste. Use returnable drinks bottles.
- Offer your guests reusable containers for takeaway meals. Give a discount if customers bring their own reusable cups for takeaway coffee.
- Sort food by sell-by date and check the goods regularly. Foods that will soon reach their sell-by date are perfect for daily menu offers.

### Saving food

It's sad but true: too much food that is still good to eat is still simply thrown away – in Germany this amounts to about 4 million tonnes per year from private households, plus 2.5 million tonnes from pre-processing and trade. The city of Berlin wants to significantly reduce this food waste as part of its Zero Waste concept. An important step in

this direction is the present pilot project, which also aims to inform restaurateurs and staff in particular about handling food in a sustainable way.

Did you know that there are already numerous food saving initiatives in Berlin? Good examples include [Restlos Glücklich e.V.](#) which also provides education and cooking courses related to appreciating food. If you also want to save food and save money on shopping, providers such as [Sirplus](#) are a good place to start – there, saved food is sometimes offered for half the original price.

Further information and tips on waste prevention is available from e.g. the [Re-Use Berlin initiative](#) or in this overview by Berlin's municipal cleaning company ([BSR](#)).