GUIDELINE

Prevention of food waste in the catering sector







Imprint

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Development of a guideline for the prevention of food waste in the catering industry, organising an event for the presentation of the guideline as well as different publicity activities

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Preface

Maria Krautzberger (President German Environment Agency)



Dear reader

Foods carry a significant ecological rucksack. For all foods bought by a citizen over the course of one year in Germany he or she lays claim to half a soccer field, needs 84 filled bathtubs of water and emits 3 tons of greenhouse gases, which is equivalent to the CO₂ emissions of a return flight from Frankfurt to New York.

Unfortunately in Germany alone about 6,7 million tonnes of food waste per annum are produced. The global waste of foodstuffs is estimated by the FAO to be about 1,3 billion tonnes annually. Thus the battle against food waste offers an important lever for more environmental protection and will also help us achieve the goals of the Paris Climate Agreement. And quite rightly the Sustainability Development Goals adopted last September formulate target 12.3 to halve per capita global food waste at the retail and consumer levels and reduce food losses along production and supply chains by 2030.

Of course food waste does not just occur at home, where we may yet again have bought too much and the overripe banana gets thrown into the organic waste container. A very substantial portion of our food waste is produced when we eat out of home, in a restaurant, a café, at a snack bar or on the road. This trend, which is especially supported by our increasingly mobile lifestyles, favours food waste – about one third of all meals produced in foodservice in Germany end up as food waste.

However, even at catering events such as conferences and fairs, private functions such as birthday celebrations, weddings or company anniversaries, food waste can be easily avoided. This guide which the German Environmental Agency has developed together with foodservice experts explains how:

How do I calculate the edible portion correctly? How do I use foods in the best possible way and avoid unnecessary waste? What do I need to be aware of if I want to pass on leftovers to third parties? Our guide provides answers to these and many more questions with practical and easily applied tips for environmentally friendly catering – in both professional and private capacities.

I wish you an enjoyable read and a maximum success in your endeavours to avoid food waste!

Maria Krautzberger

Ingrid Hartges (Federal Director of the German Hotel and Restaurant Association, DEHOGA)



The reduction of food waste is something that concerns all of us. Politics, business and consumers are all similarly challenged. Food is precious. We need a broad closing of ranks across society for a greater appreciation of our valuable resources.

Those who would waste or throw away food show a lack of understanding of its worth. Meat, fish, milk or cereal products should not be found in waste bins. This is especially so when we know that there is severe hunger in many parts of the world.

It is not surprising for us that the proportion of food waste from the foodservice sector, of which hotels and restaurants are a part, is "only 17%", according to a study of the University of Stuttgart. Seen in the light of the volume of food prepared and the number of guests this share seems small in comparison to the 61% proportion of food waste generated in German households.

What does this show? An efficient preparation of foods is not only an established and important part of the dual education system in foodservice. It's in the nature of things to calculate food bought and its use in such a way

that with an appropriate portion size planning and with a professional buying strategy food waste is avoided. In addition clever waste management is central in our sector. Unavoidable food waste can be integrated into the materials cycle by waste disposal with energy recovery opportunities. Intelligent and shorter supply chains and routes are integral to the subject of sustainability. Further measures for an improved resource efficiency include a comprehensive use of recyclable materials.

The German Hotel and Restaurant Association (DE-HOGA) has for many years supported educative and informative campaigns. "Too good to waste!" ("Zu gut für die Tonne!") is an informational campaign of the Federal Ministry of Food and Agriculture. Under this slogan the Ministry called for a nationwide alliance against food waste in March 2012. DEHOGA also highlights this issue with its initiative member Unilever Foodsolutions. The initiative "United Against Waste" was established to help create awareness amongst chefs and industry that the battle against food waste is fundamental and can also save money. In cooperation with DEHOGA, Unilever developed a checklist as a useful handout for decision makers in hotels and restaurants to assist in avoiding food waste. Whether it's planning, buying, storing, menu designing or controlling - the checklist gives an overview in which areas along a process the operation can avoid unnecessary waste and can make real savings.

DEHOGA promises to alert its sector which comprises more than 220,000 businesses and two million employees, to inform and to provide companies with further assistance on this path.

1 Introduction

The growing amounts of food waste, arising from the production to the consumption of food, belong to one of the great environmental and ethical challenges in the food and catering sector. According to FAO one third of the food produced for human consumption worldwide is wasted. This corresponds to about 1.3 billion tons per year. In Germany, approximately 11 million tons of food per year ends up unused in the garbage. About 1.9 million tons of food waste arises in the out-of-home sector alone. According to an UBA study that makes up 17 % of the total amount of food waste in Germany and concerns particularly catering companies of all types and sizes.

By the use of different resources, food production is connected to environmental pollution. This pollution exists even when the foods are not consumed. A study by UBA from 2014 shows the effects of our growing throw-away-mentality on the environment more than clearly: strengthening of the greenhouse effect, increased consumption of fresh water and farmland, water eutrophication and acidification of the soil. The brochure "environment, household and consumption" by UBA from 2015 shows that this concerns mainly animal based and highly processed foods that have been produced under a high use of resources and energy. For the production of animal based food, the greenhouse gas emissions per kilogram are four times as high as for the production of plant-based foods. The farmland consumption is even eight times higher. For more and more caterers it is quite natural to throw away as little food as possible on the basis of ethical reasons alone. Also, economic considerations play a major role, because each discarded foodstuff is a monetary loss. More and more the knowledge is spreading, that the prevention of food waste protects the environment and goes easy on resources. The prevention potential in this market sector is very large and the possibilities for preventing food waste with little effort are numerous. Even small measures such as an optimum amount calculation, the adequate reloading of the buffets or the use of smaller plates and serving sizes have not only economic benefits for a business. Moreover, the sum of all businesses has a great environmental impact and can set an example for all actors in the food sector.

This practical guideline is for caterers, their employees and suppliers, for customers and interested individuals who are planning a catering service. It is also for event managers, agencies and all other actors, who have interest in the subject or are planning a catering for an event. The guideline shows how food waste can be significantly reduced through specific planning and consideration of all process steps within the framework of a catering service, and in addition how leftovers can still be useable. It also provides information on special features of different types of events. From practice, for practice – a principle that was taken into consideration when developing the guideline. Therefore the concept and content were first discussed at an expert forum with practitioners from restaurants, public catering and event catering. The results of this discussion and many more tips and suggestions from the experts can be found in the guideline. This guideline and further helpful information like best practice examples and fact sheets regarding the process steps of a catering service can be downloaded from the website of the German Environment Agency (http://bit.ly/2eaCwc5).

¹ WWF study from 2015



Flying buffet: one of many catering variations

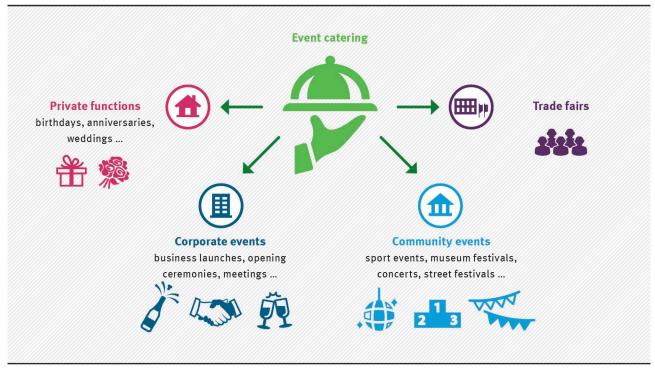
2 Catering sector and catering occasions

Catering stands for the supply of food and beverages. The catering market in Germany is an exciting and prospects-rich billion Euro market. Nevertheless, this sector of the food and service industry is extremely complex and very heterogeneous. In addition this sector is, when compared to the food retail sector, still less analysed by market research. The business types range from the snack bar on the corner, to the canteen in the Ministry to a fine-dining restaurant in the countryside. Even in football stadia, concert halls, aeroplanes, ships and fairs catering services are offered. The magnitudes range from day care centres where only 20 lunches per day are served up to major events such as fairs and festivals with 20,000 guests in one evening.

As diverse as the occasion for a catering is also the type of catering: buffet, finger food, a snack bar, flying buffet and menu service, just to mention a few. The catering business type can be organised differently. Firstly, there are restaurants, bakeries and butchers, who offer catering services as an additional service besides their core business. Secondly, there are straightforward catering businesses, which differ significantly in terms of their size, number of employees and equipment. All businesses provide by their craft the individual suste-

nance of people at different events and also influence the environment in different ways and dimensions by their activities. An important issue in this context is the food and packaging waste, particularly in the sphere of event catering where there are usually no permanently installed cooking and cooling facilities on site. This guideline focus on professional event catering, e. g. for public events such as town festivals, exhibition openings, sports events or music festivals and fairs, private events such as family celebrations and company events such as company formation, anniversaries, new store openings and gatherings. These event occasions differ in terms of numbers of guests and customer wishes concerning the catering.

Event catering overview



Source: German Environment Agency

3 Reduce and prevent food waste systematically

A classification of food waste is not an academic gimmick, but rather a requirement for specific planning of effective measures for future prevention of food waste. Once a caterer gathers regular and structured information at which point within the catering what quantities of waste arise, patterns will become visible. These patterns provide starting points for an improved approach. Without the real measuring of food waste, an effective reduction is not possible.

3.1 Classification



Food waste during a catering service can occur at various points: at procurement, in the stock, during the preparation or the provision. Some food waste can be avoided easily, others, such as bones or banana peels are unavoidable. For certain food groups the prevention potential is larger than others and also the ecological impact of the waste is different. For instance for meat it is significantly higher than for fruits and vegetables.

Each of the following classifications has its advantages. It is crucial that food waste is systematically recorded and afterwards effectively prevented.

Classification according to prevention

Avoidable food wastes are disposed without a previous loss of quality. These foods, such as a slice of bread or half a pear are still edible until the point of disposal.

Partly avoidable food wastes are disposed because of existing attitudes or habits. Examples are carrot or apple peels and bread crusts. Also the type of preparation will decide whether a part of the food could be eaten or not. For example, potato peels are edible on the boiled or fried potato, but not in a raw state. Partly avoidable food wastes are also the leftovers on the plates of the guests when the servings are too large.

Unavoidable food wastes are foods or food ingredients that are not palatable or edible under normal circumstances. They are usually removed during the preparation and cooking processes: bones, banana or pineapple peels and eggshells.

Classification according to product groups

A simple-to-use classification is the one according to product groups. First, one can divide between animal and vegetable based foods. Within these two categories, a further subdivision is possible and reasonable, for example the subdivision of animal source foods into milk and dairy, eggs, meat and meat products and fish and seafood. Plant based foods can be subdivided in cereals and cereal products, vegetables and fruits. A product group 'others' includes semi luxury foods such as coffee, tea and chocolate as well as sugar, spices and convenience products which consist of several ingredients.

Classification according to type of meals and menu components

Food waste can arise at breakfast, brunch, lunch, afternoon tea, supper or dinner. At lunch and dinner there is also a subdivision of food waste possible between starters, main course and dessert. Then again, the main course can still be divided between the main component and side dishes.

Figure 03

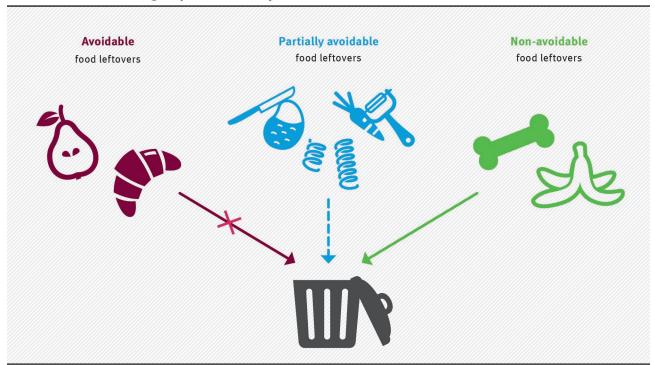
Foods according to food groups



Source: German Environment Agency

Figure 02

Food waste according to preventability



Source: German Environment Agency

Classification according to process steps

The most meaningful classification within this practical guideline is the one according to the different process steps, in which, for example, storage losses, peeling losses, preparation losses, losses during the provision and leftovers can be distinguished.

Food waste does not occur only at the end of a catering service. Waste is already caused by an incorrect planning regarding all the different process steps. Therefore it is important to take a look at each process step and to identify the factors that lead to the resulting food waste, and use them as adjusting screws to prospectively prevent food waste.

Figure 04

Food leftovers according to meal and menu items Lunch Starter Main course Dessert Afternoon meal Breakfast Side dishes

Source: German Environment Agency

Vegetables

Figure 05

Food waste according to process steps

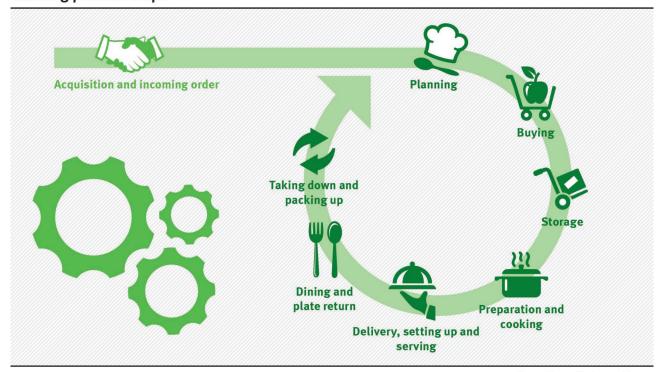
Supper



Source: German Environment Agency

Figure 06

Catering process steps



Source: German Environment Agency

The process of event catering can be well described as kind of a cycle that is passed through with each new catering contract. Before the actual first step of the planning stage there is the preceding initialisation (incoming orders).

3.2 Planning the catering



Contractor or subcontractor

Planning a catering service always includes all process steps, which is why this process step contains a special significance for preventing food waste. The general rule is: A caterer is primarily a service provider, who is reacting rather than acting. This may complicate approaches for preventing food waste. For large events customers more and more frequently hire event agencies which then again hire caterers. The lack of direct communication between caterers and customers that may thus arise can limit the action spectrum and the freedom of choice of the caterer. Customers and event agencies can counteract that problem by considering the aspect of food waste prevention in their bidding.

Preparation of an offer

Ildeally, the prevention of food waste is taken into account in the offer of the catering service. It needs to be clarified how this issue can be communicated sensibly and especially positively in the competition with other providers. Therefore it is necessary to emphasize the benefits for resource preservation over the supposed disadvantages (such as smaller amounts, bigger staff) and to assure the customer that all guests will be satisfied and sated.



Tip!

You can distinguish yourself as a role model of a customer or caterer through accepting and performing measures for preventing food waste. Prepare the guest communication very well. A possible direction can be: "We plan our catering so well that usually all food is eaten up and every one of your guests is sated." The message should also explain that complete culinary enjoyment does not mean that there were insufficient quantities of food. Instead that should mean that the food was extremely tasty and well calculated.

Customer communication

The prevention of food waste should be addressed to the customer as an important and up-to-date topic. This includes the representation of your own strategy for preventing food waste and possibly even the concrete measures within the different process steps.



Tip!

Explain to your customer that they too can distinguish themselves and benefit from communicating the background and reasons for food waste prevention to the guests. This can be a balancing act.



Tip!

Clarify, in the context of a business meeting, all relevant aspects of a catering service such as the target group, occasion of the event, time frame of the catering as well as the available facilities (kitchen and guest room). You can calculate definitively and prevent food waste more effectively by creating such a fitting customised catering.

The expectations and wishes of the customer

Some requirements and wishes of the customer, such as an impressive buffet when high-ranking guests are invited or the requirement that every food item should be available until the end of the catering, often lead to large quantities of food. These in turn lead to much food waste at the end of the event. At this point the caterer should point out in their prepared concept that the quality of the catering and the guest's satisfaction do not depend on the food quantities alone. Admittedly this only works if the caterer can provide a sufficiently good quality in terms of taste, ambience and service.



Tip!

As a caterer take the role of an active adviser and show the customer the essential characteristics of modern catering based on good examples. Clarify that high quality food and enjoyable food have an equivalent effect as overloaded buffets which generate huge amounts of food waste. Also discuss with your customer if the food quantities at a buffet can be reduced towards the end of the catering. In this way it is possible to calculate less food quantities in the first place and prevent inappropriate extra amounts of food.

Competence through experience

For an optimal quantity calculation the requested information (e. g. number of guests, guest structure) and especially the experience of the caterer are needed. Because of their expertise the caterer can assess which food and quantity of food should be calculated per person. Important parameters are the season, weather and time of the day. At a meeting that starts around 9 a.m. a lavish second breakfast at 11 a.m. is rather redundant, since the participants have probably had breakfast at their hotel. Here is an enormous potential for the prevention of food waste.



Tip!

You as a caterer should always note down what food amounts per person you have planned and prepared and how much of it was left at the end of the catering. Also note down possible reasons for the leftovers. You can use these comparative values as new knowledge for further catering orders. This also affects your future customer communication.

Standardised planning

A well thought through and good structured planning of the process steps belongs to the crucial adjustment options for preventing food waste. This contains standardised recipes and workflows as well as well-defined minimum and maximum amounts.



Tip!

Use your own and other's empirical values to develop standardised planning tools. It helps if you continuously document your catering events, evaluate them and adjust them to new trends (e.g. less meat, more vegetarian food).

The optimum calculation of food quantities

An optimised calculation of food quantities is mainly about standardised recipes and recipes adjusted for the target group as well as gastronomic standard amounts derived from practice.



Tip!

A well-known and simple benchmark is the 600 g-rule. This means about 600 g quantity of food are calculated per person for lunch or dinner. This amount has to be adjusted to the guest structure (e. g. proportion of female/male guests) and



Use standardised recipes to optimise your portion calculation

the general conditions of the catering (e.g., time of last meal). The occasion of the catering has also to be considered. For a small and rather short lunch at a conference a much lower amount is usually enough.

The extra amount of food

Normally caterers consider an extra amount of food for the calculation, to be sure that there is enough food for all guests. It is still common to use the amount of 30%, through which food waste is pre-programmed. Without this extra amount of food there is the risk that there is not enough food for all guests and that they are not pleased or satisfied.



Tip!

As a caterer you can explain to your customer that more and more caterers are now calculating less extra amounts of food (10–20%). Moreover, you need to plan the later utilization of possible leftovers. For example, making fruit sauce out of a leftover fruit salad, which is still hygienically perfect.

Using and caring for recipes

Proven, standardised and frequently adjusted recipes are valuable and indispensable for an optimised calculation of food quantities.



Tip!

As a caterer you can use a recipe database which includes the amounts of every single component/foodstuff depending on recipe per person or total amount. These data can be adjusted any time if necessary, for example when an evaluation of a catering event shows that there was too little or too much food calculated per person.

Offer from a defined repertoire

The caterer can suggest food and menus from a defined basket of commodities which is also used for the subsequent catering order, to the customer. The advantage lies in the reusability of unneeded goods, which may, for example, be caused by a lower number of guests than planned.



Tip!

Offer your customer a menu á la maison. Try, in consultation with your customer, to arrange the composition of foods as flexibly as possible. In this case you can decide one day before the event which food will finally be offered. Offering a menu á la maison can be very successful for existing customers. For new customers it can be helpful to invite them for a little taste sampling, so that they can get to know your cooking style, the taste of your prepared food and the look of your arranged food items.

The guest profile

Central to your planning an event is the consideration of the expected number of guests and the guest structure. Important parameters are the proportion of female/ male guests, the age structure and the number of vegetarians/ vegans. Answers to such questions influence the appropriate choice of food items and the calibration of the amounts (especially for fish).



Tip!

Use the questionnaire in the attachment of this guide as an orientation. The customer can hand a questionnaire like this to their guests. Alternatively the questionnaire can be implemented online (e.g. on the website of the caterer). The more specific the questions are, the better the planning can match the guest clientele.

Qualified staff

Despite own established standards for preventing food waste, one major challenge lies in the fact that the staff is often booked from recruitment agencies on a short-term basis before the actual event. These recruitment agencies are not aware of the company standards and neither is the personnel. Caterers can contribute to alerting the agencies to the topic of preventing food waste through specifically requesting competences regarding this issue. Basically it is still the job and



Motivate your staff and raise awareness amongst them

responsibility of the caterer to prepare and train the temporary staff as well as their own staff for the catering events.



Tip!

Ok, this is one of the more difficult tasks that needs tackling. In the long term it may be worth it to work with well trained, service-oriented own staff. This can be pointed out as an advantage to the customer. Frequent requests for appropriate staff can help you to raise awareness for the topic of preventing food waste at recruitment agencies.

Sensitise and activate employees

Qualified, sensitised and motivated employees are playing a central role in preventing food waste in food-service. The professional qualification of kitchen and service staff is not only crucial but rather helpful for the careful use and treatment of food. This concerns, for example, the estimation of which quantities of food are still needed or how the remaining dishes can be attractively arranged by skilful placement and restocking of the buffet. You can achieve awareness, motivation and self-initiative through a clear briefing even for untrained personnel.



Tip!

Use the team meeting for a general discussion on the benefits that you, your staff, your company and the environment are gaining from preventing food waste. Ask the question what everyone can contribute to the general prevention of food waste in your company.



Tip!

If you hire temporary staff a shared meal with the staff right before the event can be worthwhile, besides a clear briefing. By so doing, the temporary staff can also get an impression of the food that you are offering the guests. Additionally you can inform them about the company's approach for preventing food waste. This can support motivated action as well as guest communication.

hec	klist for planning the catering
	Discuss the issue of food waste prevention in your offer.
	Coordinate frequently with the customer – from the offer up to the evaluation of the catering.
	Consider the guest structure (e.g. age, proportion of female/male, number of vegetarians) and the occasion of the catering (e.g. meeting or celebration).
	Request once again the number of guests right before the day of the catering.
	Use standardized recipes for the calculation of the food quantities.
	Reduce the common extra amount of food from 30 $\%$ to 10 – 20 $\%$.
	Take advantage of the offer of a defined basket of commodities and consider it for the following catering orders.
	If possible, work together with professional staff.
	Inform and alert your entire kitchen and service staff for the subject of preventing food waste right before each catering event.
	Standardize all your process steps and develop them constantly as a part of a continuous improvement process.

3.3 Buying food and beverages

Appropriate procurement

Food waste can arise in the process step of procurement. Directly arising food wastes are, for example, perished fruits or vegetables which haven't undergone an adequate quality control at the point of receipt. In the worst case the damaged goods are not edible and cannot be prepared further. Food waste can arise directly when you buy a whole unit although you need smaller amounts.



Tip!

Consider your current amounts of food in your stock and use an electronic shopping list for your purchasing. The electronic version has the advantage that you can implement appropriate calculation formulas. These formulas can calculate the required amounts for your shopping list by comparing the amounts in the stock with the needed amounts of food for the catering event. It is important to check whether the stocks will keep until the planned event.

Choose the right point of time

As part of the planning it is determined when which goods have to be purchased before the event. When selecting suppliers, note that flexible delivery times (just in time) are possible.



Tip!

You can react to changed quantity requirements (for example because of cancellations by guests) and achieve a shorter storage time for your goods, if you purchase shortly before the preparation and the event. This saves cost for storage and prevents the food from perishing during the storage.

Get to know your local suppliers and producers

Contact suppliers and producers from the region you are living in. Meet them and get to know them to establish a relationship. By buying the goods locally you may enable a personal relationship to the food. Ideally this leads you to a rising awareness of the preciousness of food, thereby preventing the arising of food waste.



Visit local farms together with your employees and get in touch with the producers and their practices. You can build and establish a business relationship, which can increase the awareness and self-initiative regarding food waste prevention.

Fresh and high quality

Fresh and high quality food is not only good for the taste of meals. Generally it is also longer lasting. This enables a more flexible purchasing practice and also offers you economic advantages.



Tip!

Always focus on fresh and high quality food.

Raw ingredients instead of convenience products

The processing degree of your purchased foodstuffs also plays an important role in relation to food waste prevention. With increasing processing of food products you lose the opportunities for using them in a flexible way. Of course this aspect also depends on your personnel resources and their skills for preparing raw ingredients,

as it is usually more labour-intensive than the use of convenience products.



Tip!

Choose to use less processed food, which you can use more flexibly.

Reduce packaging

Even food packaging creates waste, which is why consideration should be given to all packaged foods. What type of packaging makes sense (protection against spoilage) and what types are unnecessary (e.g. film-wrapped cucumber or multiply packaged foods)? This reduces resource consumption and saves money (because the unpacking of vegetables or fruits takes time).



Tip!

Check fresh ingredients particularly directly on site of your producer. One advantage lies in the often freely selectable unit/amount of food, which prevents unwanted over shopping. In addition it is possible to avoid unneeded packaging boxes.

buying food and drink
ine your requirement on the basis of standardised recipes.
compare your shopping list with your stocks.
ur purchase as closely as possible to the food preparation.
a relationship between you and your suppliers.
y the calculated amounts of the food items.
te the purchase of fresh and high quality goods into your purchase philosophy.
ver possible prefer fresh raw food ingredients.
e your purchase process continuously.
only food packaging which is supportive of quality saving.
eusable or simple packaging.
eu



Fresh food tastes better and usually has a longer storage life than prepared foodstuffs

3.4 Storage



Ideally, all purchased and stored food will be processed without losses through spoilage. Food waste is partly caused by purchasing special requests (e.g. special drinks), which cannot be consumed after the event. Other reasons include a lack of quality management, too large packaged units (opened packaging and no further use for the remainder) and ordered quantities, as well as stock losses through spoilage.

First in - First out

The FIFO principle (First In - First Out) applies to the storage and removal of goods. To put it another way: First remove and use the goods from the stock which were first stored therein and that have a shorter shelf life.



Tip!

Establish the FIFO principle and train your employees in the adoption of this principle.

Consumption appropriate storage

Unlike in former times, smaller stocks are used today. Large inventories bind capital, require space, consume energy and tend to lead to food spoilage.



Tip!

Purchase only goods which you are using immediately. By doing so you can save storage costs and at the same time counteract food spoilage caused by stocking for too long.

Controlling the receipt of goods

At the reception of goods you have to decide which foods can be stored easily, which food has to be processed immediately due to slight deficiencies and what food cannot be accepted due to serious deficiencies.



Tip!

Use a checklist for the reception of goods. There are appropriate templates which can be used directly or as guidance.²

² www.haccp-kueche.de/haccp-dokumentation:1.html

Preserve foods and store properly

When foods (raw materials) are not completely used up from the storage or are unsuitable for long term storage due to their ripeness, you can preserve the food by applying techniques such as freezing, pickling, etc. in strict accordance with existing hygiene regulations.



Tip!

Preserve vegetables and other suitable food by cooking and freezing and use them at a subsequent date for another catering order. Document carefully and label the containers before storage.

Impart knowledge of warehousing and update regularly

Concerning low-waste storage, offer regular training for all of your employees who are involved in the warehousing (reception of goods, removal of goods, cleaning). Content of the training can include issues such as storage time, temperatures, humidity and hygiene measures regarding each type of food.



Tip!

Establish regular and compulsory staff trainings regarding food storage. In this way all employees have access to the accurate and timely knowledge.

Storage hygiene, inventory and status control

Regular cleaning of storage including proper cleaning protocols is the basis for flawless hygienic food storage. Do this by creating a logged cleaning plan that involves all employees if possible. By doing this all employees get a sense of the independent and responsible management of the stock and the stored food. This also includes the constant monitoring of the stored food including inventory and quality controls. This applies especially to prepared food and opened packaged food. The free capacity of the stockrooms as well as expiration date of storage foods can be logged manually or recorded by suitable hard- or software. Thereby everyone can access the latest status at any time.



Tip!

Regularly perform and log inventories and quality controls before and after storage cleaning. You will receive a detailed image of how many foods may possibly become waste (at what timeframe) and what circumstances lead there. Use this information to optimize your processes.



Tip!

Use the DEHOGA hygiene package which includes checklists for daily, weekly and monthly controls. With this package you can easily stick to the duty of documentation required by law.³

Chec	klist for storage
	Establish the FIFO principle as integral to your business practice.
	Organise your storage up-to-date and in line with your requirements.
	Always link the reception of goods with a quality control of the foods and log the results.
	Train all of your employees regularly regarding optimal food storage.
	Perform standardised storage cleanings, inventories and status controls regularly.

³ www.dehoga-shop.de/Fachbuecher/Existenzgruendung/DEHOGA-Hygienepaket-inkl-CD-ROM.html

3.5 Preparation



Trained staff as the key to success

Basically, it is advantageous to work with permanently employed professional staff. This also applies for the proper handling of food during the preparation process. Here, expertise and the right kitchen crafts can be profitable and impact positively on the output (amount) of produced food. But even semiskilled workers can be sensitised to the prevention of food waste through training and guidance.



Tip!

Regularly perform staff trainings and adjust the trainings to the procedures of your business. Meanwhile check all several work steps within the preparation stage to identify and use the potential for optimisation.

Appreciation of all parts of the foods

In the process of preparation, food wastes are directly generated due to the lack of practical knowledge. When employees take food from the storage and process it, they decide whether the foods are suitable for processing, or whether they have to be disposed. The evaluation skills concerning when a product is still suitable for further processing can be trained. A complete utilization of foods is desirable. Implementing this requires food knowledge, creativity and appropriate cooking skills.



Tip!

Use natural (untreated) skins of vegetables as a basic ingredient for soup stocks and sauces. Appropriate cutting techniques will increase the amount of food for further preparation.

Preparing food components thoughtfully

If several food components are individually produced and assembled just before serving, the amounts can be better adjusted to the needs and given out accordingly. In this way the leftover food components can be better traced back, stored and used again, especially at a buffet.



Produce vegetables and sauce or meat and sauce separately. Assemble them just before serving or during serving (depending on the type of food distribution).



Skillful peeling saves food and avoids waste

Waste which arises nonetheless

No longer edible food can be composted or submitted to a biogas plant for energy production. Both cases presume a strict separation of waste.



Tip!

Check the utilisation of an own compost heap.



Tip!

Label all of your waste bins very clearly. Regularly evaluate all of your amounts of waste and use the findings for a systematic improvement in regard to waste prevention.

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Checklist for preparation

Train your employees with regard food waste prevention within the process step of preparation.
Regularly check all work stages to identify potential for optimisation.
Sensitise all of your employees who are preparing food for appreciation of all parts of the foods.
If possible, aim for a complete utilisation of all products.
Separate waste, which arises nonetheless, and bring it into a suitable utilisation stream.

3.6 Provision and distribution



Choosing the best distribution system

Provision of catering services should include taking care of proper cooling opportunities and hygienic covering of the food at the location of the event. The serving of food can take place by service staff or via self-service. Possible types of food distribution systems are buffets in self-service, serving the menu components at the table, flying buffets including finger food or front cooking stations. Which distribution system is desired or fits the best to which kind of event can be decided in consultation with the customer. Dishes served on plates or a flying buffet offer has advantages for the prevention of food waste when compared to a classic buffet, but usually needs more service personnel.

If a classic buffet is selected, professional personnel at the serving counter can be recommended. Initially smaller serving portions could be offered and replenished if necessary. Especially front cooking can be helpful to prepare the food corresponding to the needs of the guests. Guests can be advised individually. Accordingly the serving portions can be dispensed in individual sizes. However, this requires trained professional personnel.



Tips!

The following tips refer to the potential prevention of food waste. The choice of a food distribution system always follows economic aspects and the consideration of available staff.

Table or menu service: This is where the food is already arranged on the plates and service staff serves it to the guests. Besides, you can arrange the menu service that the table fellowships have bowls and serving plates full of foods available. They can be refilled if necessary.

Advantage: The service staff can request the size of required serving portions from the guests beforehand. Individual food components can be reordered on demand.

Classic buffet: A selection of prepared (cold/warm) food can be arranged here. The guests can arrange their plates individually. Unlike a pure self-service buffet a moderated buffet is characterized by professional staff that advises the guests and offer the food to them. Additionally food can also be offered pre-portioned on small plates or in small glasses.

Advantage: Professional trained staff can advise the guests in regard to the choice of food components. This supports the prevention of leftovers on the plates.

Flying Buffet: The service staff offers finger food or small pre-portioned serving portions on trays. The guests do not have to line up for the buffet.

Advantage: The small portions can be fetched from the kitchen so that the trays can be replenished any time. Individual foods are finally arranged at the place of event. This provides the opportunity to keep the food components in separate containers, so that they can be used further after the end of the catering event. This presumes the fastidious compliance of

the cooling chain and hygiene regulations. Otherwise this can be a risk and you generate a very high amount of food waste.

Front Cooking: The cook stands behind a (mobile) cooking station and prepares the food à la minute for guests. They can watch the preparation process and communicate directly with the chef. The guest can receive information about the origin of the food (transparency) or other things that they may be interested in.

Advantage: The guest can define the portion size in consultation with the chef. Food not used or prepared can be utilised after the end of the catering event, provided that the caterer sticks to the cooling chain and adequate hygiene regulations.

Targeted control by staff

Buffets are often set up without support through staff. The reason is to reduce personnel costs. Instead of a guided buffet, exclusive and large quantities of food are offered and insufficiently informed service staff is temporary employed. The problem is that the staff often has no connection to the gastronomic concept of the caterer and no relationship to the guests. Well trained and professional staff is capable of informing and advising the guests, even regarding the portion sizes.

Alternatively, there can be a subdivision in small or large portions (plates). Bowls and serving plates at buffets should only be refilled when necessary. To be clear on the term "when necessary" it is advisable to clarify this term in a briefing before the start of the catering. Food not distributed can still be utilized or passed on to other persons after the end of the catering. The better the qualification (knowledge of food and service) of the staff, the better the opportunity to control the service counter and the consumption of the offered food.



Tip!

Inform the customer about the advantages and disadvantages of the different types of distribution systems. Include information regarding the staff requirement, service quality and the potential of food waste prevention.



Tip

The chefs who have prepared the food should stand at the serving counter to offer the food to the guests if possible. This supports the communication between the guests and the chefs.

www.umweltbundesamt.de/themen/wasser/trinkwasser/trinkwasserqualitaet

Individual serving sizes

Individual serving portions can support the prevention of food waste. What makes the difference is that the guests take only the amount of food which they can actually eat. The amount of side dishes should be individually available, even for menu services.



Tip!

Discuss the option for individual serving portions with your customer prior to the event. In this way you have a better basis for your planning and calculation.

Dispensing drinks

There is often free access to drinks at a bar or counter. Thereby many bottles are opened at the same time which leads to the situation that at the end of the catering many opened bottles are left over and cannot be used further.



Tip

Employ service personnel to serve the guests the required drinks. This supports the serving of adequate amounts.



Tip!

Offer tap water to the guests. One advantage lies in the easy drawing off of required serving portions of the water. Besides, tap water (drinkable water) is the best controlled foodstuff (speaking for Germany).⁴

Adjusted equipment

Many caterers are using standard sizes for serving plates, bain-maries or chafing dishes. Bigger types are often chosen, which have to be filled up with accordingly bigger amounts of food. Otherwise they tend to look empty. This leads to more amounts of food than necessary. This effect becomes especially noticeable when refilling the buffet.



Tip

Use smaller sized serving plates, bain-maries or chafing dishes. These will not appear to be empty or stingy assembled, when less amounts of food are refilled. You can exchange them more quickly if you need to. Also use smaller plates for the guests. These support the guests by preferring to reorder food several times instead of taking too much at the first time.

Structure and arrangement of the foods

The structure, arrangement and presentation of the food on a buffet influences the choices made by the guests. Instead of building up the whole buffet at the beginning, at least the dessert buffet can be set up at a later time.



Tip!

For warm dishes place the vegetables and other side dishes first in line and the main component last at the buffet. Many guests tend to take more food at the beginning of a buffet. This may enable you to calculate smaller quantities of meat.

Clear labelling at the buffet

By means of a clear labelling of the food offered, guests can recognise more quickly what food is prepared with meat or fish and what food is vegetarian or vegan. This labelling also includes allergens and additives. Such labelling supports the guest in putting only the food on their plate which they eat or can eat.



Tip!

Use appealing signs for labelling the food at the buffet. Name the dishes and perhaps indicate the main ingredients. You can use terms that mark aspects like vegetarian, vegan, allergens and religious features (e.g. halal).

Compilation of a variety

Guests are usually pleased to be offered a wide variety. This does not necessarily mean a huge amount of food. A different arrangement of the same components within pre-portioned servings (e.g. for starters or deserts) can avert the impression of smaller quantities.



Tip!

Arrange different types of starters or desserts in little glasses. Offer pre-portioned salads or desserts which differ in their assembling of components (amounts). The key advantage of pre-portioned servings lies in the variety of choice for the guests and in the opportunity of replenishing the buffet easily, if necessary. Bigger bowls of salad or desserts quickly become more messy and unattractive after more and more food is taken out of them. This is one possible reason why they are mostly not fully empty at the end of the catering.

Replenishing the buffet

It is not necessary to completely refill containers and serving plates. If required they can also be refilled partly. It is more suitable to use smaller sizes of the serving dishes. This applies in particular towards the end of the catering. Through continuous replenishing the caterer can avoid offering all of the food on the buffet at the beginning.



Tip!

Prepare a back-up of food which is cooled and packaged. You can open the containers if you need them. Otherwise you can use them for another catering event. In this way you can organise a "well-executed retreat".



Tip!

Ensure that further production and replenishment are selective and systematic and that adequate opportunities for cooling your back-up food are available at the place of the event.

Organise transport logistics

When delivering the route and point of time for the catering must be considered. Clear arrangements should be made so that everything runs smoothly. Individual checklists requiring the transport safety and food refrigeration are useful for the logistic personnel. This aspect becomes more important the larger the event.



Tip!

Establish optimal transport solutions (e.g. boxes, opportunities for cooling) for the food which has to be transported, so that there won't be any food losses. Pay attention to the continuous hot or cold holding temperatures and conditions of the food required by law.

√	Chec	klist for provision and distribution
		Adhere to the legal regulations regarding a continuous cooling chain, and ensure maintenance of an optimal sensory quality of the foods during the transportation.
		Choose the type of food distribution which fits the best to the type of event.
		Prefer employing trained professional personnel at the serving counters.
		Offer individual serving sizes to the guests.
		Use different sizes of serving plates and dishes for the food presentation and at the serving counters.
		Use smaller plates rather than bigger ones.
		Assemble small, pre-portioned and varied starters or desserts.
	П	For replenishing the buffet, use smaller containers and serving plates with smaller amounts of food.

3.7 Consumption and dish return



Taste decides (nearly) everything

The quality of taste certainly has the greatest influence on whether and how much food the guest leaves on the plate. Crucial for a good sensory quality (e.g. appearance, smell, taste) are the gastronomic skills of the caterer and the quality of food used.



Tip!

Although it sounds self-evident: Taste your food. Food which does not taste good will be left over and must be discarded. Guests and the kitchen will be delighted by empty plates. It is not that the guest has to eat as much as possible. The offer needs to be adapted to the target group and contribute to the wellbeing of the guest.

Inform customers and lead guests

Customers should be informed that in catering often much food is left over and that the aim is to prevent food waste as much as possible. This can be communicated to guests at the beginning of a catering event when the food supply and the sequence of courses are presented. Otherwise it is the duty of the caterer to lead the guest by clever meal planning, food sequence and organisation, so that the guest automatically just eats as much as they can and want to.



Tip

Inform your customer about your philosophy and your approach to prevent food waste and offer them to communicate this in an appropriate way to the guests.

Selective replenishment of food

At many buffets serving plates or chafing dishes are already refilled, while others are still not empty. Many caterers are afraid of the image of a plundered buffet before the end of the catering. That is why they continuously add food to it. This is then often left over and is transformed into food waste.



Tip

Adjust your behaviour of replenishing food to the estimated time for the food (e.g. one-hour lunch break) and to the eating behaviour of the guests. Observe your guests and check to see if and how much food really needs to be refilled.

Opportunity for feedback

For the evaluation of a catering event, it is important to know which foods were left over on the plates of the guests and why that was the case. Only when the reason is known can the next catering be improved. The best way for feedback during a catering can be achieved by letting the service personnel ask guests about their satisfaction and observing the return of food/leftovers. Which foods are chosen first? Which component is taken

much or little? Which components are left on the plates and which are quickly emptied? And what are the possible reasons for that? Following the catering, feedback can be given by the customer, who probably received additional feedback from the guests.



Tip!

Record the eating volumes by randomly capturing the eating behaviour and the leftovers on the plates. Afterwards match the data with your initial calculation. Talk to individual guests and ask them if it tasted good or not. Taking into account the individual circumstances (e.g. guest structure, weather, food supply) you can optimise your calculation for the next catering event and prevent food waste.



Tip!

Motivate your service staff to not just ask about guest satisfaction (e.g. if the food taste good) out of courtesy but rather specifically ask guests that have left much food on their plates. Take the opportunity to obtain specific feedback as to the quantity and quality of your catering in a brief talk with your customers.



An optimised calculation helps prevent food waste

Useful waste separation

Even with the best planning and accomplishment of a catering service, food waste cannot always be prevented entirely. The leftovers on the plates should be separated from other waste such as napkins and packaging waste. They should be collected and disposed hygienically and safely. Foodservice businesses are legally responsible for this.



Tip!

Inform yourself about a useful disposal or corresponding opportunities in your region. There are specialised enterprises for food waste especially for prepared food like leftovers.

Dispose of leftovers

A separation of waste is useful if the disposal is carried out in separate streams. In catering leftovers will be collected and disposed either by the service personnel (e. g. at in-house events) or the guests separate the waste (e. g. at street festivals and major events). Leftovers on the plates are disposed by service personnel, dishwasher personal or the guests themselves. This is why the chefs and caterers do not see what is left, so that a control of the quantities of replenished food often cannot happen.



Tip!

For the brave: Sometimes (e.g. every third catering event) dispose of leftovers on the returned plates of the guests together as a team (dishwasher staff, service staff, kitchen staff and management). This promotes awareness regarding the implementation of appropriate approaches for preventing food waste in the whole team.

√	Chec	klist for consumption and dish return
		Taste your food immediately before the distribution and serving.
		Inform your customers about your quality philosophy and your approach for preventing food waste. Keep this in mind when presenting your offered food to the guests.
		Observe the eating behaviour of the guests on a sample basis, to selectively refill the foods and dishes. Talk to individual guests and ask them whether it tasted good or not.
		Record the actual volume eaten and compare it with the calculated amounts afterwards. Which dishes were a hit, what was not so popular and why was that so?
		Ensure the useful utilization and disposal of leftover food and other waste.
		Establish a useful waste separation for arising food waste.

3.8 End of catering and tidying up



Ideally, leftover food is still used and consumed elsewhere after the catering. Three categories of foods that each allows different options for further use can be distinguished regarding further use or passing on food after a catering: unprocessed foodstuffs, prepared food that has not been dispensed and food that has been provided or was dispensed.

Unprocessed food

It is possible that unprocessed food was planned for use but was not processed, for example for a front cooking station. These foods do not have to be disposed when they are still suitable for further processing.



Tip

Plan to use unprocessed food (which was not presented at the service counter) for the next catering (creative further processing). You can process and preserve left over vegetables or fruits into chutneys or jams. You can prepare a broth from vegetables or process fruits into purees and smoothies (and then freeze). A large number of creative recipes with leftovers from professional chefs can be found in an app of the

campaign "Too good for the bin". Of course you can donate unprocessed food to appropriate organisations and facilities (see literature and list of links at the end of this guide).

Prepared food

Prepared food can be used further, if stored hygienically.



Tip!

At the buffet: Keep the prepared food ready in appropriate containers (e.g. in cooling boxes). Open the boxes only when the buffet really needs to be refilled. You can take locked and required temperature-held stored boxes back into your kitchen and reuse the food (creative further processing). Or you can donate it to the needy (of course under consideration of appropriate hygiene guidelines).

Food at the counter

If the food was at the service counter or on a buffet, then it is not allowed to be taken back into the kitchen (e.g. for further processing). That is because of reasons of hygiene and food law. This concerns especially sensitive foods such as meat, fish, poultry, eggs and egg dishes.

⁵ www.zugutfuerdietonne.de/praktische-helfer/app/



Leftover food can be passed on to guests by providing appropriate containers



Tip!

Talk to your customer before the catering event about the possibilities of reusing any leftover food afterwards. Determine what is required and what can be organized: Whether the guests can take the food by offering them appropriate transport containers, or the food should be passed on to the needy, food banks, churches, refugee hostels, students, railway missions/travellers' aid or networks such as food sharing. Donating food has to be well planned so it makes sense to establish cooperation. A good place to start is the federal association of German "Tafel e.V". On their website there is a search tool to identify food banks in your region.

Donating food to guests and employees

Of course food can also be passed on to guests or own employees. This reduces the effort but must also be well prepared for before the event. It is essential to consider three main points for the provision of transport containers: First, the time for setting up the containers has to be well chosen. Otherwise there is a risk that the guests already take all food from the buffet during the catering. Second, the guests should be informed about the possibility of taking left food home after the catering. This should happen verbally and by clearly visible signs beside the buffet. Third, the caterer should inform the guests that they assume the responsibility for quality assurance (i.e. hygiene) from the moment that they take the food from the buffet home.



Tip!

You can find appropriate containers for passing on food to the guests at the following website: https://www.zugutfuerdietonne.de/initiative-material-und-aktionen/aktion-restlos-geniessen/. Decide beforehand with your customer who bears the costs for this solution.

Passing on through a pick-up service

In certain cases, the "Tafeln" (German foodbanks) do not take leftover food. For example, when volunteers are not available, when the amounts that can be collected are too low or when a pickup is for some other reason not worthwhile. The capacities of the "Tafeln" are smaller in small towns and vary depending on the local organisation and size. It may therefore be difficult to find a sub-purchaser (who is willing to pick up the food) in small to medium-sized cities.



Tip!

Communicate with potential sub-purchasers at an early stage and make specific arrangements for the pickup of food after the catering. Ask your customer if it is possible that the purchasers (e.g. needy, students) can consume the food at the actual event location (e.g. after the end of a lunch break), so that no additional logistic effort has to be undertaken.

⁶ www.tafel.de/die-tafeln/tafel-suche.html

Legal indemnity

The caterer should prepare a form for the transfer of the liability regarding the take away or passing on of the food. This waiver indemnifies them against any liability due to lack of food safety and correct handling and needs to be signed by the purchasers. A template that has been recommended by DEHOGA NRW is included in this guideline.



Tip!

Use a simple form for both situations, the passing on of the food to guests (in addition to the transport containers) as well as to other purchasers. You can, for example, instruct an employee to distribute a transport container to the guests who have signed the appropriate form.

Organising passing on of food efficiently

Due to the often tight time budget during a catering service the preparation of passing on is sometimes considered as difficult. A caterer can establish the process of the passing on of food after a catering event by making some basic decisions about "whether" and "how" to pass on food. Once decisions have been made and a process established this can be integrated into routine practices.



Tip!

Establish standardised, quick and smooth processes. This means that suitable packaging materials, templates for liability waiver (possibly on a clipboard with a pen) are standard. A prior briefing and allocation of responsibilities for the staff can accelerate the process. As a caterer you can hand out information leaflets to your staff or mark the food boxes that can be donated

later. One option is to prepare the leftover food during the last part of the event in such a way that the guests are willing to take these with two short steps (signature & take away). Agree in advance with the organiser that they should point out such a possibility at the beginning of the last event section.

After this catering is before the next catering

Evaluating a catering event is recommended for every catering company. An evaluation of the logged amounts of leftover food, comparison it with the initial calculation and a corresponding consultation with the customer can provide valuable information. This can be used in the preparation for the following catering events.



Discuss and reflect the catering event with your staff. Write down your results. Compile the notes in an appropriate file.

Useful tools for waste analysis

There are already a number of existing tools for waste analysis for the out-of-home sector and for professional catering. These tools enable long-term monitoring and reduction of food waste. The application of the tools is requires time and financial investment. Not every company is willing to do that. The larger the catering company, the more such a method is recommended.



Tip!

Inform yourself about the waste analysis tool of the Association "United Against Waste" or ask your suppliers for such a tool. If both are not an option, a regular look in your waste bin can help as a starter. Notice what foods are scrapped, ask why and start your continuous improvement process.

⁷ www.united-against-waste.de/loesungen/abfall-analyse-tool

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Checklist for immediately after the catering event

Determine internally how any unprocessed food can be used further.
Keep prepared and processed food for a possible refill in closed containers, so that it can be used further after the catering event.
Discuss with your customer whether the remaining food can be passed on to the guests or to the employees.
Ask your customer if the guests will be informed about the possibility for a take away after the catering event.
Offer your guests or employees food to go from the distribution counter.
Allocate appropriate transport containers for the leftover food.
Have a legal indemnity form ready for waiver of liability and let this be signed by the guests who want to take away leftover food.
Organise the passing on of the food to other purchasers early and before the event.
Make a written agreement with the purchasers regarding the terms of take away and the waiver of liability.
Make the passing on of food into a routine operation of your entire catering process.
Identify improvement potential regarding the further use and passing on of left food with your staff.
Use existing tools for analysing your amounts of food waste and monitor them.

4 Special features of various types of events

According to the type of event and the number of guests, specific features regarding the planning of a catering service for different events arise. These also have an impact on the ways to prevent food waste. In the next pages some specific features are described, based on three exemplary types of events.

Type of event: Major events like fairs and festivals **Number of guests:** 1,000 and more guests

For the planning of events like fairs and festivals it is important to know when and where the catering takes place and for whom (fairgoers, festival attendees or a specific group of guests). The exact number of guests is normally uncertain. This can make the planning difficult. That is why experience is especially important for this type of events.

1	Discuss the issue of preventing food waste during your business conversation with your customer.	
2	Coordinate with your customer again and again. Starting with the offer right through to the evaluation of the catering.	I
3	Consider the guest structure (e.g. number, proportion female/male, number of vegetarians/vegans, age) for the planning of your food supply.	ı
4	Clarify with the event organiser that you need a kitchen area to prepare some of the food fresh on site.	ı
5	Reduce the extra amount of food from commonly about 30 % to 10 %. Especially when running direct selling at a fair or festival, you should stick to "When I've sold out, I've sold out".	ı
6	Prior to the event organise to whom any leftover food can be donated or distributed (e.g. assembly crew, security staff, night watch).	I
7	Ascertain the required quantities of food for the procurement on the basis of standardised recipes.	
8	Follow the FIFO principle (First In – First Out) for your food storage.	
9	Train your employees on a regular basis regarding the prevention of food waste during the preparation and processing of the food.	ı
10	Choose a distribution system which best fits the event (e.g. front cooking for a specific group of guests, menu service or a buffet).	I
11	Offer different serving sizes to your guests.	
12	Inform the guests about your quality philosophy and your concept for food waste prevention.	
13	Keep prepared food (e.g. for refilling the buffet) in closed containers, so that the food can be used further or passed on after the catering event.	ı
14	Give clear instructions for waste separation regarding the leftovers on the plates of the guests and other types of waste. This should be done when guests have to dispose their waste themselves.	ı
15	Use existing tools for food waste analysis for the evaluation of your catering services.	

Type of event: Congresses, receptions, symposiums, conferences, sessions and seminars **Number of guests:** About 100-500 guests

Guests usually sit for a longer period during events like

congresses and seminars. Therefore, light, small sized meals and bar tables for eating the food are suitable. Due to the large number of guests, initial hunger can be satisfied by a flying buffet. Then automatically reduced serving sizes are adequate for the main meal.

1	Discuss the issue of food waste prevention during your business conversation with your customer.	
2	Coordinate with your customer again and again. Starting with the offer right through to the evaluation of the catering.	
3	Consider the guest structure (e.g. number, proportion female/male, number of vegetarians/vegans, age) and the time available for eating for the planning of your food supply.	
4	Reduce the extra amount of food from about 30 $\%$ commonly to 10 $\%$, after coordination with your customer.	
5	prior to the event organise to whom any leftover food can be donated or distributed (e.g. to guests or the needy).	
6	Ascertain the required quantities of food for procurement on the basis of standardised recipes.	
7	Follow the FIFO principle (First In – First Out) for your food storage.	
8	Train your employees on a regular basis regarding the prevention of food waste during the preparation and processing of the food.	
9	Choose a distribution system which best fits the to the event. For example light meals in the form of finger food or lunch boxes (combination of prepared food like sandwiches, salads or fruits) are suitable.	
10	Ensure a simultaneous supply of food for all guests. For example first by finger food at bar tables and then by a buffet (several identical serving stations) or a menu service.	
11	Offer different serving sizes to your guests.	
12	Inform the guests about your quality philosophy and your concept for food waste prevention.	
13	Keep prepared food (e.g. for refilling the buffet) in closed containers, so that the food can be used further or passed on after the catering event.	
14	Make a written agreement regarding the waiver of liability for the passing on of leftover food to the guests or other purchasers.	
15	Use existing tools for food waste analysis for the evaluation of your caterings.	г

Type of event: Family celebrations & parties **Number of guests:** About 30–100 guests

Buffets are often requested for family celebrations and parties, typically in combinations with a set menu made up of starters, main course and dessert. It should

be noted that the food often remains for a long time on the buffet. It may therefore be useful to choose a larger amount of cold dishes, which can stand longer without any visual or quality damages. Easily perishable or warm dishes should be offered as long as there is service personnel on site.

1	Discuss the issue of preventing food waste during your business conversation with your customer.	
2	Coordinate with your customer again and again. Starting with the offer right through to the evaluation of the catering.	[
3	Consider the guest structure (e.g. number, proportion female/male, number of vegetarians/vegans, age) for the planning of your food supply.	
4	Reduce the extra amount of food from about 30 $\%$ commonly to 10 $\%$, after coordination with your customer.	
5	Prior to the event organise to whom any leftover food can be donated or distributed (e.g. to customer or guests).	
6	Ascertain the required quantities of food for procurement on the basis of standardised recipes.	
7	Follow the FIFO principle (First In – First Out) for your food storage.	
8	Train your employees on a regular basis regarding the prevention of food waste during the preparation and processing of the food.	[
9	Choose a distribution system which best fits the event.	
10	Offer different serving sizes to your guests.	
11	Arrange small, pre-portioned and varied starters or desserts, to counteract the impression of a ruined buffet.	
12	Inform the guests about your quality philosophy and your concept for food waste prevention.	
13	Keep prepared food (e.g. for refilling the buffet) in closed containers, so that the food can be used further or passed on after the catering event.	
14	Make a written agreement regarding the waiver of liability for the passing on of leftover food to the guests or other purchasers.	[
15	Use existing tools for food waste analysis for the evaluation of your caterings.	



Assistance for questioning the clientele of guests

- How many guests are invited or have signed in?
- Is there a date by which the guests can register or cancel their registration themselves?
- What is the connection between the guests and the event?
- How many female/male guests are expected?

Woman

Men

What is the age structure of the guests?

Number of children

Number of adolescents

Number of adults

Number of seniors

- Are there any specific cultural eating habits (e.g. vegetarians or vegans)? If so, what kind and how many?
- Are there any guests with food intolerance? If so, what kind and how many?
- Are there any specific religious eating habits? If so, what kind and how many?
- Are there any specifics regarding the origin of the guests, which has an effect on the food consumption? If so, what kind and how many?
- Are there any kinds of food which some guests do not like? If so, what kind and how many?
- Do the guests travel from far away to the event?
- Are the guests international or rather from a nearby locality?

Suggested wording for the waiver of liability for the passing on of leftover food to guests (translation of German form)

I hereby certify that the food that I received from [NAME CATERER], meets the hygienic regulations and is in perfect condition.

[NAME CATERER] does not accept any liability from the time of handing over the food.

Signature of the event organiser

Signature of the caterer

5 References and links

Studies on food waste

FAO, 2011. Global food losses and food waste – Extent, causes and prevention. Online available:

www.fao.org/docrep/014/mb060e/mb060e.pdf

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- www.zugutfuerdietonne.de//fileadmin/_migrated/ content_uploads/150806_ZGFDT_Leitfaden_ Catering_WEB_01.pdf

Food sharing

- www.tafel.de
- www.bahnhofsmission.de
- https://foodsharing.de
- www.zugutfuerdietonne.de//fileadmin/_migrated/ content_uploads/Leitfaden_Lebensmittel_bf.pdf

Sustainable catering/sustainable events

- www.zukunft-einkaufen.de/fileadmin/Bilder/
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 Catering_EED_2012.pdf
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- www.bcsd.de/files/leitfaden_nachhaltige_events.pdf

Doggy bags

- www.biologischverpacken.de
- www.bioeinwegartikel.de

Food hygiene regulations, HAACP regulations and checklists

- www.gesetze-im-internet.de/lmhv_2007
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