



Factsheet 06 | How can the collection of packaging waste be organised?

This factsheet outlines key aspects of the connection between EPR systems and packaging waste collection at municipal level. It describes how responsibility for collecting packaging waste is assigned, as well as the roles of public and private entities and community-based organisations in the collection process. It also shows how to link financing flows associated with the EPR scheme to funding packaging waste collection systems, and describes the systems required for effective collection. A good collection system will also create new jobs.

Waste collection is a key aspect of the sustainable management and recycling of packaging waste. Not only does it provide secondary resources and close the loop of the circular economy, it also helps to prevent packaging waste from polluting soil and waterways.

Ideally, waste collection should be organised on the basis of segregation at source. Once individual packaging material fractions have been collected, some additional sorting is usually required, because it is not always possible to sort all recyclable materials from other types of waste at source. For a collection system to function properly, decisions need to be made on a number of key issues, which are discussed in this factsheet.

Organisation

As part of an EPR system, the responsibility for collecting packaging waste may be assumed either by the municipality/local authority or by a PRO, depending on the provisions of the applicable regulatory framework.

If a municipal/local authority takes responsibility for collection, this means that the municipality organises collections and provides related operational services itself, or delegates these responsibilities to a private company operating on its behalf. The advantage of this system is that the same people are responsible for collecting both packaging and other types of waste (such as organic waste, bulky waste or waste electrical and electronic equipment). On the other hand, this system means that the PRO, which is ultimately responsible for reaching certain recycling targets,



PREVENT



cannot exert a direct influence on the quantity and the quality of packaging waste collected. Such influence is provided in case the PRO takes responsibility for collection and can design contractual guidelines accordingly (see below).

The system for financing the municipal service must also be clearly regulated. Generally speaking, this funding is either provided by fees paid to the municipality or local authority, or by the system operator (PRO) refunding the costs associated with collection to the municipality concerned.

When packaging is collected separately, the amount of packaging mixed in with residual waste decreases. This means that the intervals between residual waste collections can be increased, or the volumes of containers for residual waste can be reduced. This in turn allows the local authority to save money on collection costs and any associated services. Citizens must be kept informed of developments and any changes to collection frequencies at all times.

If responsibility for collections is assigned to a system operator (PRO), the PRO is expected to commission and pay for the services associated with the collection of packaging waste. This system relies on a strong working relationship between the PRO and the municipality or local authority, which acts as the primary point of contact for citizens. The PRO assigns collection responsibilities to a collector, which might take the form of a local authority-run company, a private waste management company, a waste bank or a community-based organisation. The PRO can influence collection services by entering into contractual arrangements with the collectors.

The most appropriate operating model for any individual EPR scheme will depend on the circumstances at hand. In countries where municipal or local authorities wield considerable influence, there is often political pressure to ensure that they are heavily involved in the system. On the other hand, in some countries, municipalities are not equipped to carry out waste management activities themselves, or may not want to assume any additional tasks or responsibilities. When preparing a legal framework, it is very important that the municipalities are consulted to ensure that suitable solutions are found.

In many countries, incorporating people working in the informal economy into the EPR system will be an important issue, as informal waste collectors often work to collect and monetise valuable recyclable fractions. > See Factsheet 08 However, it is crucial that waste with little or no market value is collected alongside valuable waste to prevent it from leaking into the environment. With this in mind, the underlying framework for the EPR system must emphasise the importance of collecting all types of waste. **Simply applying the principle of 'cash for trash' is not a recipe for rolling out reliable, separate collection of all types of packaging in the area covered by the system.**

Financing

The fees paid by the obliged companies usually need to cover all the costs associated with the services carried out under the EPR system, which should themselves be defined by law before it begins to operate. The costs covered by the obliged companies generally also include costs incurred by contracted waste collection companies when collecting waste. In some EPR systems (such as in France), the municipality/local authority makes a contribution towards collection costs. For systems like these, the PRO needs to agree to the division of costs with the local authority concerned.

If packaging or packaging materials covered under the EPR are collected together with other waste for which the municipality/local authority is responsible, for example, if paper is collected alongside other waste from the printing industry, the costs of collection must be split accordingly. The contributions to be made in such cases can be calculated on the basis of the quantity of waste involved or on the basis of an analysis of costs incurred and any profits made. > See Factsheet 03

Collection system

Since segregation and collection systems need to be tailored to local conditions, they vary between countries. Even in countries with established EPR systems, there are often significant differences in the way different materials are collected. **Packaging waste may be collected using a kerbside or a bring system.**

- **Kerbside systems** are systems in which **packaging is collected directly from private households**. They tend to be best suited to rural areas and areas where there is enough space in the existing built-up environment for the relevant collection containers to be installed, or for bags containing recyclable fractions to be stored.
- In **bring systems**, waste is taken to central collection points and collected from there. Examples of bring systems **include waste collection stations, recycling centres or waste banks**.

The choice of system depends on how residual waste is collected. If a **bring system incorporating local collection points is used**, it is sometimes possible to expand the system by adding additional containers for different types of packaging.



Photo 1: A collection point in a bring system, Maspalomas/Gran Canaria (Spain) (© cyclos 2018)



Photo 2: Containers for a kerbside collection system in Beijing, China (© cyclos 2019)



Photo 3: A bring system in Sri Lanka (© cyclos 2019)

Material fractions

As far as the way specific material fractions are collected is concerned, there are two main options. Either (i) **the system can start by collecting a small number of fractions and gradually expand to cover more;** or (ii) **it can be set up to collect all packaging fractions right from the start.** In countries where systems have been expanded gradually to cover more and more fractions, the first fractions to be collected have usually included packaging with a positive market value and an existing recycling market. The most obvious examples of these fractions are PET, PE, PP, tin cans and paper packaging. The advantage of focusing on these fractions to begin with, is that everything that is collected can actually be recycled, and does not end up in landfill, which would reduce the popularity of the system amongst the population. Once the system is established for these more valuable fractions, collection can be gradually expanded to low-value and non-valuable packaging, which can be prepared for co-processing in cement plants, for example.



Figure 1: Different packaging fractions

However, it is **also possible to collect all the different packaging fractions from the outset, regardless of their value.** This approach allows the population to get accustomed to a comprehensive collection system and means that sorting methods can be geared towards the entire spectrum of packaging from the very beginning. However, finding ways of storing materials for which there is no existing recycling market in the country concerned (such as composites or mixed plastics) can be a challenge.

Transport and transfer

Collections must be carried out using **suitable vehicles.** The vehicles need to be suitable for use in the local area where they will be operating, and must not compress the recyclable fractions too much. They should also be easy for the on-site staff to operate and repair. People working in the informal sector should also be involved in the collection process. [> See Factsheet 08](#)



Photo 4: Collection vehicles from a pilot project in Beijing, China (© cyclos 2019)



Photo 5: Collecting lightweight packaging in Germany (© Der Grüne Punkt, Köln 2019)

Since there are often long distances between the collection points and the sorting plant, in some areas, it may be a good idea to transport the waste collected to an intermediate collection point, a so-called transfer station, from which it can then be picked up and taken to the sorting plant.

Services

As collection, transport and sorting costs are usually covered by the PRO, arrangements will need to be made for the following services associated with waste collection:

- Setting up infrastructure for collecting packaging waste.
- Documenting collection.
- Ensuring containers are emptied regularly.
- Cleaning the collection points.
- Maintaining and looking after the containers.
- Integrating collections with sorting infrastructure.



Having an established EPR system and the recycling infrastructure that goes with it also provides major economic benefits. For instance, the Danish Ministry for Environment and Food estimates that shifting to a more circular approach to handling plastic waste by setting up an EPR system and increasing recycling creates three to four jobs for every 1,000 tonnes of plastic waste recycled rather than incinerated, as well as generating additional revenue of DKR 6m (or approximate US\$ 900,000).¹ Once it has been collected, packaging usually needs to be sorted into marketable fractions. > [See Factsheet 07](#)

Imprint

Published by:

Deutsche Gesellschaft für Internationale
Zusammenarbeit (GIZ) GmbH
PREVENT Waste Alliance
Friedrich-Ebert-Allee 32 + 36
53113 Bonn
Germany

Tel. +49 61 96 79-0
Fax +49 61 96 79-11 15

info@giz.de
contact@prevent-waste.net
www.giz.de
<https://prevent-waste.net/en/epr-toolbox/>

cyclos GmbH
Westerbreite 7
49084 Osnabrück
Germany
<https://cyclos.de>

Authors:

Agnes Bünemann, Jana Brinkmann, Dr. Stephan Löhle and Sabine Bartnik.

Credit design cover photo & figures: creative republic Frankfurt

Bonn, Germany 21 September 2020

¹ MFVM (2019). Plastic without waste – The government's action plan. Copenhagen: Environment and Food Ministry.