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# Circular economy of commercial plastic packaging in urban environments

# L I F E R E C Y P A C K

GUIDE FOR THE IMPLEMENTATION OF LIFE RECYPACK  
SYSTEM IN URBAN COMMERCES

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# URBAN COMMERCE

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## 1. BRIEF DESCRIPTION OF THE ACTION AND MAIN OBJECTIVES

The aim of the activities developed on B2 action are to aware, collect and valorise commercial plastic packaging waste from the commerce of urban centre, by collecting them door to door.

The inadequate removal of the residue is due to several factors.

- The type of commercial plastic waste, large volume and low weight, makes it more difficult to manage.
- In the majority of municipalities there are means of selective collection in shops.

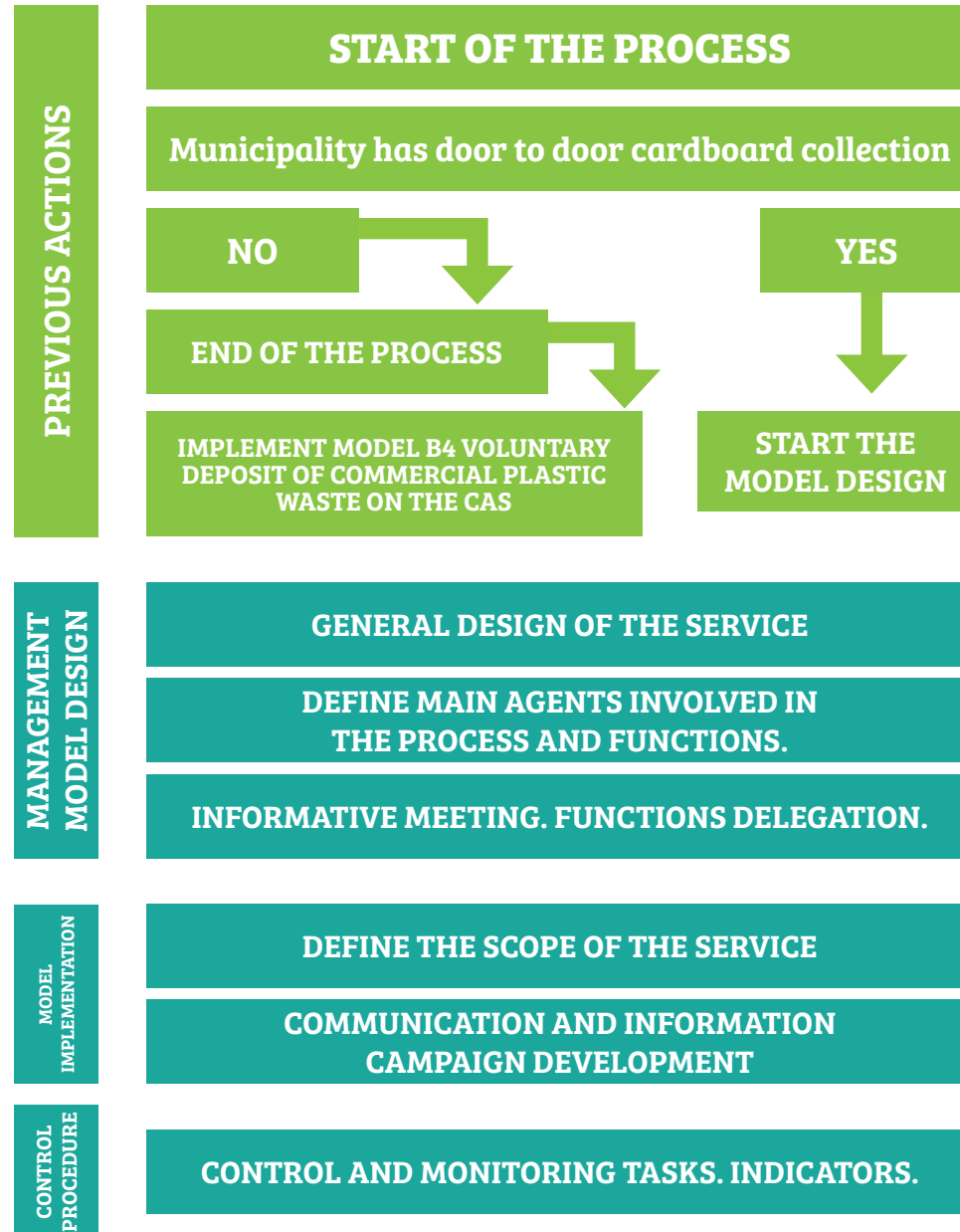
- Shops do not have information for the proper management of their waste.
- There are no specific containers for this type of waste
- Urban businesses are organized individually and lack technical and economic means for separation at source of waste.
- Limitation in the logistics of small businesses, these businesses work individually so they do not have the benefits of reverse logistics of large shopping centers.
- Municipalities, mainly smaller ones, lack the means to regulate the management of commercial waste.

## SCHEME FOR THE DESIGN AND COMMISSIONING OF THE DOOR TO DOOR COLLECTION SERVICE

### 2. STEPS TO PLAN AND GET THE OBJECTIVE OF THE ACTION.

This guide has been designed for the development of a new management model for commercial origin stores in urban areas.

It will prevent commercial plastic from joining with other waste streams in street containers thus reducing container saturation problems as well as achieving the recovery of plastic waste and its transformation into other materials such as urban furniture.



## 2.1 PREVIOUS ACTIONS

### 2.1.1 START OF THE PROCESS.

Door-to-door collection model taking advantage of the logistics established for the collection of commercial cardboard.

This model focuses on the use of the services provided by the existing contract in the municipality for the collection of commercial cardboard and thus to expand the service with the collection of commercial plastic.

## 2.2 MANAGEMENT MODEL DESIGN

### 2.2.1 DESIGN OF THE DOOR TO DOOR COMMERCIAL PLASTIC PACKAGING COLLECTION SERVICE.

Establish the general aspects.

#### **SERVICE STRUCTURE, ASPECTS TO BE DEFINED**

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**1. Define delivery of material.** Request without improper. Emphasize that not plastic packaging is allow in this system. This waste has its own management.

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**2. Material delivery place:**  
Usually by the door of each shop involved.

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**3. Frequency:**  
It depends on the municipality, usually is a service which is daily but for those municipalities with less than 20.000 inhabitants in where is weekly.

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**4. Schedule of delivery:** It depends on the shops Schedule. Better times could be at store opening or closing.

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**Recommendation:** It is recommended that the initial scope of the service be limited and, after a periodic review of the results that provide feedback to the design, a progressive extension or frequency of the service can be decided.

**Legal obligations at the local level in the management of commercial waste.**

### **Collection model without obligation in the municipal ordinance.**

This guide proposes a door-to-door management model for a type of waste, plastics of commercial origin, which in most municipalities are not contemplated in their waste ordinance but also the municipality is interested in offering this service to businesses. This situation limits the way of enforcing compliance and requires acting in a consensual manner with businesses.

### **Collection model with obligation in the municipal ordinance.**

In the case of the municipalities that are in the phase of writing new waste ordinance, it is proposed to include the management of this new flow of waste, commercial packaging plastics, in the ordinance. Also, it would be positive to include it on in the contract for the collection of commercial waste. By using this method, regulation establish a mandatory separation of every commerce, guarantee the sustainability of the activity.

## **2.2.2 DEFINE MAIN AGENTS INVOLVED IN THE PROCESS AND FUNCTIONS.**

**Defining the main parties involved and achieving the participation of the model is key to its success.**

The following stakeholders are established at a general level.

- Public officials: City Hall; Department of Environment and Commerce.
- Responsible for the management: company responsible for the collection of commercial waste and management company of the Civic Amenity Site and Consortium of Waste / body responsible for the shared management of waste.
- Users: merchants and merchants association, customers.

## 2.2.3 PREVIOUS STEPS TO IMPLEMENT THE MODEL.

The implementation of door-to-door collection system for plastic waste of commercial origin requires the involvement of all parties, for this purpose the following actions are established.

1. Presentation of the collection service to interested parties. Objectives, service information and ways to participate.
2. Establish a telephone information point for merchants.
3. Request for the appointment of an interlocutor for each of the parties involved.

4. Request information from the company in charge of collecting commercial cardboard.
5. Participating establishments, large plastic generators, incidents.
6. Establish a work plan of actions.
  - Coordination of the informative campaign.
  - Designation of functions.
  - Establish follow-up meetings.
  - Set date for the start of collection
7. Collect proposals and transfer them to the company responsible for the collection.
8. Signing of a document of participation of the parties.

## **2.3 IMPLEMENTATION OF THE DOOR-TO-DOOR MANAGEMENT MODEL**

### **2.3.1 DELIMIT THE SCOPE OF THE COLLECTED SERVICE.**

Indicators to establish the scope of the door-to-door pick-up service.

Each city is different, but usually the municipalities with more than 20,000 inhabitants have areas with a high concentration of shops and services. There are no valid service parameters for all cases. Even within a city there can be different urban models that require different methods and systems.

To assess the needs of this service in the municipality should be analysed the following indicators.

#### **1. Existence of household collection containers overflowed by commercial plastic.**

The recurrent overflow of street containers with commercial waste may indicate the need for a specific door-to-door collection in a specific area.

#### **2. Serious access difficulty for container collection**

There are sections of the urban area where it is not possible to maintain sufficient containment on public roads: lack of space, strong access restrictions for collection vehicles, preservation of artistic / historical environments, etc. In these cases, the implementation of a door-to-door collection may be a solution.

#### **3. Analysis of the current situation**

Define the main generators of commercial plastic waste according to current situation in the collection of commercial cardboard.

**Recommendation: It is recommended that the City Council send an institutional letter to the shops, providing the new service indicating (start date, schedules, materials to collect and types to participate). It will be essential to highlight in the letter that the service is voluntary and that it has no extra cost for the establishments.**



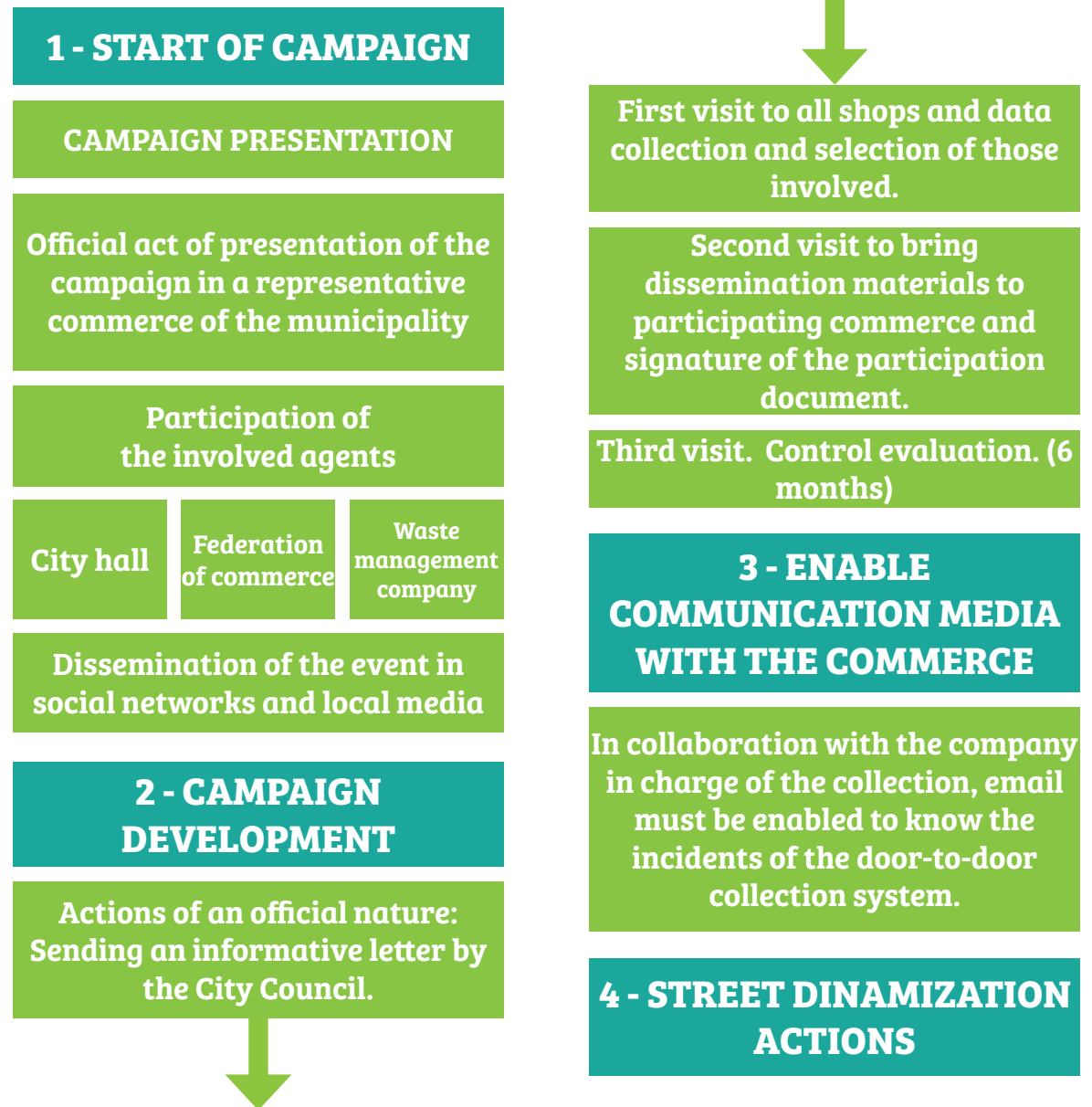
## STEPS FOR THE DEVELOPMENT OF AN INFORMATION AND AWARENESS CAMPAIGN IN COMMERCE

### 2.3.2 COMMUNICATION AND INFORMATION CAMPAIGN DEVELOPMENT FOR COMMERCE.

Campaign objective: to involve shops in the development of a new commercial plastic management model.

The success of the door-to-door management model depends on the involvement of shops for the correct selection of plastic waste at source.

### MODEL IMPLEMENTATION



**Recommendation:** Once the type of service to be defined is stipulated, it is necessary to communicate in advance the specific behaviour and participation guidelines to the establishments, so that they can assume these practices and adapt their activity.



*Proposal of materials for communication actions.*

## 2.4 CONTROL AND MONITORING TASKS - INDICATORS.

One of the factors that contribute most to the success of the door-to-door collection model is the monitoring and control that the City Council establishes over the establishments.

### Indicators:

Development of control indicators after the implementation of the model.

1. Number of incidents detected by container overflow (n° / year).
2. Evaluation of the incidents of the door to door collection service. (N°/year)
3. Number of shops attached to the model. (Establishments / year)
4. Evolution of the number of commercial plastic inputs to the CAS by the company in charge of municipal collection. (t / year)

The evolution of the indicators will allow us to know the evolution of the new door-to-door collection system so that the deviations can be corrected in time and comply with a quality service for commerce and citizenship.

### **3 CONCLUSIONS**

The positive effect that the Door-to-Door Collection service can have on the image of the containers of other fractions such as undifferentiated garbage and, especially, the yellow bag is significant. By providing a specifically oriented commercial plastic service, the risk of transferring this material to inappropriate containers is reduced, reducing improper ones, guaranteeing their recycling and at the management level, reducing overflows and improving their general appearance.