



# COMPACTING COLLECTION TRUCKS



## Background (REF: 1)

A waste compactor is a powerful machine whose main function is to compress the waste reducing its volume and allowing the entry of more waste thus, making transport more efficient.



Waste compaction is a common practice in waste collection. In fact, compactors can be found in many urban waste collection trucks.

A compactor has two main parts: a waste feeder, where the compacting equipment is located, and a tank, where the (compacted) waste is stored. The incoming waste is deposited in the feeder, where a press plate pushes it to the tank. Once filled, when more incoming waste and recyclables are added and the pressure plate pushes it to the tank, the waste is compressed thanks to the pressing force exerted by the press plate.

Related BP:  
"Optimization of collection routes"

## ACTION

Use of trucks provided with a compactor in order to reduce the volume of the Paper for Recycling collected

More information:  
Guillermo Vallés (SAICA, Spain) → [guillermo.valles@saica.com](mailto:guillermo.valles@saica.com)

## Examples of good practice implemented

### Use of compacting truck for paper and board collection in Urola Erdia (Spain) (REF: 3)

The technical specifications established in the tendering process for MSW collection in 'Urola Erdia' require the use of a **20 m<sup>3</sup> compacting truck for the collection of organic, light packaging, PFR and mixed**



**UROLA ERDIKO**  
Zerbitzu Mankomunitatea  
Mancomunidad de servicios  
**DEL UROLA MEDIO**

**waste.** It also specifies that compacting truck should be rear-load and suitable for containers between 80 and 1300 l. In addition, the rear-load compactor collection box must be fully installed in the chassis cab. The main benefit of installing compactor in the truck is the volume reduction making transport more efficient.

### Use of compacting truck for paper and board collection in Málaga (Spain) (REF: 4)



Figure-1. Lateral loading compactors used in Malaga (Spain). Source: Limasa

There are two types of separate collection of PFR operating in the city of Málaga. The first one is carried out by **upper loading with compactor trucks and cranes to collect igloo-type and underground containers.** The other system is made by **lateral loading compactors.**

The separate collection of PFR is organized through the design of routes that comprise a series of containers with equal frequency of filling. Due to the characteristics and the use of this resource has, there will be containers with usual filling and others in which it is sporadic. Therefore, the collection route will be longer than for other waste and recyclables.

## COMPACTING COLLECTION TRUCKS



### Keep in mind that...




- ⚠ The use of compacting trucks might be justified in many cases. Nevertheless, a proper analysis of the required type of vehicles when designing your collection system is mandatory.
- ⚠ Tank storing capacities and compacting rates of collecting trucks should be considered. The selection of the truck type should be aligned with other elements of the collection system, specially types of bins, containers etc. in use.
- ⚠ The implementation would be particularly interesting for rural areas with long distances and in those zones with high collection rates.
- ⚠ The compacting collection trucks fit very well when the quality of the material is high. However, the compactor makes much more difficult the cleaning process requested for that material with impurities before sending it to paper mills.

### How to start?

- Define properly the amount of PfR expected to be collected.
- Analyse the catalogue of compacting vehicles available and select the best fitting.
- Determine the number of trucks necessary according to estimations of quantity.
- Check with sorting plant/recycling company that compacted product fits their requirements.
- If the municipality is not performing directly collection activities: include a special chapter about 'trucks to be used' in the corresponding technical specifications of the contract with the waste management company.
- Include additional measures to optimize filling of truck (e.g. redesign of routes, collecting calendars, etc.)



### Potential benefits (REF. 3,4)

			
The compaction of the collected material, allows to increase the amount of paper for recycling transported per trip, which makes transport more energy efficient (i.e. fuel saving).	●	●	●
Increase efficiency of collection operations	●	●	



#### References:

1. RECYTRANS: soluciones globales para el reciclaje
2. KISSAN ENGINEERING
3. UROLAERDIA: pliego de condiciones técnicas para la contratación del suministro de un camión recolector de residuos sólidos urbanos
4. COMPACTING COLLECTION TRUCKS OF PAPER AND BOARD IN MÁLAGA (SPAIN)