

Capital factsheet on separate collection

Note: This ‘Capital factsheet’ has been prepared within the EC study “**Assessment of separate collection schemes in the 28 capitals of the EU**”. The document represents the status-quo of the EU Member States capitals in May2015. The information included in this document has been elaborated for all 28 EU-capitals based on expert interviews with various stakeholders on capital level, e.g. capital administrations, waste management operators, associations etc. as well as further publically available reports, statistics and websites.

All information is cited in the factsheet and a complete list of information sources including the interviews held can be found at the end of this document.

Budapest	Hungary
<p>SUMMARY: Budapest has changed its collection system from bring sites to door-to-door collection covering 100% of households in 2014. Paper is collected separately in all households, while metal and plastic is co-mingled for central sorting. Green waste from gardens is collected separately on demand, using pay per bag system. However, bring sites for glass was kept as main collection route. The residual waste is collected under a PAYT scheme, as such separate collection of the dry recyclables is free of charge. While the capture rate for glass is rather high, the results for other recyclables are relatively low.</p>	
1 Capital general data	
City population (inhabitants)	1 744 665 person [1]
City area (km ²)	525 km ² [1]
City density (persons/km ²)	3 323 person/km ² [1]
City climate (mediterranean, continental, oceanic, nordic; relevant for bio-waste collection)	Continental
2. Capital waste data	
Total (municipal) waste generation (t in indicated year)	Approximately 1 000 000 t [1] (fluctuates between 800 000 – 1 200 00 t) [3]
Total (municipal) waste generation (kg/cap)	573.17 kg/cap in 2014 [1] – including approx. 400-450 kg/cap from households [3]
Total separate collection (kg/cap) & (% of generation)	33.37 kg/cap & 5.8% of MSW or 8% of household waste generation [1] – at 60% of system readiness in 2014 – amounts collected only from households [3]
Percentage breakdown of total collection for separate collection by fraction	<ul style="list-style-type: none"> • 33.7% (of separate) paper and cardboard - 2% (of total MSW) • 9.5% (of separate) glass - 0.5% (of total MSW) • 16.7% (of separate) plastic+ metal - 1% (of total MSW) • 37.1% (of separate) bio-waste - 2.1% (of total MSW) • 2.5% (of separate) other, such as batteries, used cooking oil - 0.15% (of total MSW) • 94% (of total MSW) mixed waste
3. Description of overall separate collection systems operating in capital	
<p>The Municipal Public Services Co. Ltd.(FKF Zrt) as public service provider performs exclusively the collection of waste from households in the area of Budapest. Until 2013, separate collection was primarily served by a system of bring sites. With the set-up of the new collection system between April 2013 and December 2014, the waste collection at bring sites and bring-in civic amenity sites are complementing door-to-door collection of source separated paper and co-mingled plastic and metal waste.</p>	

Since the implementation of the new system for households was completed only by the end of 2014, the data presented here is to be understood as a performance achieved by a system readiness of approximately 60% compared to what is expected from year 2015 onwards [3]. According to changes in legislation, municipal solid waste from sources other than households will also be collected by FKF Zrt. in the future.

With implementation of door-to-door collection, existing containers used at the previous system based on bring sites only, the plan is to use these containers for separate collection and public institutions and commercial buildings [3].

Paper and cardboard: Separate door-to-door collection, Separate bring Collection Points, Bring-in Civic Amenity sites

Glass: Separate bring Collection Points, Bring-in Civic Amenity sites

Plastic: Door-to-door collection (co-mingled with metal), Bring Collection Points, Bring-in Civic Amenity sites

Metal: Door-to-door collection (co-mingled with plastic), Bring Collection Points, Bring-in Civic Amenity sites

In 2014, the door-to-door collection provided 38.1%, the collection of bio-waste with 37.1%, the bring collection points with 20.6%, the bring-in civic amenity sites with 4.2% have a share in the separate collection in Budapest [1].

Annual Running Costs: €13 317 309, €228.7/t, €92/cap [1]

Setup costs: €28 583 493, €490.9 /t, €16.4 /cap [1]

Coverage [1]:

- 100% of households with door-to-door separate collection for paper
- 100% households with door-to-door co-mingled collection metal and plastic
- A system of bring sites for glass and additional capacity for the other collection metal and plastic
- 100% of households covered by a pay per bag system for bio-waste

4. Elements of the collection system

MUNICIPALITIES OR THEIR CONTRACTORS



Door-to-door collection of source separated waste

Fractions collected	Paper, bio-waste
Collection frequency	Paper: family house zone collection in every four week, owner-occupied block zone weekly collection
	Bio-waste: from March to December weekly [1]
Coverage of collection	Paper: 100% from households [1]
	Bio-waste: 100% from households (pay per bag) [1]
Annual collected quantities	Paper: 8.48 kg/cap [1]
	Bio-waste: 12.34 kg/cap [1]
Setup costs	€19 488 745.2, €445.73/t, €11.17/cap [1]
Running costs	€8 445 122, €380/t [1]
Source of funding	Set-up cost of system was financed decisively subsidy from EU and own resources to a lesser extent [1]. The running costs are covered by PAYT scheme on residual waste and sales of recyclables. There are 5 different bin sizes offered for residual waste and households pay per instances the bins are emptied a week which can also be decided by the households. Price charged for residual waste is ca 20 € per m ³ and 30€ per m ³ of compacted waste.
Cost to consumer (annual)	Free of costs, excepting collection of green waste (the price of sacks occurs as cost) [1]

 Door-to-door collection of co-mingled recyclables	
Fractions collected together in one bin	Plastic and metal in the same bin. [1]
Collection frequency	Family house zone: collection in every four week. Owner-occupied block zone: weekly collection [1]
Coverage of collection	100% Households [1]
Annual collected quantities	Plastic and metal: 4.23 kg/cap [1]
Setup costs	Operated together with door-to-door separate collection of paper and bio-waste.
Running costs	
Source of funding	
Cost to consumer (annual)	
 Bring Collection Points	
Fractions collected	Paper, glass, plastic, metal
Number of collection points	413 (total) out of which 111 is for glass only [2] 26,5 (per 100 000 inhabitants) [1]
Collected quantities	Paper: 2.51 kg/cap [1]
	Glass: 3.09 kg/cap [1]
	Plastic + metal: 1.27 kg/cap [1]
Setup costs	Approximately €8 120 310.52, €676.36/t, €4.65/cap, €17 500.67/collection point [1]
Running costs	€4 127 453, €343.79/t, €8 895.4/collection point, €2.37/inhabitant [1]
Source of funding	Own resources
Cost to consumer	Free of costs
Fractions collected	Paper, Glass, Plastic, Metal etc.
Number of sites	16 (total) [1] 0.9 (per 100 000 inhabitants) [1]
Collected quantities	Paper: 0.25 kg/cap [1]
	Glass: 0.07 kg/cap [1]
	Plastic + metal: 0.06 kg/cap [1]
	Bio-waste: 0.02 kg/cap (garden waste) [1]
Setup costs	€1 000 000, €405.86/t, €0.57/cap, €62 500/bring point [1]
Running costs	€835 966, €339.29/t, €52 247.9/bring point, €0.48/inhabitant [1]
Source of funding	Own resources
Cost to consumer	Free of costs

PRODUCERS OR THEIR AGENTS						
 Various voluntary producer and retailer maintained deposit schemes on beverage containers						
Products covered	Glass bottles					
Quantity covered by system (in t)	Not available					
Quantity collected by system (in t)	Not available					
Funding mechanism	Deposit on beverage packaging at point of sale					
Consumer cost	Typically around €0.15 per bottle					
BARRIERS TO IMPLEMENT SEPARATE COLLECTION						
The responsible organisations did not experience major barriers to implement separate collection systems. In general, the experience is that the inhabitants are eager to participate and sort waste according to the guidance provided to them.						
ADDITIONAL FINDINGS						
The main reason to keep plastic and metal co-mingled was to prevent stealing metals from containers on bring sites and bins that are accessible. It was decided to collect glass exclusively at bring sites and civic amenities in order to keep safety and health standards. On the one hand in order to prevent broken glass to cause injuries at bin but also because the weight of bins emptied by the workers of the public utility company must not exceed 20kg.						
5. Materials, Quantities and costs						
SUMMARY OF COLLECTION SYSTEMS IN PLACE [1]						
Collected waste (t)	Paper	Glass	Plastic	Metal	Bio-waste	City Coverage
Door-to-door	14 796.2				21 532.34	100%
Co-mingled			7 394.97			100%
Bring points	4 387.63	5 406.99	2 211.28			464; 26.5/100 000 inhabitants
Civic amenities	443.38	116.83	98.5		35.156	16; 0.9/100 000 inhabitants
Producer / Retailer take-back						
Total	19 627.21	5 523.82	9 704.75		21 567.49	
SUMMARY OF COSTS FOR SEPARATE COLLECTION SYSTEMS IN PLACE (setup costs should be total, running costs annual)						
Costs (€)	Authorities / waste management companies		Consumer costs			
	Setup (€)	Running (€/year)	Funding type		Amount (€)	
Door-to-door	19 488 745.2 €	8 445 122 €	Free of costs service.		Not available	
Co-mingled			Funding of collection is covered by the charge on mixed waste and the sales of recyclables.		Not available	
Bring points					Not available	
Civic amenities					Not available	
Producer / Retailer take-back	Not available	Not available	Not available		Not available	
Total	28 609 055.7 €	13 408 541 €			Not available	

6. Recycling and losses						
RECYCLING OF THE COLLECTED WASTE¹						
Recycled (t)	Paper	Glass	Plastic	Metal	Bio-waste	Total
Generated	135 000	59 000	200 000	64 000	520 000	1 000 000
Collected	19 627.21	5 523.82	9 704.75		21 567.49	56 423.27
Recycled nationally	Not available	Not available	Not available	Not available	Not available	Not available
Exported for recycling	Not available	Not available	Not available	Not available	Not available	Not available
Rejected	There is no reliable data, but estimates put the share of rejected waste below 10%.					
ADDITIONAL FINDINGS						
All the figures presented in the factsheet are for year 2014, where in total the system was in a state of 60% readiness, being fully operational only by the end of the year. It is expected, that the total amount of glass waste collected will remain around the same level (5 500 tonne) and the total amount of plastic, metal and paper collected will increase from the current 34 000 tonnes to 46 000. [3]						

¹ Data of **waste generation** per waste stream have been calculated on the basis of residual waste sorting analysis, if data was not directly available. Based on the composition of residual waste (% of each waste fraction) and its total weight amounts per waste fraction can be calculated. CRI estimate for total MSW generated in Budapest based on national composition of MSW: 13.5 % paper, 20 % plastics, 5.9 % glass and 6.4 % metal in Hungary, and around 52 % bio-waste [4].

References

- [1] Data for year 2014 provided by the Budapest Municipal Public Services Co. Ltd (FKF Zrt.) upon personal inquiry.
- [2] Data and information from website of Budapest Municipal Public Services Co. Ltd (FKF Zrt.)
FKF Zrt – www.fkf.hu
- [3] Interview with Mr István Bokor, project director at Budapest Municipal Public Services Co. Ltd (FKF Zrt.)
- [4] Herczeg M., Municipal waste management in Hungary. ETC/SCP, 2013.