



Collection of Paper for Recycling in Switzerland

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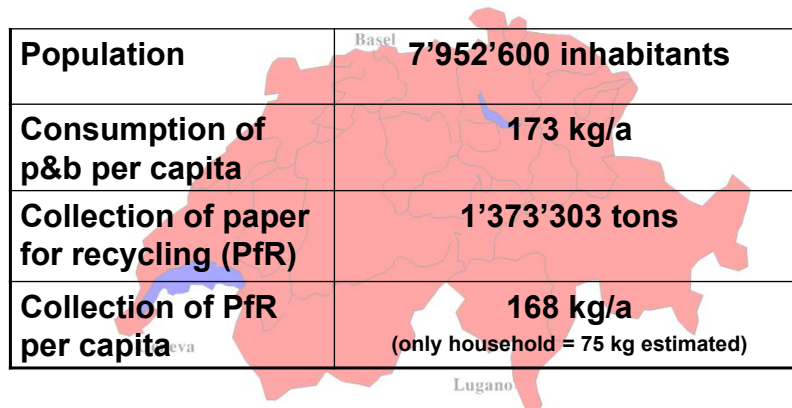


Foundation	1892
Deinking since	1964
PfR sorting plant	1973
Part of Myllykoski	1997
MbO	2009
Sales (News/UMI)	205'000 tons
Advertising	50%
Newsprint	50%
Domestic	45%
Export	55%
Employees	263

Annual consumption of Paper for Recycling 260'000 tons

Annual consumption of wood 45'000 m³

Paper for Recycling Switzerland in 2012

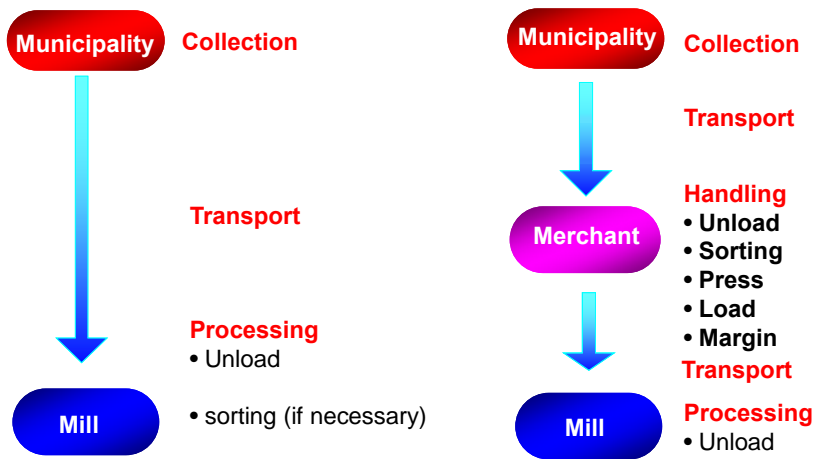


Population	Basel 7'952'600 inhabitants
Consumption of p&b per capita	173 kg/a
Collection of paper for recycling (PfR)	1'373'303 tons
Collection of PfR per capita	168 kg/a (only household = 75 kg estimated)

Issues

- Collection System. We need flexible cost efficient solutions depending on municipality structures
- To get the total fibre costs all cost elements in the value chain (incl. municipality logistics, quality losses) have to be clear
- Quality of paper for recycling gets worse
 - New digital print processes and flexo newspapers challenge both the recovering strategies and the deinking process
 - More ink and more colour on less paper
 - Higher ash contents, less fibre
 - More unwanted material in the recycling stream
 - Increased share of packaging material

Value Chain



Collection Systems (1)



- Separate collection paper /board – curbside collection
- Mixed collection paper & board – curbside collection



Collection Systems (2)



- Recycling center (controlled)
 - privately operated
 - publicly operated
- Recycling center (not controlled)
- Public collection points



Transportation



- 28 m³ containers (10–18 tons)



- garbage truck (7–11 tons)

- walking floor truck (to 90 m³, –25 tons)



- intermodal transport (13–16 tons)



- optiliner container (–25 tons)



Legal aspects



- Environment protection law, USG
- Technical regulation waste, TVA
- Waste (exception industrial waste) is owned by municipalities
- Differentiation industrial/commercial unclear
- Commercial waste under political discussion (company size, volume)
- 2013: decision of cantonal administrative court: tendering of PfR disposal is not necessary
- Revision of USG in process
 - no clear waste hierarchy
- Private operators of recycling centres need concession

Costs for collecting PfR



- Municipality Survey 2009: „costs and performance of public waste management“ (represents 377 communities or 40% of Swiss population)
- 400 kg waste collected at households by municipalities/person/year (50% are recyclables)
- Average disposal costs 129 CHF/person/year
- Average basic waste fees 56 CHF/person/year (32–64)

Paper

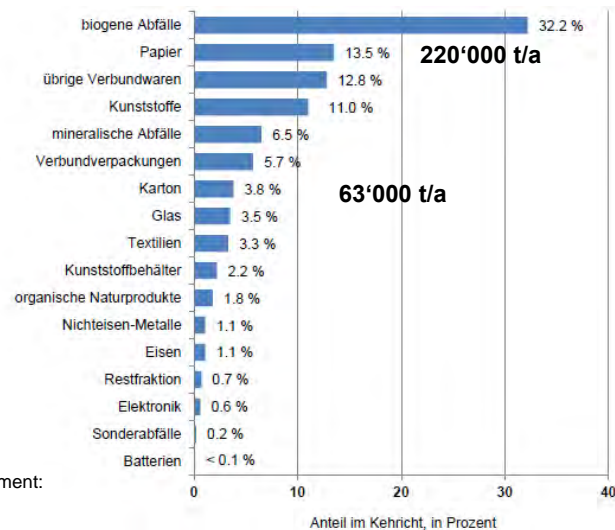
- Net costs: 2.7 CHF/inhabitant, 33 CHF/ton

Municipality size	Collection costs CHF/ ton	kg/person/a
101–1000	87.8	57.2
1001–10'000	80.6	65
10'001–50'000	85.8	79.8
> 50'001	79.8	81.2
average	88.3	75

What is in the rubbish bag?



Waste composition of household waste, 2012, share in %



FOEN/federal office for the environment:
Presentation of study, 28.01.2014

General information

- 20% of municipalities have net earnings with PfR

Bring System

- 2/3 of Swiss recycling centre are observed
- Recycling centre, collection points (not observed)

Pick Up System

- Major cost elements are logistic costs
- collection
 - frequency of collection
 - way of collecting (vehicles, tons/m³, labour costs)
 - Private (e.g. schools) or commercial

Trends in Switzerland



- Packaging material: Switzerland is net-exporter
- Deinking grades: Switzerland changed from net-exporter to net-importer
- Decreasing volume of PfR household collection. Higher decrease in urban compared to rural areas
- Increasing share of recycling centres: No standardized calculation models, assignment of costs per fraction is difficult
- PfR frame contract between association of municipalities, recyclers and service providers represents a reliable paper chain
- Private operation of recycling centres gets popular (concession?)
- big differences of basic fees for waste
- Littering issues in cities, who is responsible?
- Study shows there is more potential, e.g. office waste
- Overcapacity in waste incineration can be a risk for recycling streams

Messages



- Our target: Minimum fibre costs in front of the paper machine
- Separate collection of paper and board can save costs and results in higher quality depending on suitable logistic solutions
- We want to cooperate with service providers, no speculators
- We are open to all kinds of collection systems and logistic solutions. The system has to be efficient and safe
- Close link to the sources of PfR necessary