

Seminar on Collection Strategies

09.07.2014 in Sopron (Hungary)

Subject: Paper and board collection and recovery at Kempten Waste Management Association (ZAK)

Speaker: Karl-Heinz Lumer, General Manager

- 1.) Who we are?
- 2.) What we are doing?
- 3.) How we collect and recover paper and board?



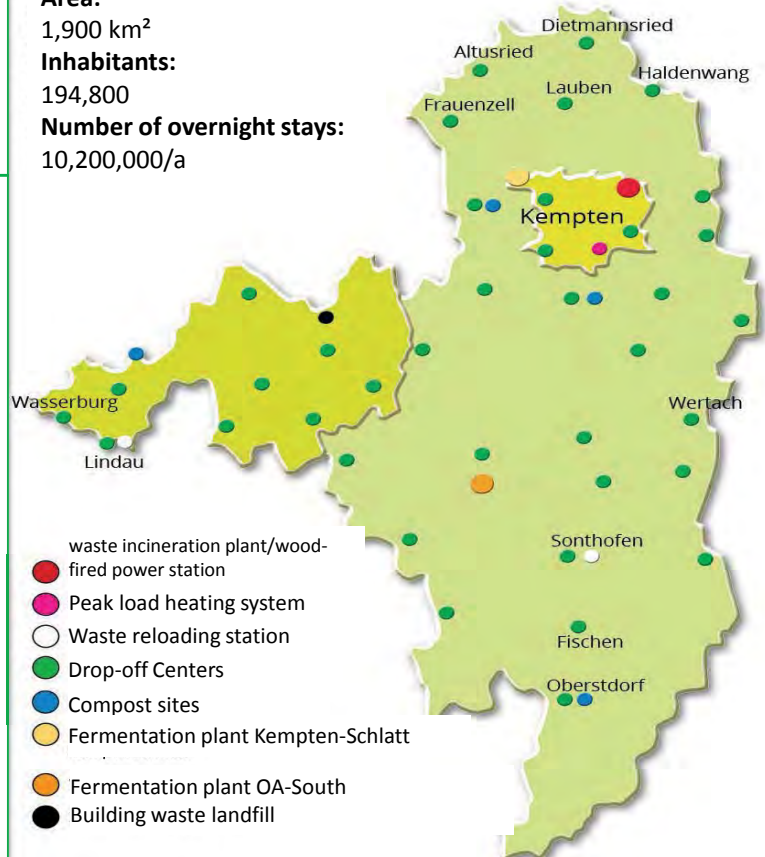
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Association's
area

Area:
1,900 km²
Inhabitants:
194,800
Number of overnight stays:
10,200,000/a



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Organisation of ZAK GmbHs (ZAK company structure)

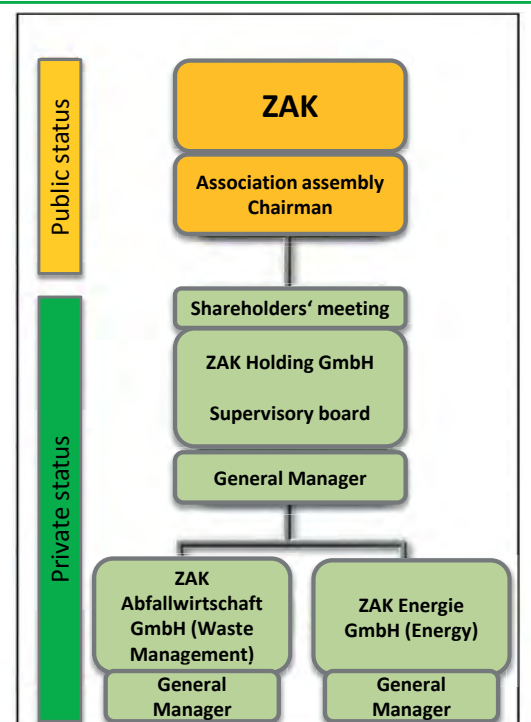
The rural districts of Oberallgäu and Lindau together with the city of Kempten jointly established a municipal **Kempten Waste Management Association (ZAK)**.

The main task of this bod:
are the collection, utilization and disposal of domestic waste, bulky waste and house-hold-type industrial and commercial waste.

The political decision making committee is the **association assembly** consisting of 24 representatives from the rural districts of Oberallgäu, Lindau and the city of Kempten (8 per administrative unit).

ZAK in the meantime has delegated the major part of their tasks to own subsidiaries.

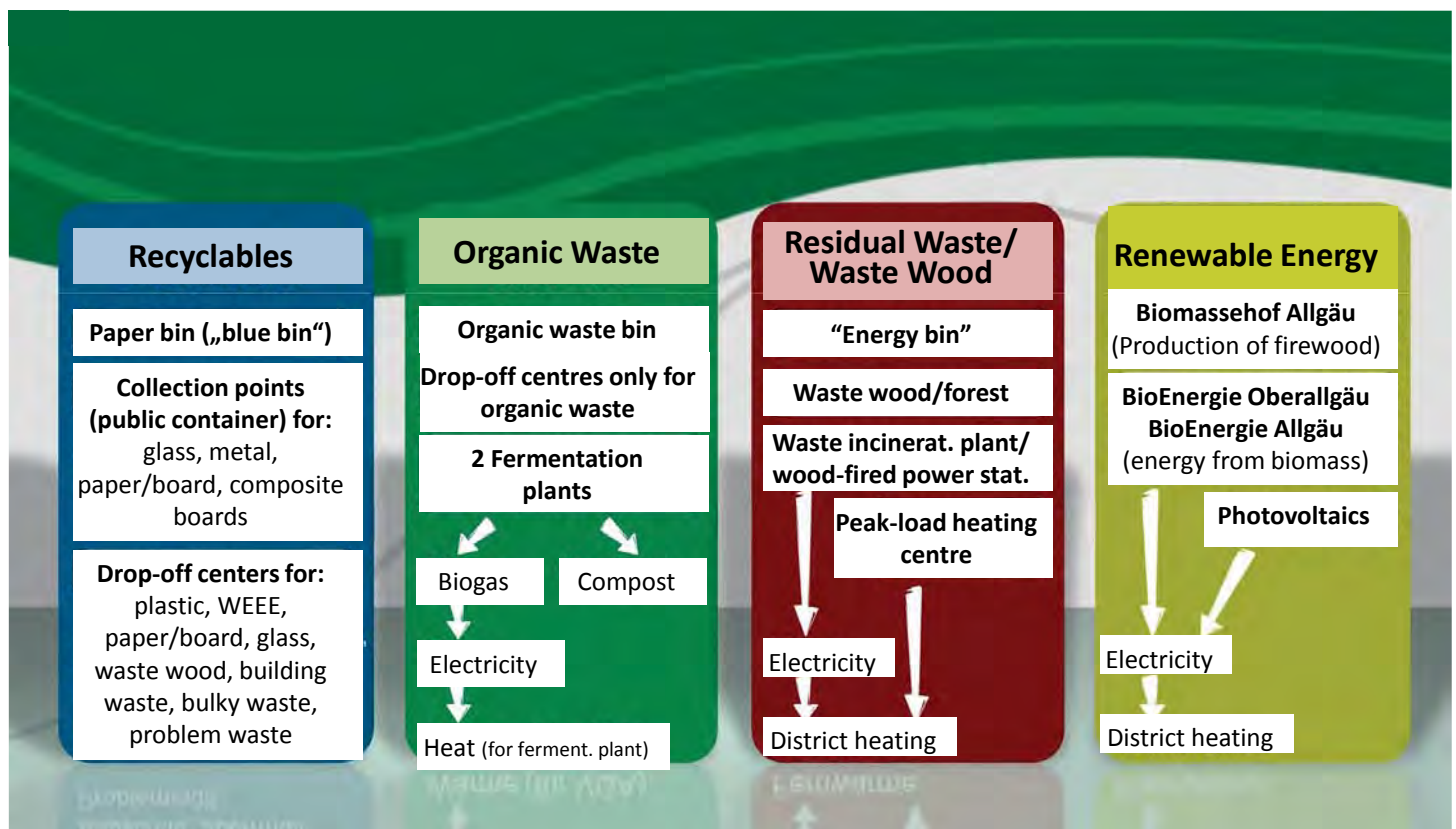
The **supervisory board** is the decision-making body of the GmbHs (Ltds) : personal union with the association assembly.



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ZAK: Our tasks



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Plants and facilities

Drop-off centers

- 21 communities/
municipalities
- 16 private companies
- 1 ZAK Abfallwirtschaft
GmbH



Drop-off-centers for organic waste

- **Wiggensbach**
- **Waltenhofen**
- **Weißensberg**
Fa. Schmid, Tettnang
- **Oberstdorf**
Markt Oberstdorf



Fermentation plant Kempten-Schlatt

BIVA mbH
Dieselstr. 9
87437 Kempten



... and operating companies

Fermentation plant OA-Süd

BIVA mbH
Dieselstr. 9
87437 Kempten



Waste incineration plant and wood-fired power station

ZAK Energie GmbH
Dieselstr. 20
87439 Kempten



Waste reloading station

- **Sonthofen**
VEOLIA-Süd,
Kempten
- **Lindau**
Fa. Stark, Lindau



Class of landfill 1 – landfill of remainings

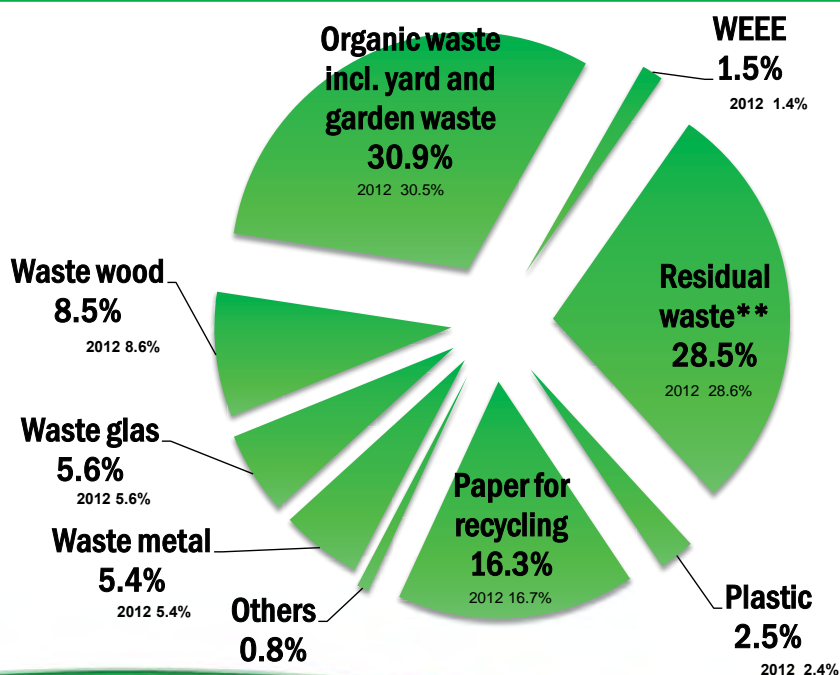
Steinegaden
Steinegaden Deponie Betriebs GmbH & Co. KG
Oberstdorf



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Overall balance from households* 2013



* Without slag recovery and recycling of building waste
** Without the amount of building waste to be landfilled

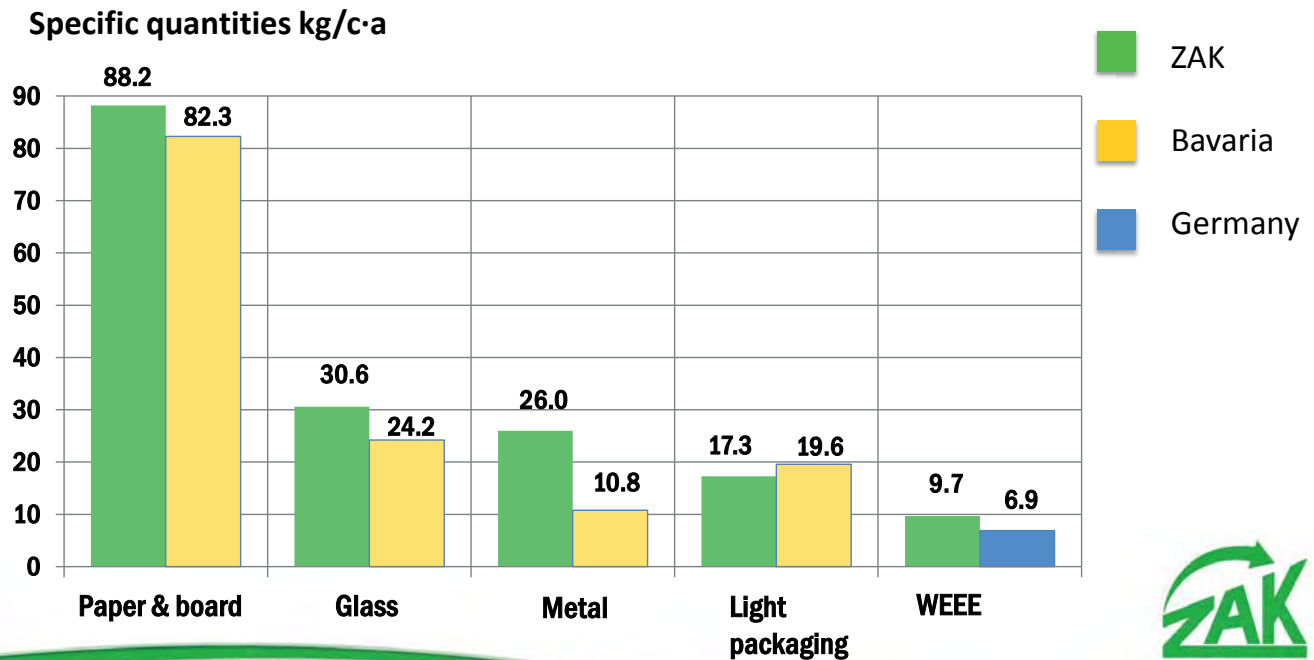
WEEE: Waste of Electrical and Electronic Equipment



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Recyclable fractions Specific collection quantities



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Collection of paper & board in the ZAK area

Overall collection quantity 2013: 25.867 t (88.2 kg/c·a)

I. Collection systems

1.) **Paper bin („blue bin“)** (38.4 % of total quantity collected)

- Penetration: approx. 60 % (not obligatory)
- “blue bin” is free of charge for citizens
- capacity: 240 liter,
- collection frequency: every 4 weeks, pick up system
- mixed collection



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2.) Collection Points/Public containers (34.5 % of total quantity collected)

- 1 collection point for approx. 500-600 inhabitants
- Drop-off system
- Mixed collection



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3.) Drop-off Centers (23.3 % of total quantity collected)

- 38 drop-off centres → 1 for Ø 7,500 – 8,000 inhabitants
- Drop-off system
- Separate collection of:
 - Board
 - Graphic paper (newspaper & magazine)
 - Mixed paper



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4.) **Collection by non-profit associations** (3.8 % of total quantity collected)

- Organised by charities etc. under their own responsibility
- Containers provided by ZAK
- Marketed by ZAK

II. Sales contracts

Every 5 years ZAK issues a public invitation to tender for its collection services for paper for recycling. Currently one company is responsible for the entire quantity of 26,000 t.



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III. Composition of paper & board

1.) **Mixed collection via “blue bin” and collection points (public containers)**

The settlement with the sales company contracted is done according to the following allocation key:

- 65 % mixed newspapers and magazines, sorted graphic paper (D31 - 1.08 + 1.09, D39 – 1.11)
- 25 % mixed papers and boards (B12 – 1.02)
- 10 % corrugated board (B19 – 1.04)



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2.) Separate collection in drop-off centers/by non-profit associations

- 33.5 % mixed newspapers and magazines, sorted graphic paper
- 27.9 % mixed papers and boards
- 38.6 % corrugated board

3.) Overall quantities

mixed newspapers and magazines,	
sorted graphic paper:	14,608 t (56.5%)
mixed papers and boards:	6,670 t (25.8%)
corrugated boards:	4,589 t (17.7%)



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IV. Economical situation for collection and sales of paper & board

Situation in 2013:

Sales revenues from paper & board (without quantities from take-back systems/dual systems): 2,894,000 €

Costs for collection and handling (sorting, reloading, pressing - without quantities from take-back systems/dual systems) 1,670,000 €

Surplus 1,224,000 €
≙ 51,10 €/t



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Break down of collection quantities and costs for collection and handling:

	Quantity* in t	Collection costs in €	Specific collection costs in €/t
Drop-off centres	6032	162245	26.9
"blue bin"	9943	396653	39.9
Non-profit associations	971	11909	12.3
Collection points (incl. Containers for corr. board)	8921	340125	38.1
Total	25867	910932	35.2

* Including quantities from take-back systems/dual systems



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All grades of paper & board generate additional handling costs of 34,39 €/t which result in average overall costs of 69,59 €/t.

Net proceeds from sales of paper & board amount to 51.10 €/t.

In 2013 this allowed for a cost reduction of 1.224.000 € (= approx. 4,20 €/c) for citizens in the ZAK area. With 2.3 inhabitants per household this equals 9.6 €/a/household.

With estimated average waste fees (all types of waste) of 122 € per household and year this corresponds to savings of about 8% (only by sales of paper & board).



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