

Institute of Waste Management and Circular Economy

WASTE MANAGEMENT IN THE FORMER GERMAN DEMOCRATIC REPUBLIC

SECONDARY RAW MATERIAL SYSTEM BEFORE 1990



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WORKSHOP F11: WM TRANSIENT COUNTRIES – FROM SOCIALISTIC TO
MARKET ECONOMIES

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**Institute of Waste Management
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Contents

Historical development

Legal situation

Range of Responsibilities

Motivational System

Recycling System by Example of Return Flow Glasware

Recycling Rates

Summary

Historical development

Recycling of secondary raw materials since 1949

(foundation of the GDR)

→ Because of: shortage of raw materials (autarkic politics)

Implementation of structural experience (since the turn of century)

1950: first institution for recycling →

„Deutsche Handelszentrale Innere Reserven A.d.ö.R. Erfurter
Altstoffhandel“

1951: first state-owned receiving office for metal scrap

Till 1980:

Decentralised development of material trade

Mix of private, cooperative and governmental operations

Since 1980: All operations became governmental

Legal situation

1970 „Landeskulturgesetz“ first foundation for environmental protection

Regulation of disposal of municipal waste

Recovery and disposal of industrial waste which could not be used

1980 Comprehensive Utilisation of Secondary Raw Material Ordinance (legislational basis for SERO System)

Fulfilling of legal requirements in recycling (for industries)

→ governmental 5-years-plan

Range of responsibilities

SERO: only responsible for non-metallic secondary raw materials

Collection of private and industrial waste

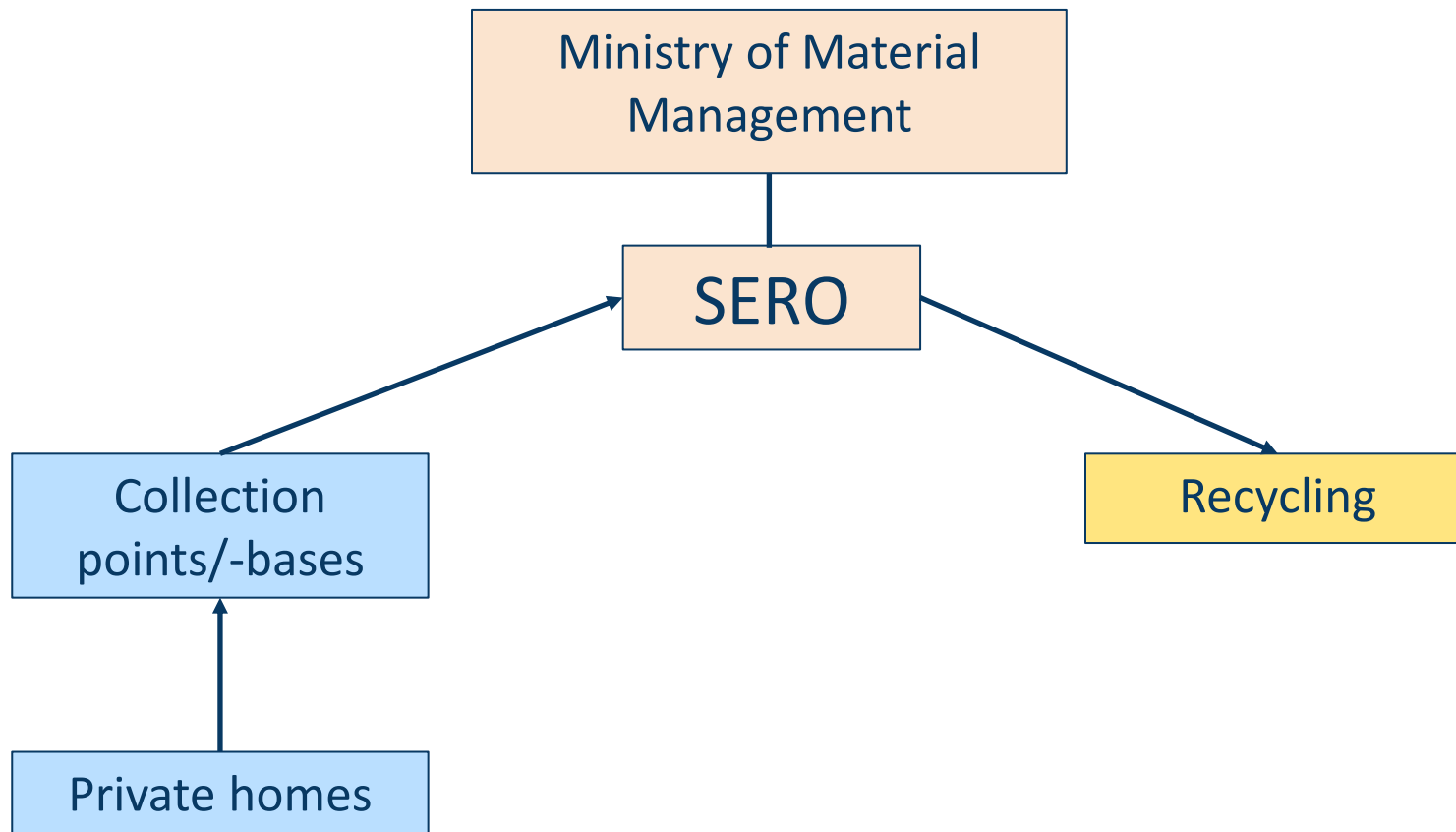
Guarantee of waste processing

Managing supply for the industry with secondary raw materials
(according to 5 Year Plans → Planned economy)

Cooperation with lokal councils

Provision of technical foundation for cooperations

Range of Responsibilities



Motivational System – Awareness Campaigns

Mascots:

Especially for the younger population (FDJ – Free German Youth)
Several cartoon characters for different categories of waste management

„Rumpelmännchen“:

Since 1954 for advertising and propaganda purposes
Shown in different youth magazines („Frösi“, „Atze“)

Pink elephant „Emmy“

In 1983 the „Rumpelmännchen“ was replaced
by „Emmy“



Figure 1 - „Rumpelmännchen“

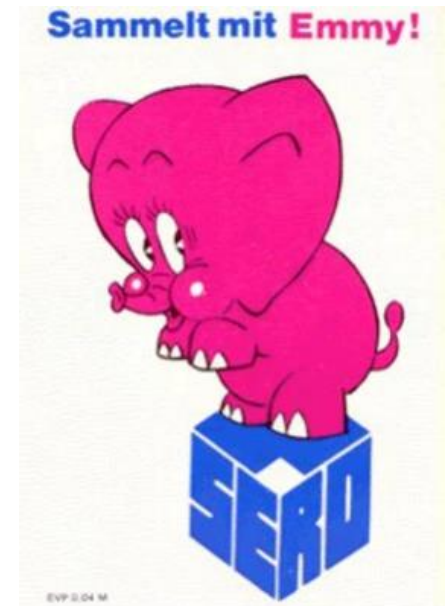


Figure 2 - „Emmy“ the pink elephant

Motivational system

Financial incentive:

State regulated pricing system
(planned economy)

Subsidy of secondary raw
materials

Pricing by „Amt für Preise“ (pricing agency)

Increasing efficiency of the industrie → regular industrial price
reform

Calculation for the subsidy amount based on primary raw
materials



Figure 3 - SERO student express receiving office

Motivational system

Direct subsidy only for:

- Return flow glasware
- Cullet
- Thermoplastics

Indirect subsidy:

- Support marketing

Overall **statement for efficiency** of the financial system **is not generally possible**

→ 1988:

after deduction of direct subsidies,
there were 42.139.000Mark of profit

PREISLISTE		
für nichtmetallische Sekundärrohstoffe aus Haushalten		
ALTPAPIER	PAPIERSÄCKE	kg —,40 M
	von Lebensmittel, Baustoffen, Düngemitteln, (sauber, handemstaubt)	
	WELLPAPPE (gebündelt)	kg —,30 M
	ZEITUNGEN, ZEITSCHRIFTEN UND BROSCHÜREN (gebündelt)	kg —,30 M
	GEMISCHTE PAPIER- UND PAPPENABFÄLLE (unsortiert)	kg —,20 M
	SCHULHEFTE (ohne Umschlag, holzfrei, gebündelt)	kg —,50 M
	BÜCHER (gebündelt)	kg —,20 M
ALTTExTILIEN	UNSORTIERTE ALTTExTILIEN	kg —,50 M
	(ohne Felle, Teppiche, Kokostäuler, Blige und schmutzige Alttextilien, Kunststoffabfälle, Jute)	
	JUTE (SÄCKE)	kg —,05 M
FLASCHEN	1. Kornflasche mit Ornament	0,7
	2. Kornflasche ohne Ornament	0,7
	3. Karolfasche	0,7
	4. leicht und gut mit Ornament	0,7
	5. dito	0,35
	6. leicht und gut ohne Ornament	0,7
	7. dito	0,35
	8. Weinbrandflasche Wilthen	0,7
	9. granuliert Kurzhalflasche	0,7
	10. Wermutflasche	1,0
		Stück —,20 M
aus der Lebens- und Genussmittelindustrie (sauber und unbeschädigt)	alle übrigen Flaschen	Stück —,05 M
GLÄSER	Konservengläser der Sorte „Uni“ 0,21 / 0,31 / 0,35 l / 0,42 l / 0,5 l / 0,65 l / 0,72 l / 0,8 l / 0,9 l / 3,9 l	Stück —,30 M
aus der Lebens- und Genussmittelindustrie (sauber und unbeschädigt)	Konservengläser der Sorte „Omnia“ 0,72 l / 0,8 l Konservengläser der Sorte „Inka“ 0,3 l	Stück —,30 M Stück —,05 M
	alle übrigen Gläser ab 100 ccm	Stück —,10 M
SPRAYFLASCHEN	aus Aluminium ab 100 ccm	Stück —,03 M
THERMOPLASTE		kg 1,— M

VEB SERO DRESDEN · 8010 Dresden · Friedrichstraße 60 · Ruf 87168

Figure 4 - Price list for delivered secondary raw materials

Recycling system by example of return flow glasware

The return flow glasware system was similar to nowadays
deposit system for bottles

Acceptance of various bottles with small outputs

Distinction by groups and volume

Fixed price for intact and clean bottles

Cullet was sorted by colors

**Only few different kinds of
packaging materials**

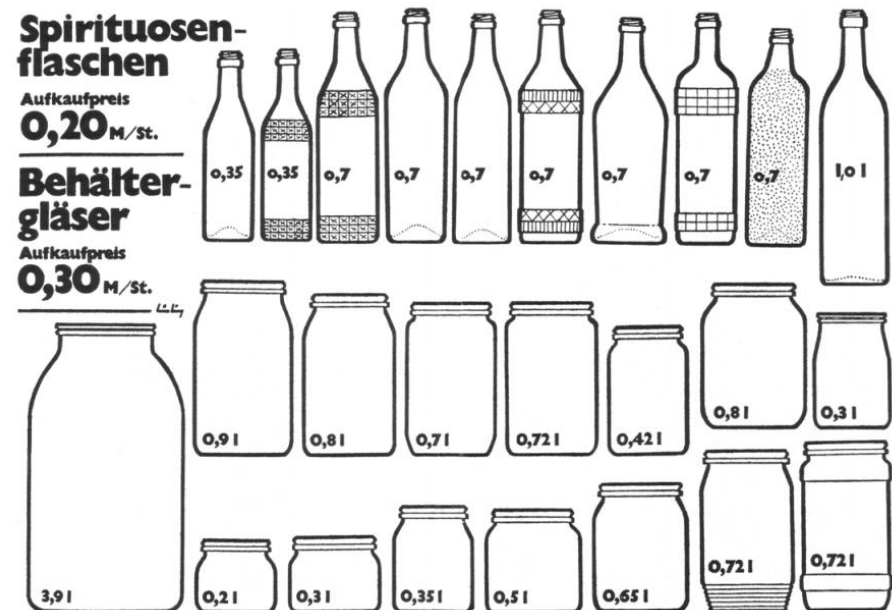


Figure 5 - Return flow glassware

Further Recycling Systems

MAB = state operative for metal treatment

Since 1981 MAB has managed metal treatment,
but metal was also recycled intensively since 1950

Main tasks:

Development of modern metal recycling
plants

Sorting of high-alloy steel

Recovery of rare metals

Several PR-Activities

For example: „Max braucht Schrott“
(„Max needs metal scrap“)



Figure 6 - „Max needs scrap metal“

Further Recycling Systems

Collection of feedingstuff

Since the fifties:

Production of feed in steaming devices out of organic waste

Since the eighties:

Collection of organic waste in
„Specki-Tonne“ („Piggie bin“)

Producing feed for fattening pigs

Support for private households
and agriculture cooperations

But: hygiene problems due to mycotoxins



Figure 7 - „Specki“

Recycling Rates

	1985	1989
Paper		
Collection [kt]	603,6	620,2
Recycling [%]	47,4	54,5
Bottles		
Collection [kt]	272,7	292,1
Recycling [%]	65,4	65,5
Glases		
Collection [kt]	124,7	128,7
Recycling [%]	70,7	62,5
Textiles		
Collection [kt]	104,8	89,7
Recycling [%]	63,5	70,6
Thermoplastics		
Collection [kt]	6,0	10,8
Recycling [%]	78,3	79,6

High REAL recycling rates = substitution rates

Summary

Planned markets had planned secondary raw material system

High substitution of primary raw materials with secondary raw materials

Efficient recycling system when low in primary materials

Central collection from private households and industry in collection points/-bases

Recycling organised by the three institutions:
SERO, MAB, Collection of feedingstuff

Through massive subsidy → SERO-system was able to be economical



»Wissen schafft Brücken.«

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Reference List

List of figures:

Figure 1 – „Rumpelmännchen“

<http://www.ddd-comics.de/bilder/rumpel.jpg>

Figure 2 – „Emmy“ the pink elephant

<https://eulenfurz.files.wordpress.com/2010/10/sero-altstoffe-emmy1.jpg?w=468>

Figure 3 – SERO student express receiving office

https://de.wikipedia.org/wiki/Datei:Bundesarchiv_Bild_183-1986-1015-313,_Neubrandenburg,_Sero-Sch%C3%BClerexpress.jpg

Figure 4 – Price list for delivered secondary raw materials

https://de.wikipedia.org/wiki/SERO#/media/File:Preisliste_SERO.jpg

Figure 5 – Return flow glasware

Buchdruckerei J. Schädlich, Berlin (Erscheinungsjahr unbekannt)

Figure 6 – „Max needs scrap metal“

<http://i19.servimg.com/u/f19/18/12/98/65/maxhyt10.jpg>

Figure 7 – „Specki“

<http://i.ebayimg.com/images/g/gCwAAOSwDuJWva6y/s-l1600.jpg>