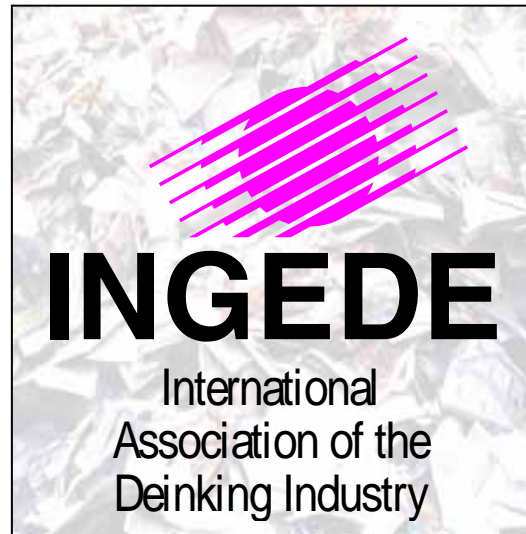


COST E48 DEINKING

28-29 November 2005 in Brussels



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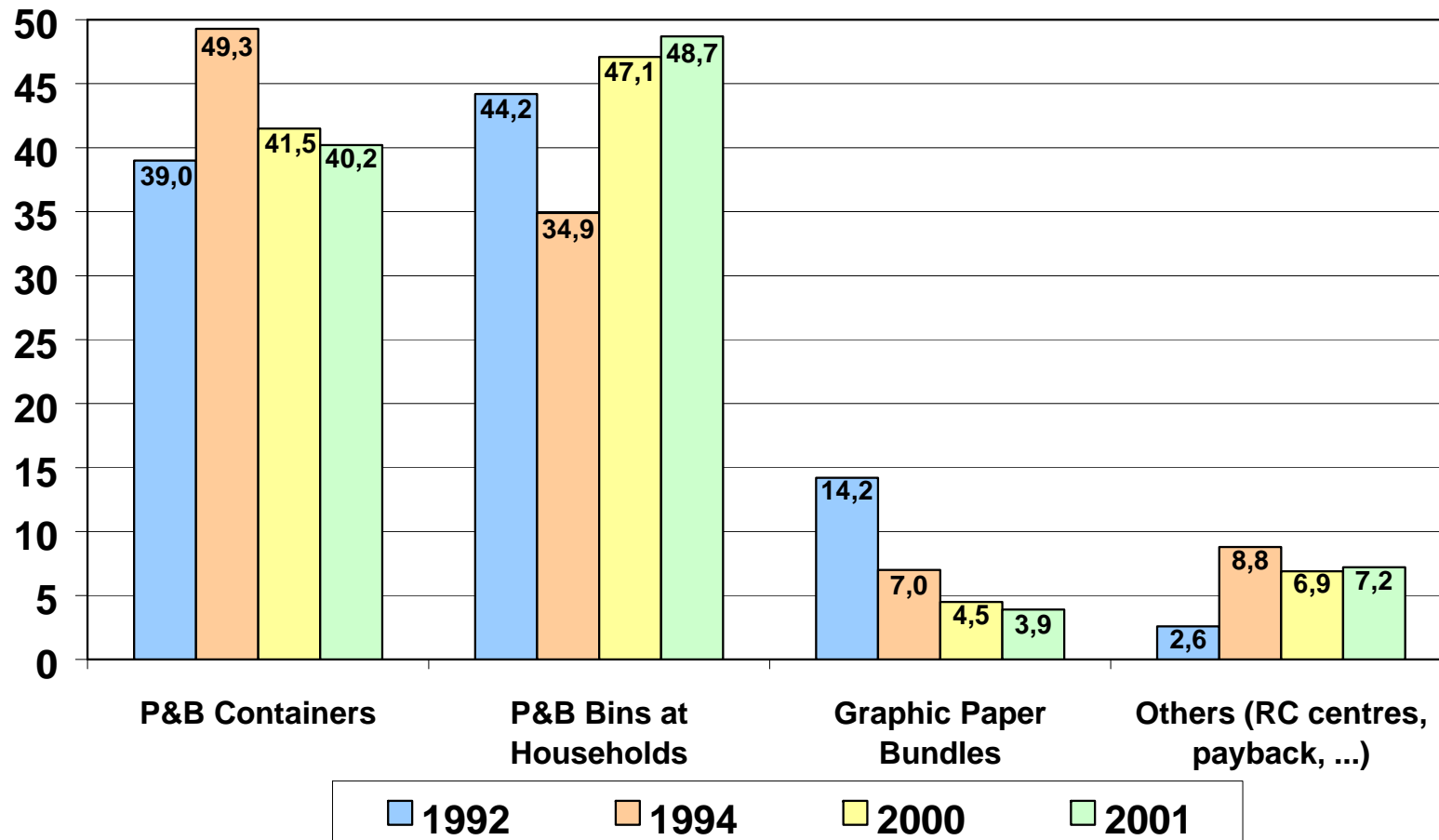


Recovered Paper Sources for Deinking Mills in Europe

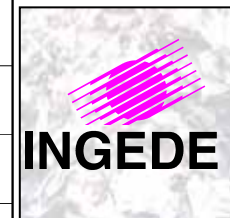
WG 1, Andreas Faul



Development of Recovered Paper Collection Systems in Germany



www.ingede.org



Source: B. Bilitewski, TU Dresden
T. Kügler, INTRCUS GmbH Dresden

Comparison of Recovered Paper Collection Systems in Germany



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Experiences	P&B Container	P&B Bin (Househ.)	Graphic P. Bundles	Other
Volume	High	High	Medium	Medium
Collection Costs	Low	Medium	High	High
Quality	Medium	Medium	High	High
Acceptance	High	High	Medium - High	Medium - High



Source: B. Bilitewski, TU Dresden
T. Kügler, INTECUS GmbH Dresden

Separate Collection of graphic and other Recovered Paper

Summary of B. Bilitewski's Studies



- Higher costs for separate collection of graphic and other RCP
- Savings potentials in sorting of separately collected RCP
- Different sales prices for the RCP grades
- Savings when producing graphic recycled paper from separately collected graphic RCP

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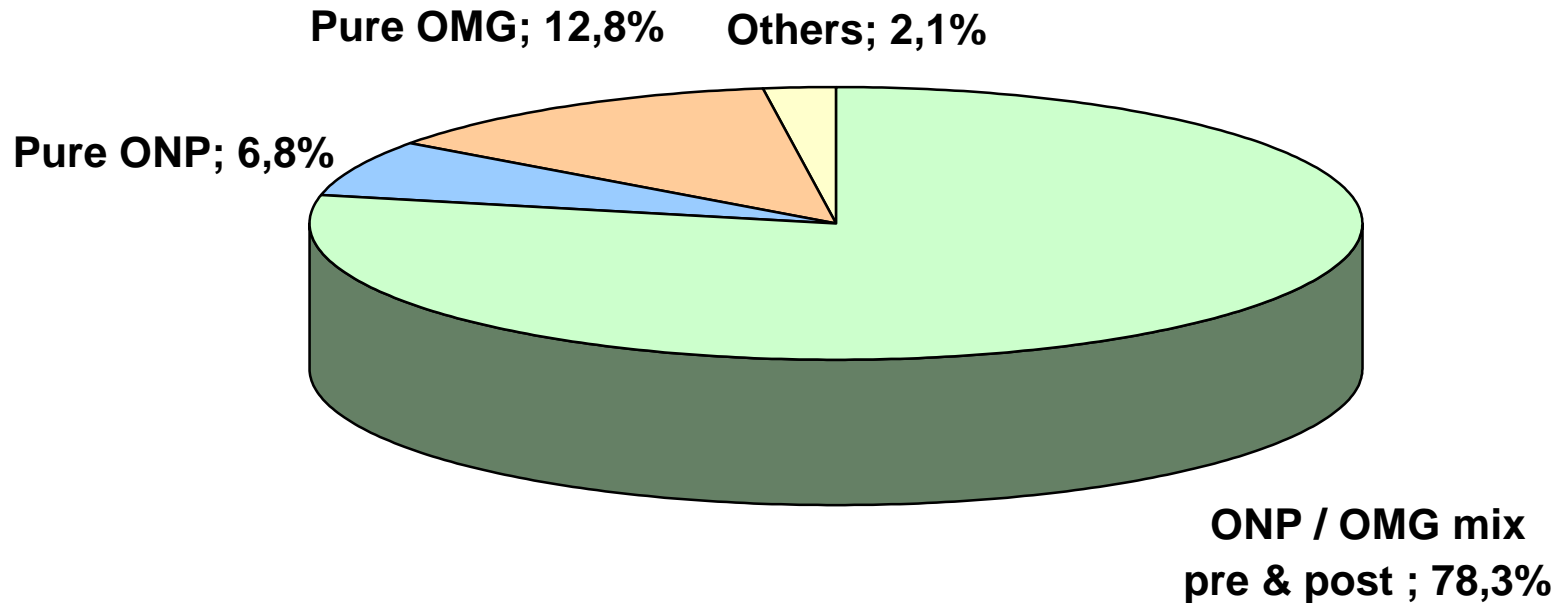


Source: B. Bilitewski, TU Dresden
Entsorga Seminar May 2005

Incoming Recovered Paper as purchased (INGEDE Member Survey 2004)



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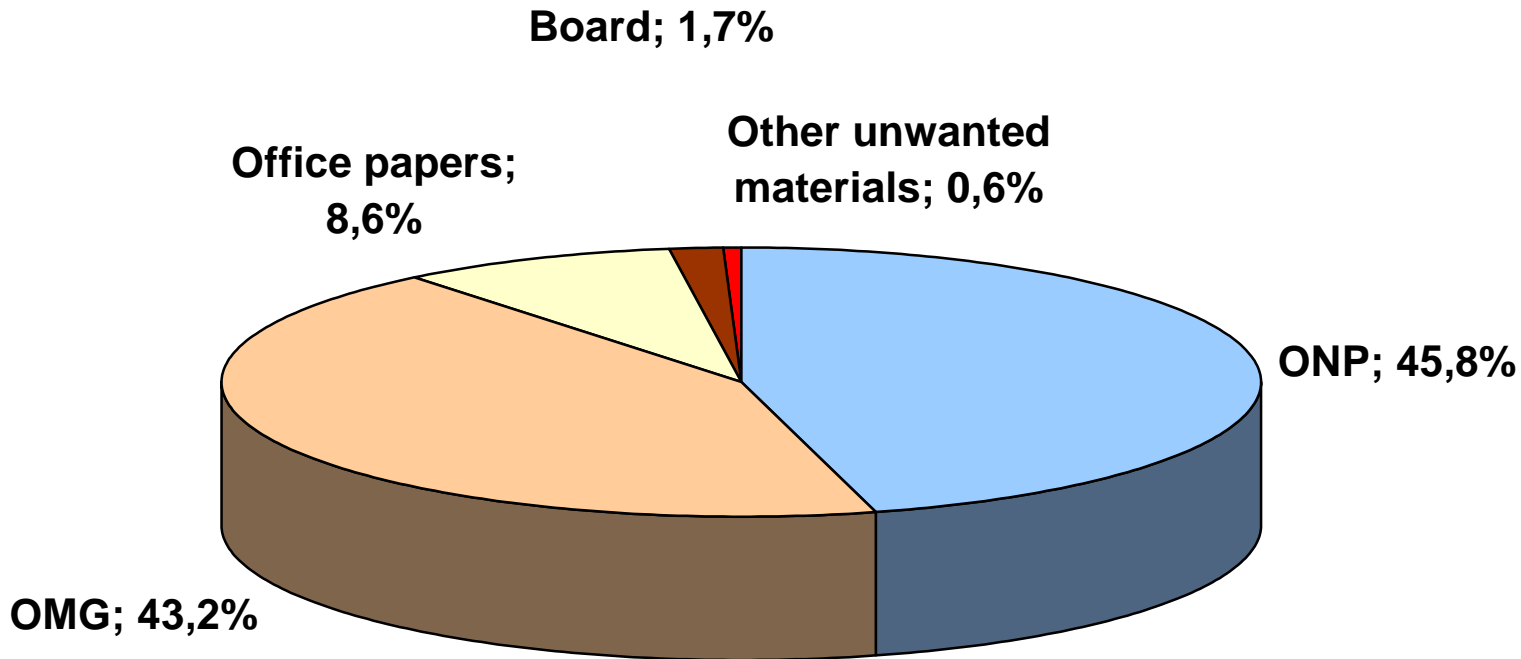


22 Mills participating	
Total RCP Consumption (t/year)	7.140.846 t
<u>Loose deliveries</u> (%)	61,3%
<u>Number of suppliers (average)</u>	60
<u>Domestic suppliers (%)</u>	75,5%



RCP Quality Control Results

(INGEDE Member Survey 2004)



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22 Mills participating	Average
Age (months)	1,9
Moisture (%)	8,6%



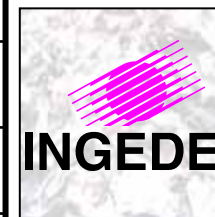
Ranking of Refusals

INGEDE Member Survey 2004



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Ranking	Main Reasons of Refusals	Members with Limits	Limits in %
Rank 1	Total Unusable Material	20	0.3..6
Rank 2	Unsuited paper, board	6	0.1..3
Rank 3	Non Paper Components	8	0.2..3
Rank 4	Moisture	18	10..20
Rank 5	Bale Quality		
Rank 6	Other		
Rank 7	Composition		
Rank 8	Age	13	4..12



Main Reasons for Refusals

INGEDE Member Survey 2004

- Unwanted material (total unusable material, unsuited paper and non-paper components)
- Moisture
- Bale quality
- **High content of flexo newspaper**



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Classification of the RCP Content

INGEDE Member Survey 2004

- ONP and OMG are desired in all cases
- Brown packaging is classified as unsuited in all cases
- Office paper are accepted, but in some cases with a limit
- Envelopes are unsuited in 2/3 of the mills
- Dyed papers are unsuited in 2/3 of the mills, the rest sets a limit
- Telephone directories are accepted in half of the mills, in one quarter with a limit, unsuited in the remaining quarter
- Catalogues and junk mails are accepted as OMG in nearly all cases
- Exercise books are accepted in 2/3 of the mills, in some of them only without covers



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Collection System

INGEDE Member Survey 2004



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- **Graphic Paper** 3 – 97 %
- **Paper and Board** 1 – 100 %
- **MRF "mixed dry"** 0 – 48 %



Collection System

INGEDE Member Survey 2004



Contents of unwanted material at collection of								
Graphic Paper			Paper and Board			MRF "mixed dry"		
NPC	UP&B	TUM	NPC	UP&B	TUM	NPC	UP&B	TUM
	1.5	2.0			2.0			2.5
				1.3	1.7			
					2.1			
					1.6			

NPC - Non Paper Components

UP&B - Unsuitable paper, board

TUM - Total Unusable Material

Graphic: - Without additional sorting!

MRF: - Microbiological contamination possible



Recovered Paper for Deinking Issues



- Separate collection of graphic paper is clearly preferred
- Municipalities and waste management companies must be made aware of this
- Sound data about relationship between collection system and RCP quality missing for many regions

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