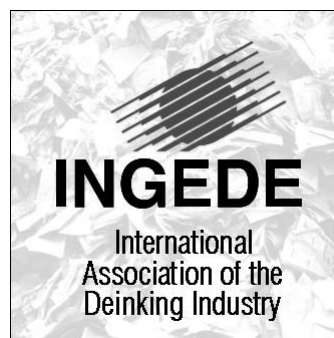


I sistemi di raccolta e la qualità dei maceri (Paper collection systems and quality)



Seminario INGEDE

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Giuseppe Tagliaferri, Burgo & Andreas Faul, INGEDE

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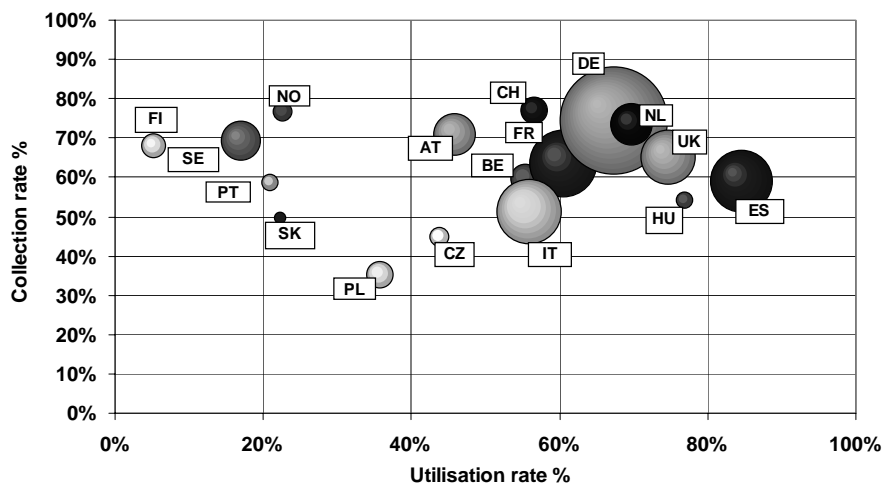
- **Paper Recycling in Italy and in Europe**
- **Requests from the Paper and the Deinking Industry**
- **Quality of Recovered Paper for Deinking**
- **Conclusions**

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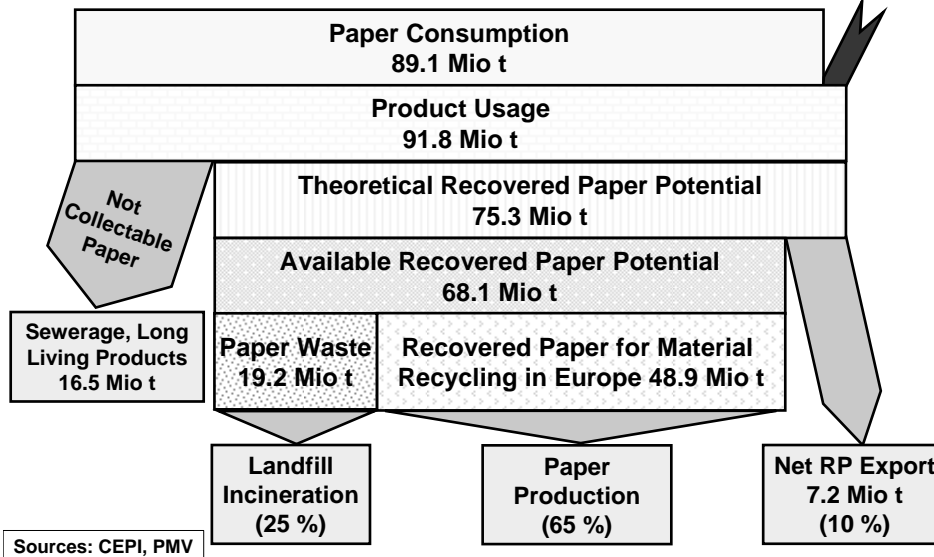
Recovered Paper Collection Rate,
Utilisation Rate and Utilisation
in CEPI Countries in 2006



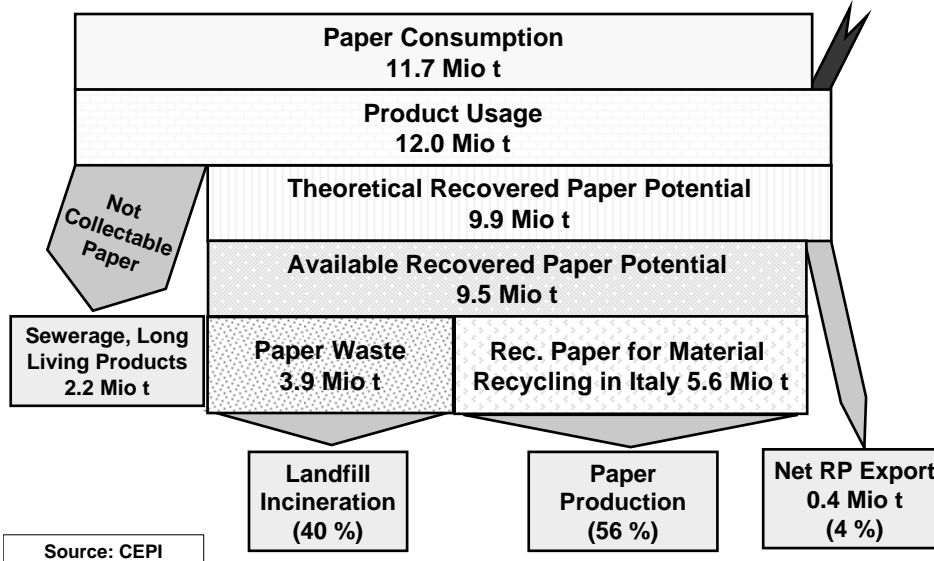
Source: CEPI

Material Flows in Europe 2006

(CEPI:17 countries)



Material Flows in Italy 2006



Comparison Italy – Europe



	Italy	Europe (CEPI countries)
Theoretical RP potential	100 %	100 %
Net export	4 %	10 %
Paper Waste (land-fill, incineration)	40 %	25 %
Recovered paper for recycling	56 %	65 %

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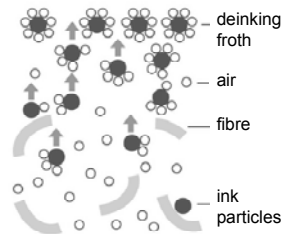


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Deinking Facts

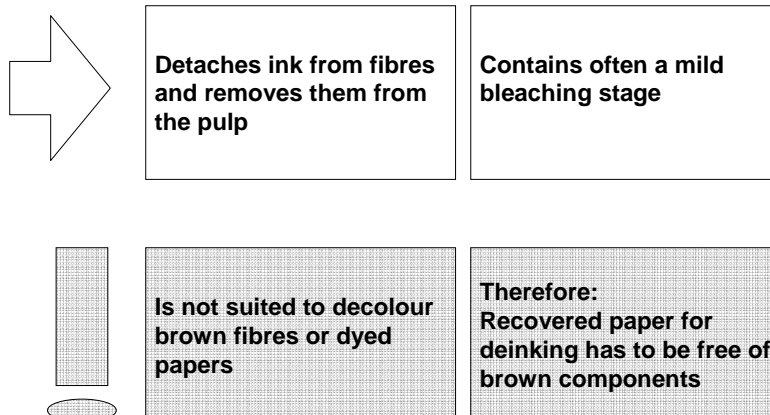


- Deinking is the removal of ink from recovered paper pulps
- About 40% of the recovered paper in CEPI countries are white grades
- Most of the white grades are being deinked
- Flotation is the predominant technology
- It is a two step process:
 - Detachment of the inks from the fibres during pulping
 - Removal of the detached ink by flotation



Picture: VDP

The Deinking Process



Contents of Sorted Graphic Paper for Deinking (Grade 1.11)



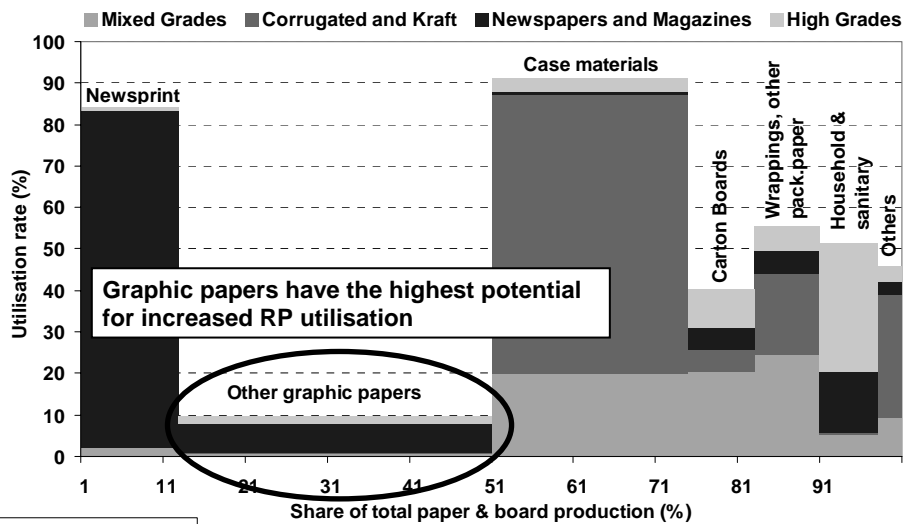
- **Definition according to EN 643 and agreements**
 - **Newspapers/magazines at least 40 % each**
 - **Unusable materials max. 3 % in single delivery, max. 2.5 % in monthly average**
 - **non-deinkable paper max. 1.5 % target**

Rating of certain paper grades in deinking mills



Enquiry at mills	Accepted	Accepted with restrictions	Unwanted
Packaging papers			100 %
Flexographic news		10 %	90 %
Office papers	90 %	10 %	
Envelopes	30 %	50 %	20 %
Dyed papers		60 %	40 %
Telephone directories	40 %	40 %	20 %
Catalogues	90 %	10 %	
School books	40 %	30 %	30 %
Junk mail	90 %		10 %
Laminated & wet strength			100 %

Recovered Paper Utilisation by Sector in CEPI Countries 2006



Requests for Recovered Paper Collection Systems



- The deinking process requires clean recovered paper, free from non-paper components and non-deinkable papers
- Increasing collection has to consider these requirements
- Separate collection of P&B from other recyclables is a must for the paper industry
- Separate collection of graphic papers is an advantage for deinking mills

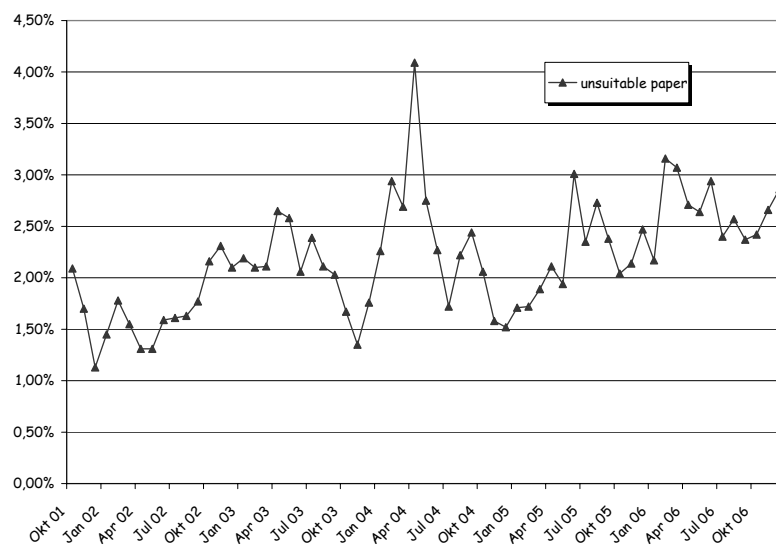
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Quality Trend Mantova Mill

Entry inspection

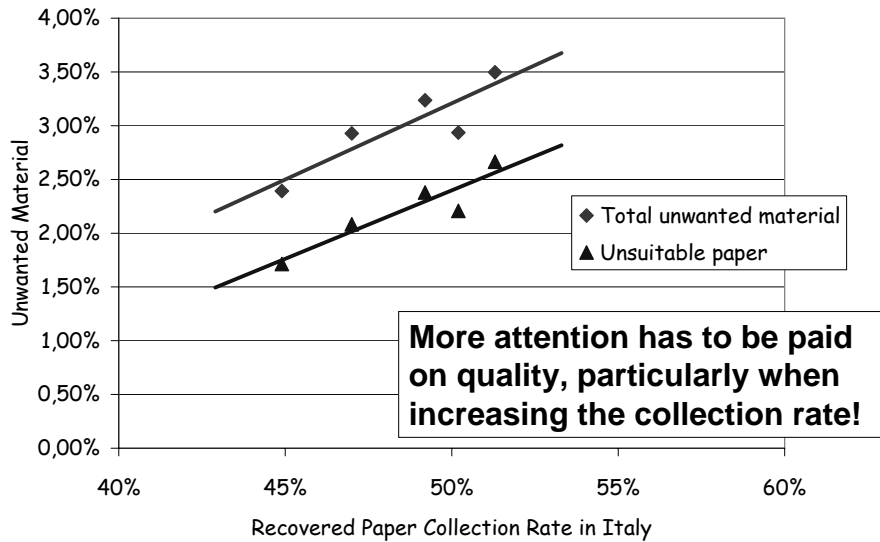


Quality (Mantova Mill) vs. Collection Rate in Italy

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Unwanted Material vs. RP Collection Rate

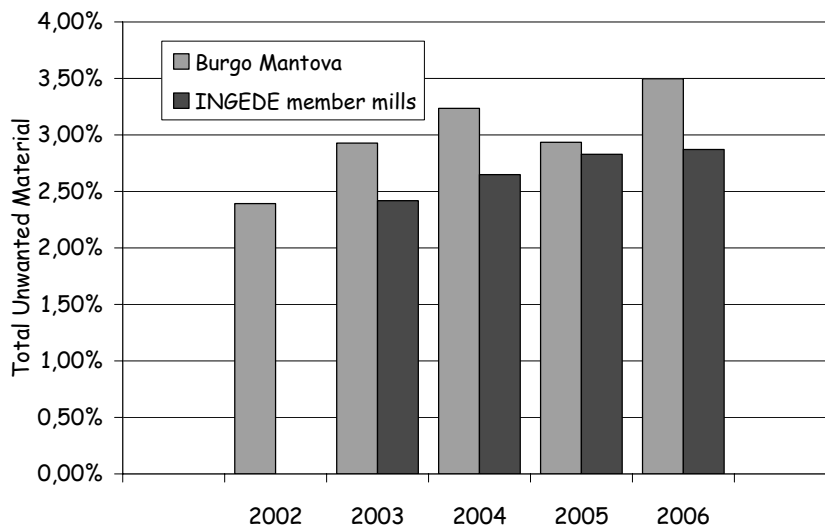


Trend of Unwanted Material Content in Recovered Paper

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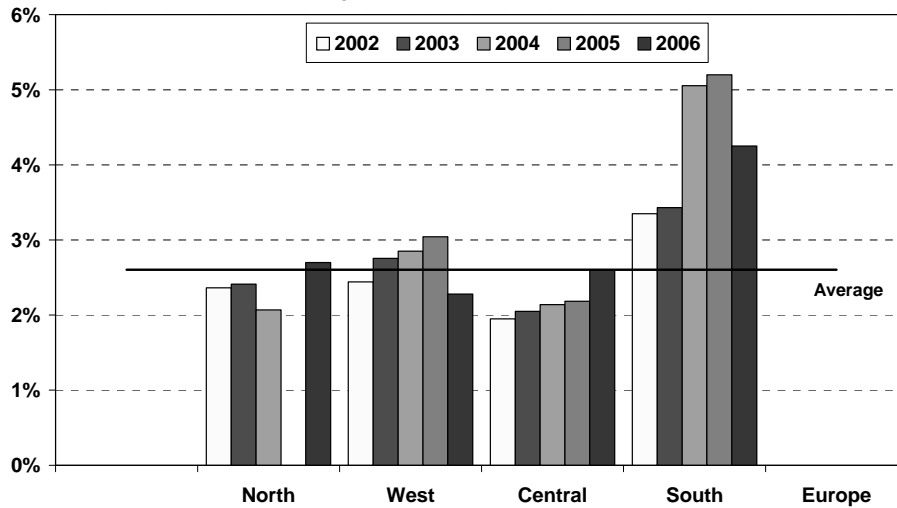
Total Unwanted Material



Trend of Unwanted Material Content in Recovered Paper



RP Quality Statistics 2002-2006
Average Total Unusable Materials Content [%]



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Aspects for Optimisation of Collection Systems



- Paper and board separately from other household waste
 - keeps contamination with non-paper components low
 - for deinking grades an additional dry sorting is always required
- Graphic paper separately from packaging P&B
 - Dry sorting can be omitted
- Commingled collection has to be avoided
 - high content of non-paper components
 - cross contamination
 - requires very sophisticated dry sorting systems

Important: No Co-mingled Collection!



UK mills campaign for more quality: PaperChain and "Real Recycling" vs. WRAP and "Recycle Now"

Poor quality is not sustainable recycling: it is unnecessary and avoidable waste." Martin Green says. He is the chairman of PaperChain, part of UK's Confederation of Paper Industries (CPI). Paper recyclers cancelled their support for WRAP, a government initiative to promote recycling, and their "Recycle Now Week" in June.

UK paper reprocessors are seeing some very poor quality recovered paper coming onto the market and are unwilling to take the risk of using this material because of the negative impacts on the paper-making process", Green says. "The bottom line is that a paper mill cannot recycle in-cans, food, and plastics into new paper products. PaperChain has serious doubts as to the long term sustainability of recycling in the UK, if the lack of focus on quality continues." (see also next page)

Be careful with our resources
Co-mingled means contamination and less efficiency

Single stream collection works in the US and is the way to do it - this was one implication of an article published by "The Economist" on June 19th, on behalf of the European Recovered Paper Council (ERPC).

Anders Hildeman sent a letter to the editor to express the concerns of the paper industry about co-mingling of recyclable materials:

In the paper industry we have seen send recyclates to developing coun-

Anders Hildeman works for SCA, he is Chairman of the ERPC (European Recovered Paper Council)

RECOVER

Co-mingled means contamination and less efficiency
(Anders Hildeman, SCA,
Chairman of the European Recovered Paper Council)

materials in the recovered paper). In turn this leads to less efficient use of resources.

The European paper industry has achieved a 63.4% recycling rate. If we are to reach higher levels and find the right qualities of recovered paper, ensuring separate collection of different materials will be necessary. On another note, your article almost seems to argue that it is better to

Europe would only be about half their current size. I would think that the same applies to many other industries.

Best regards,

Anders Hildeman
ERPC Chairman

RECOVER (Edition 2007) is published by the International Association of the Deinking Industry (INGEDE) to promote optimum conditions for paper recycling.