

EN643

the First Step towards Assessing the Quality of PfR

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Il Primo Passo verso la Valutazione della Qualità del PfR

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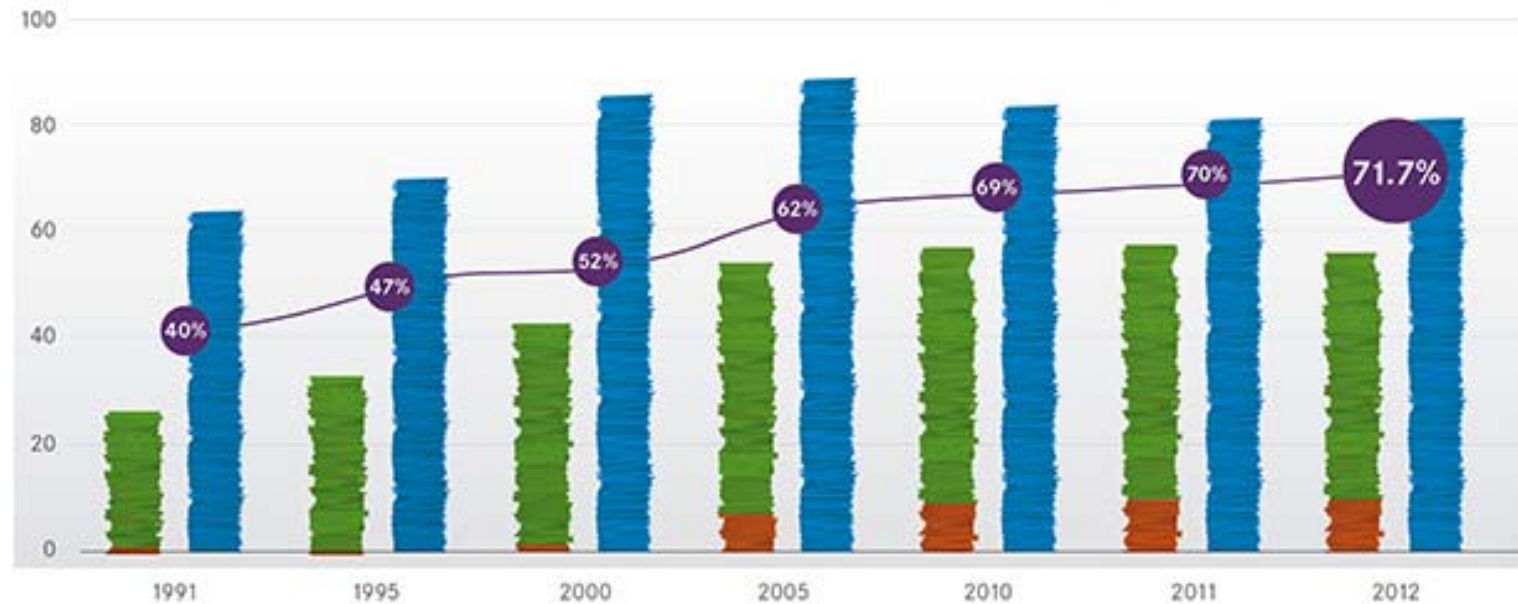
Paper for Recycling

Paper Recycling

Source – CEPI Statistics 2012

EUROPEAN PAPER RECYCLING 1991-2012

Million Tonnes



Source: CEPI 2012

Waste Paper is now Paper for Recycling

- Waste Paper
 - Secondary Fibre
 - Recycled Fibre (*RF*)
 - Recovered Paper (*RP*)
 - Paper for Recycling (*PfR*)

Paper for Recycling

▪ **Positives:**

- Valuable Raw Material
- Globally Traded Product
- Most Widely Used Raw Material in Europe

▪ **Negatives:**

- As 'Recovery' has increased, 'Quality' has decreased
- Subject to Contamination

▪ **Solution:**

- Quality Standards needed!

EN 643: 2001

- Based on internal industry work by CEPI & ERPA finished in 1999
- Schedule (List) of Standard Grades of Recovered Paper & Board
- Set no specifications
- Published November 2001



EN 643:2002

66 grades of Recovered Paper

5 groups:

- **Group 1:** Ordinary grades
- **Group 2:** Medium grades
- **Group 3:** High grades
- **Group 4:** Kraft grades
- **Group 5:** Special grades



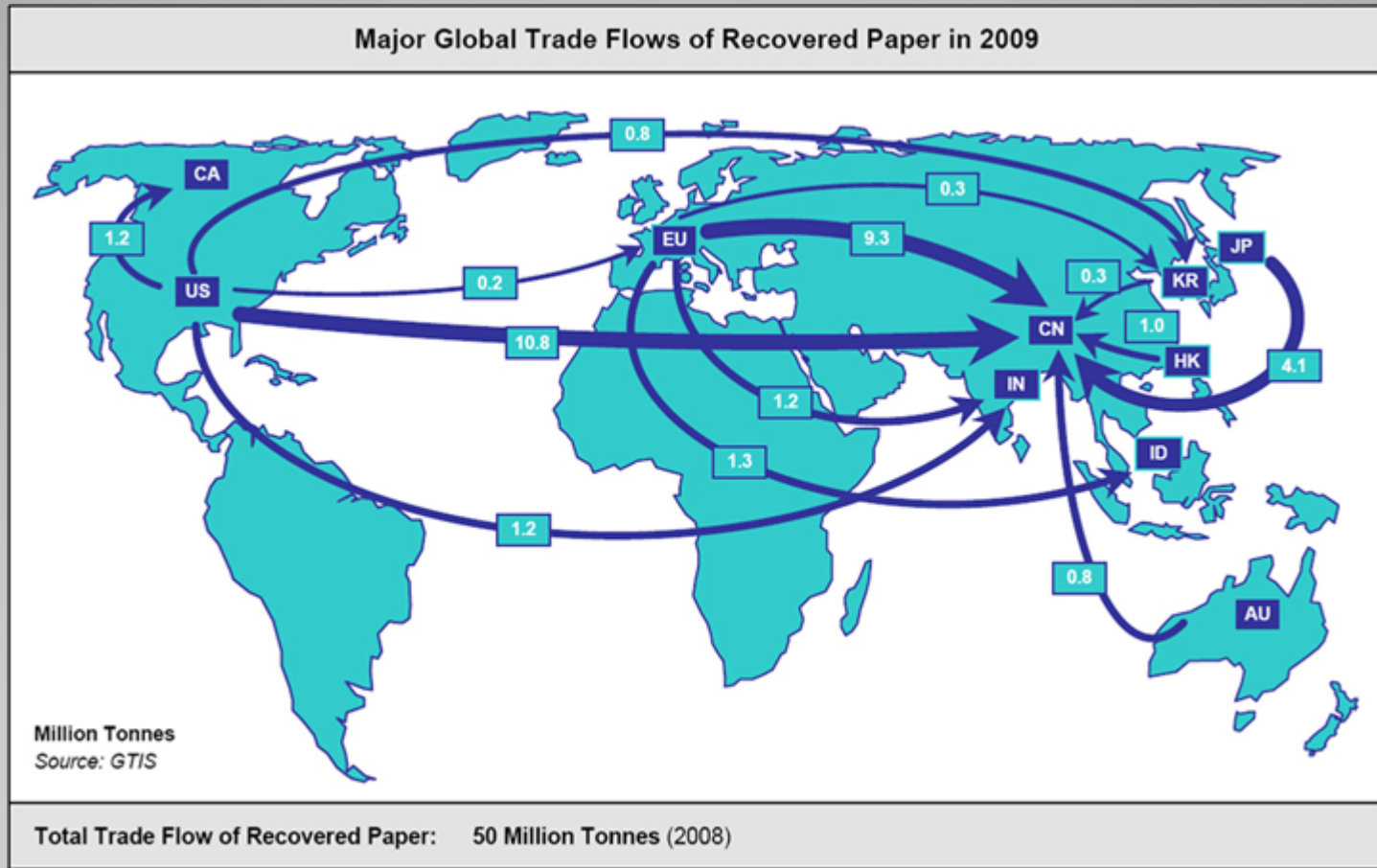
EN643:2002

Specifications:

- Only separate collection; Paper segregated from MRFs is not suitable for use in the paper industry
- Defines unusable materials (non paper components plus paper and board detrimental to production)
- No tolerance level (“supplied free of unusable materials”)
- Maximum Moisture Content is 10%

EN643:2002

Global Trade:



EN643:2002

EN 643: 2014

- Based on internal industry work lead by CEPI, ERPA, and FEAD starting in 2008 and proposed to CEN in Spring 2011
- Developed by the CEN Technical Committee and Working Group (TC172/WG2) between 2011 & 2013
- Formal voting process closed 29th October 2013
- New Standard published March 2014!

EN 643:2014

EN 643: 2013 - Main changes:

- Recovered Paper (RP) → 'Paper for Recycling' (PfR)
- Greater emphasis on content, rather than origin
- Prohibited Materials – Zero Tolerance!
- Unwanted Materials – Tolerance Levels Established
 - Non Paper Components – Typically 1.5%
 - P&B detrimental to production
 - P&B not according to grade definition
 - P&B not suitable for deinking grades (*when intended for deinking*)

EN 643:2014

EN 643: 2014 - Main changes:

- Use the European Recovered Paper Identification System is recommended
- Recovered Paper Quality Control Guidelines, Responsible Sourcing Guidelines
- Specific requirements for deinking grades e.g.
 - INGEDE Method 7 on visual inspection
 - Non-deinkable papers count as unwanted material
- Shredding is recognised as an issue
- Moisture content and how to measure it

EN 643:2014

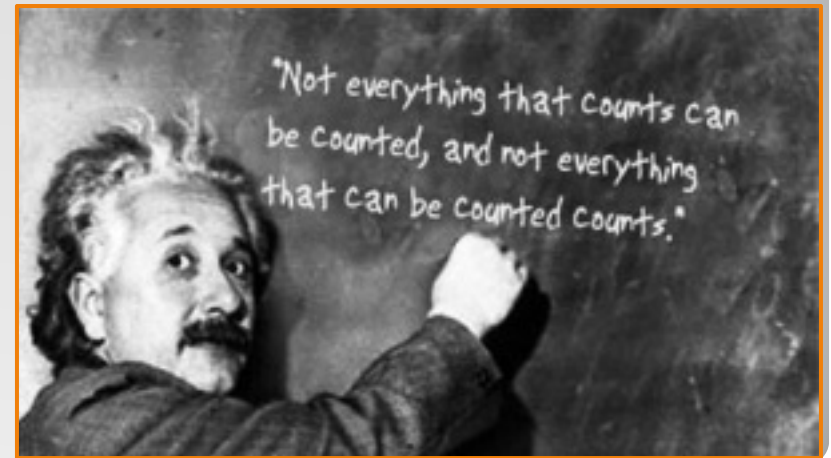
EN 643:2014

- **As a step forwards:**

- Significant Progress

- **As a technical standard:**

- Well,



EN 643:2014

MRF Quality – 18 Municipal MRFs (UK)

Benchmarking ranges based on MRF average contamination figures

Material Stream	Lower Level	Median level	Upper Level
Input Material All			
All	< 6.4%	6.4% to 17.5%	> 17.5%
Single-stream	< 8.4%	8.4% to 17.5%	> 17.5%
Twin Stream (fibre based)	< 2.9%	2.9% to 9.0% >	> 9.0%
Twin Stream (container based)	< 4.9%	4.9% to 22.6%	> 22.6%
Output Material			
News and PAM	<4.6%	4.6% to 15.0%	> 15.0%
Mixed Paper	< 3.2%	3.2% to 25.3%	> 25.3%
Card	< 4.8%	4.8% to 12.0%	> 12.0%

Key Issues

- **Sampling:**
 - No Standard Sampling Procedures are defined
- **Moisture Content:**
 - No Test Method for Moisture content is specified
- **Contamination (Fibre/Unwanted Materials):**
 - No Test Method for measurement of Contamination is specified

EN 643:2014

China's Green Fence

- Tightened enforcement of existing regulations
- Product bound for Chinese recyclers checked at the point of import and the point of origin.
- Officially ended, but continues

EN 643:2014

Sampling:

- Sampling of Loose Material
- Sampling of Baled Material
- Sampling of Loads / Consignments
- Automated Sampling
 - Balemate (PTS) – Probe Insertion
 - Monitor (CTP)- Sample Extraction



EN 643: The Future

Sampling:

- Ensure a Representative Sample
- Recovered Paper is intrinsically Non-Homogenous
- Sampling Procedure should not influence results (Different Techniques Grade / Test)
- Draft Discussion Document drafted

EN 643: The Future

Sampling:

- Manual Sampling:
 - Requires a robust sampling strategy for meaningful results; relies on historical trends
- Automatic Sampling:
 - Capable of extensive sampling
 - Does not measure all parameters specified in EN643
- Draft Discussion Document drafted

EN 643: The Future

Specified Parameters:

- **Moisture Content**
- **Fibrous Cross Contamination**
- **Non-Fibrous Contamination**
- **Future Requirements**



EN 643: The Future

Moisture Content:

- **Robust Laboratory Technique**
 - Typically Gravimetric / 105 C / Constant Weight
- **Practical, yet Reproducible, Field Technique**
 - Microwave Drying (?)
- **Sensor Techniques**
- **Discussion Document**



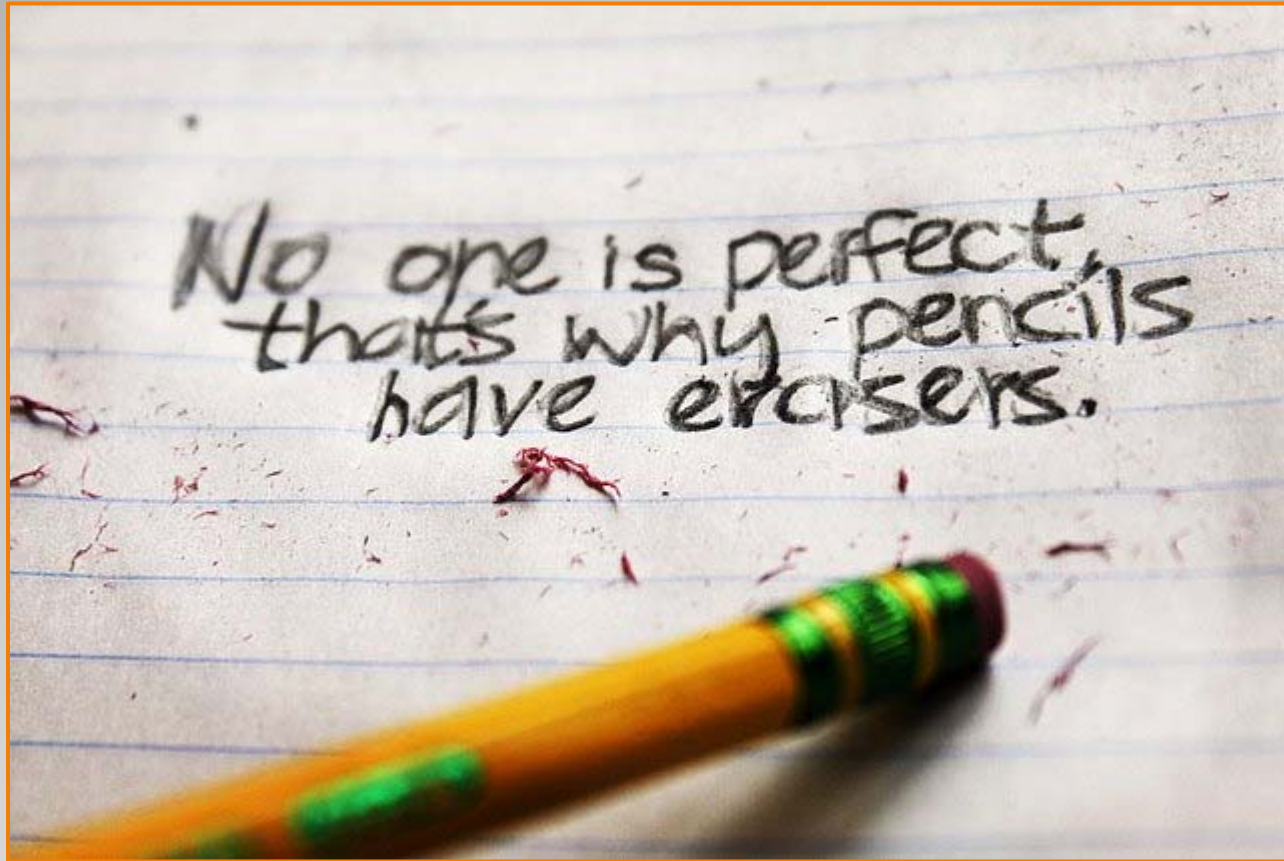
EN 643: The Future

Contamination:

- **Fibrous Cross-Contamination**
 - e.g. Brown Fibre in White Grades
- **Non-Fibrous Cross-Contamination**
 - e.g. Plastics / Glass / Grit
- **Detrimental Contamination**
 - e.g. Difficult Inks in Deinking Grades
- **Chemical Contamination**
 - e.g. Mineral Oils
- **Future Requirements**

EN 643: The Future

The Future



EN 643:20??

Future Development:

- **TC172/WG2**

- Bound by CEN Procedures
- Engage with ALL Stakeholders in the PfR Value Chain
- Foundations for NEXT Formal Revision (2018?)
- Note Demands of Non-European Markets

EN 643:the Journey towards Quality PfR

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Thank You