Agenda

• Prinzhorn Group Intro

• Innovation in Recycling

• Legal Setting & Requirements
Our competence – Closed loop-recycling

- Containerboard Production
- Paper for Recycling Collection
- Dunapack Packaging
- Corrugated Products

GROUP STRUCTURE
We are passionate to serve customers the best recycling, paper and packaging solution.
We are the Regional Market Leader in Central and Eastern Europe

- Hamburger Recycling
- Hamburger Containerboard
- Dunapack Packaging
Prinzhorn Group Intro

Innovation & Raw Materials

Legal Setting & Requirements
We deliver innovative and competitive packaging solutions for our Customer Supply Chain
Our innovations serve customer solutions
We produce advanced recycled Containerboard to exceed customer expectations
Some impressions…

Hamburger Hungaria

Rewinder Hamburger Trostberg

Hamburger Spremberg
HAMBURGER RECYCLING

We recover valuable raw materials and optimize the Value Chain of our customer
Collection of secondary raw materials, mainly waste paper to supply innovative customers with recycling capabilities
Politicians, Bankers, Engineers and Environmentalists have a hard time to understand Waste Management Business

- Waste Management is different from Industry of Manufacturing
- Waste Management is a Service Industry
- The raw material for Recycled Containerboard is not produced - it is collected
- Standard in one country would be considered innovation in another and outdated in third country

- People, Trust & Loyalty
- Innovation in Service
- We can not increase production to influence availability (GDP)
- Transfer Know-How
...you can calculate the potential of future collection...

Source: Eurostat
The power of each stakeholder is always underestimated when developing frameworks and directives

- We constantly underestimate all stakeholders influence into sustainable recycling solutions
- Country differences are increasing
- Business Models of Competitors are improving (incineration, innovative use initiative, etc.)
- Lobbying is a great game changer
Technology Innovation for “Paper for Recycling (PfR)” is mainly manufacturing based; in Recycling we find more Service Innovation

- Lightweight and White-Top Testliner trends in Containerboard
  - Requires higher quality and different volumes

- Improved Stock Preparation, reduction in fiber waste and water usage
  - Important competitive advantage (fiber quality!)

- Higher degree of sorting into additional grades (driven by plastic recycling, cement industry, etc)
  - Manual / Infrared, etc.

- Focus on all types of logistic optimization
  - Recycling Logistics Cost (fixed & high)

- Higher flexibility to trade and sell internationally (financial and international affluence)
  - Higher price elasticity of PfR

- Co-Mingled / Value Added Collection
  - Improved Service
Industry “Paper for Recycling” is highly volatile [during recessions] – volatility correlates with profit

Bigger operations require more material from longer distances

Multi-Material Recycling (laminated, coated, etc.)

Prices of recycled will narrow gap to virgin material

Household constant, industry highly volatile

Is there a right size?

Marketing needs vs. Recycling ability – who wins?

Collection of Paper is highly price elastic!
THE ELASTICITY OF PAPER COLLECTION

Only increased land-fill cost will allow us to increase our collection in Europe, especially in CEE

Result of separate Collection of Paper, depending on Price Delta
(Paper Sales vs. Land Fill Cost)

Source: Saubermacher
• Prohibit EU/Country Funding of Landfills
  – Instead fund separate collection
  – Landfill laws are focused on Emission Reduction (Methane) – lack of raw material focus
  – Untreated deposit into Land Fills is still possible
  – Minimum Land Fill Prices/Taxes (e.g. minimum price €80-120 per ton)

• Stop incineration of valuable raw material
  • Stop subsidized feed-in tariffs for Energy from Waste which was not pre-treated / sorted
  • Separate Sorting Requirements as of 2015 lack qualifications

• Develop inhibiting factors: Education, Cultural Awareness, Business Opportunities

• Funding for Sorting / Separation Technology
  – Energy Credits for higher energy consumption to preserve valuable raw material (Infrared Sorting)
  – Funding for sorting technology & innovation
Thank you!

Innovation & Raw Materials: A Recycled Containerboard and Packaging Producer’s Perspective

Cord Prinzhorn / CEO of Prinzhorn Group Brussels, 26th of November 2013