Convention GCL - Nancy

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1. COMPANY OVERVIEW
2. GENERAL INTRO ON RIGID PACKAGING INDUSTRY
3. SUSTAINABILITY GCL ROAD MAP
4. SUSTAINABLE PRODUCT
5. SUSTAINABLE PROCESS
6. DOWN TO THE ROAD
1. Company Overview
2. General Intro on rigid Packaging Industry

Overview on rigid packaging industry market

% On a total volume of 8.450 Kton

Sources CRU, EAFA and EAA

- Can stock market (food and beverages)
- Foil used for packaging and household foil
- Strip and sheets for aluminium closures
- Rigid aerosol cans and aluminium tubes
2. General Intro on rigid Packaging Industry

Main issues for rigid packaging industry

**Carbon footprint: working on**

- Raw Material
- Internal/External decoration
- Process
- Transport
2. General Intro on rigid Packaging Industry

4 reasons for being Sustainable – GCL guidelines

- Philosophical approach
- Competitiveness
- Anticipate UE rules
- Client expectations
3. Sustainability Guala Closures Road Map

2011-2015 Sustainability Strategy

- Management commitment
- Italy kick-off Country

12 indicators

- 6 Environmental
- 3 Social
- 3 Economic

23 objectives

- 13 Environmental
- 4 Social
- 6 Economic
3. Sustainability Guala Closures Road Map

2011-2015 Sustainability Strategy

- Annual Sustainability Report

- Sustainability Best Practices
3. Sustainability Guala Closures Road Map

Sustainability KPIs

**-Inside**

Energy Consumption, Raw materials, Water consumption, Waste, Transport

Health&Safety, Training&Continuous Improvement, Diversity, Production Efficiency, Innovation

**-Outside**

GHG Emission, Customer Satisfaction
3. Sustainability Guala Closures Road Map

Eco-Innovation on:

- Products
- Process
4. Sustainable Product

 Aluminium

 *Downgauging & Scraps*

 *Decoration*: No Varnish  
 *UV Printing*

 Plastic

 *Weight reduction*

 *Injection Cycle time improvement*

 *Decoration*: Bi-material

 Recycle

 *Monomaterial plastic product*

 *Aluminium Green Cap*
5. Sustainable Process

From traditional Metallization Process…
5. Sustainable Process

... to alternative Metallization Process

PHISICAL VAPOUR DEPOSITION => SPUTTERING

- Volatile Organic Component reduction
- Energy use reduction
5. Sustainable Process

Impact on hazardous waste, data comparison versus traditional metallization process: — 34%
5. Sustainable Process

From standard degreasing process for aluminum…

The layer of chemical conversion contains hydrated chromium phosphate $\text{CrPO}_4 \times 6\text{H}_2\text{O}$ between and oxide hydrate of aluminum $\text{Al}_2\text{O}_3 \times 3\text{H}_2\text{O}$.

WASTE WITH CHROMIUM SALT
5. Sustainable Process

... to chrome Free (Magenta line)
5. Sustainable Process
5. Sustainable Process

Impact on

- energy consumption,
- water consumption,
- hazardous waste

<table>
<thead>
<tr>
<th>DATA COMPARISON</th>
<th>STD DEGREASING PROCESS</th>
<th>MAGENTA LINE</th>
<th>REDUCTION %</th>
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</thead>
<tbody>
<tr>
<td>Electricity [kWh/ton of total production]</td>
<td>173</td>
<td>54</td>
<td>-69%</td>
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<tr>
<td>Water consumption [m³/ton of total production]</td>
<td>0.92</td>
<td>0.42</td>
<td>-55%</td>
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<tr>
<td>Waste [kg/ton of total production]</td>
<td>530</td>
<td>98</td>
<td>-81%</td>
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<tr>
<td>Hazardous Waste [kg/ton of total production]</td>
<td>477</td>
<td>14</td>
<td>-97%</td>
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</table>
6. Down to the Road

2016 -2020 (GCL)

Target:
How to deploy the Italian Road Map to worldwide GCL

- *Worldwide Carbon Footprint*
- *Worldwide Sustainability Indicators and Objectives*
6. Down to the Road

Next Steps: 2 main Key issues (Packaging Industry)

- How to apply Sustainability regulations outside UE?
- How to stimulate/award “Virtuous” producers vs others?
Thanks!