Understanding the material recovery by material flows in food retailers: Jumbo supermarket, a Chilean case linking consumption to materials

C.G. Ide¹ & A. Godoy-Faundez²,³

¹Head of Sustainability Department, CENCOSUD, Santiago, Chile. carmen.ide@cencosud.cl
²CiSGER, Facultad de Ingeniería, Universidad del Desarrollo, Santiago, Chile. alexgodoy@udd.cl
³WTERT Chile

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Rome Declaration (World Food Security, 1996)
Food Retailers can contribute to food security by reducing in the cost of living, providing access and availability to high diversity of food. A right spatial distribution is achieved throughout the country.

Guy et al, 2015
Food Retailers have the big challenge to fight Food Losses and Food Waste. Achieve goals of Extended Producer Responsibility (EPR). Achieve a Sustainable Waste Management.
Our aim was to assess the main materials discharged that can be recovered by material flows analysis linking production (material’s packaging) and consumption.
CENCOSUD SUSTAINABILITY STRATEGY

DIMENSION

SUSTAINABLE DEVELOPMENT GOALS

- Climate Change Management
- Sustainable Offer
- Social Development

CENCOSUD SUSTAINABILITY STRATEGY

- Responsible Marketing & Advanced Analytics
- Experience & Relation
- Health & Wellness
- Life Cycle & Traceability
- Suppliers Development

- Care of Resources
- Environmental Culture

STRATEGIC INITIATIVES

- "Nada sobra" Program
- Healthy Cencosud
- Transversal Traceability
- Sustainable Practices Certification

Financial Market

Community Relations
Wastes produced by packaging

<table>
<thead>
<tr>
<th>Material</th>
<th>Jumbo &amp; Santa Isabel (Ton)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Glass</td>
<td>1,782 (31%)</td>
</tr>
<tr>
<td>Paper &amp; Cardboard</td>
<td>1,068 (19%)</td>
</tr>
<tr>
<td>Metal</td>
<td>859 (15%)</td>
</tr>
<tr>
<td>PET</td>
<td>706 (12%)</td>
</tr>
</tbody>
</table>
Balance of Masses by Consumption

<table>
<thead>
<tr>
<th>Material</th>
<th>Mass (Ton)</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
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Discussion

The materials discharged that can be recovered are strongly linked to consumption driven by income (food budget).

Indeed, the consumption is linked to cooking behaviour and customs.

The main materials are related to “Food & Beverages” category.

Against of common sense, the most important materials to be recovered are glass and paper & cardboard meanwhile plastics are below of aluminium and metals.
“Food” category is a big classification, the contribution to wastes is reduced just few products. These food products are related to high demand according to cooking uses and unitarian packaging e.g. flour, cooking oil, pasta, sugar; etc. and linked to budget allocated to dairy cooking uses. Finally, the strategy to reduce food wasted and wastes (packaging) needs to be focused on highly demanded products linked to cooking behaviour. The analysis of composition of packaging will be key to determinate and forecasting how much materials food retailers can recover as well as which containers and wrapping they need innovate.

This result shows the relevance of composition and weigh of packaging of every food product as well as the feasibility to be recycled and recovered as well.
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