Waste management in rural areas in Austria

Conference „Taking waste management into the future“

03.12.2014 in Brussels

Mag. Dr. Johann Mayr
national coordinator of the union of communal waste management associations
Content

- Austrian waste management in short
- Introduction of Union of communal waste management associations
- Key figures of municipal waste management in Austria
- Example of District Krems – collection system, tasks
- Success of Austrian waste management
- New developments with packaging PROs
- Initiative „responsible valuables management“ VWM
Communal waste management

- Since the early 1970ies the municipalities were put on the task to organise a controlled waste management in Austria

- A landfill bottleneck in End 1980ies caused the rise of legal stipulations and the introduction of separate collection of secondary raw materials and dangerous parts of waste

- Municipalities formed intercommunal cooperation bodies: communal waste management associations

- 1992 packaging ordinance with communal contracts with PRO (ARA)

- 2006 ban for landilling waste with more than 5% TOC
Reasons for founding communal waste management associations

- **Stronger marketpower in supply and demand**
  - Collection tenders (bigger lots)
  - Selling of secondary raw material (paper, glass, plastic, metal)
  - Purchase of waste bins

- **Unification with a region/district**
  - Fixing of common waste management fees
  - Unified collection system for separate collection
Organisation ARGE

ARGE ÖWAVs

NÖ AWV

GVU Krems

OÖ AWV

VBD Bezirk 2

Stadt 1

Landes-vertreter

Stadt 2

2353 Gemeinde

8 Gemeinde

Stadtbetrieb

Stadtbetrieb
Union of Austrian CWMAs

- 8 Members
  - Burgenländischer Müllverband
  - Dachverband der Steirischen Abfallwirtschaftsverbände (18 Abfallwirtschaftsverbände und Städte)
  - Kärnten: KEV GmbH (6 Abfallverbände)
  - NÖ Abfallwirtschaftsverein (25 Verbände und Städte)
  - OÖ Landesabfallverband (18 Bezirksabfallverbände)
  - Tirol ATM GesmbH (2 von 8 Abfallverbänden)
  - Vorarlberger Gemeindeumweltverband
  - Salzburg: ZEMKA, SAB, vertreten durch Beamten der Landesregierung
  - Mit der Stadt Wien (Magistratsabteilung 48) wird enger Kontakt gepflogen
Tasks of Austrian waste management associations

The tasks of waste management associations differ from each other from province to province:

- Organising the separate waste collection
- Prescribing and collecting waste fees
- Coordinating the communities in shared contract negotiations
- Tendering and ordering of collection, transport, recycling or treatment services
- Organising collection and recycling of secondary raw material (paper, glass, scrap, wood, etc.)
- Employing 300 waste consultants as multiplicators
- Education of workers in app. 2100 collection centers for secondary raw material
- “We tell the people how to separate correctly!”
Comptences of ARGE

• competence
  – lobbying
    • environmental and economic ministry (BMLFUW)
    • parliament
    • Socialpartners (chamber of commerce, chamber or workers, workers union, chamber of agriculture)
  – negotiate with PROs (packaging = ARA, WEEE-PROs)
  – Consultation in the process of developing new laws and ordinances on waste management
  – Information hub from Vienna to the provinces and vice versa
  – Common Public Relations work

• financing
  – Contributions from members
  – Services for PROs
Economic sustainability

- Importance in national economy
- Suppliers: mostly family-run companies from nearby region
- Investments: recycling centers building app. 750 mio. Euro in total within the last 10 years
- Catalytic effects
  - Waste management is a factor regarding the choice of place for living and working
  - Infrastructure: short transportation

<table>
<thead>
<tr>
<th>Waste management</th>
<th>Economic value added</th>
<th>employment</th>
</tr>
</thead>
<tbody>
<tr>
<td>direct</td>
<td>466,3 Mio Euro</td>
<td>6,000 Personen</td>
</tr>
<tr>
<td>indirect und induced</td>
<td>768,8 Mio Euro</td>
<td>8,779 Personen</td>
</tr>
<tr>
<td>total</td>
<td>1,235,1 Mio Euro</td>
<td>14,779 Personen</td>
</tr>
</tbody>
</table>
## Amount of municipal waste in Austria 2010

<table>
<thead>
<tr>
<th>Main fractions</th>
<th>amount in tons</th>
<th>in kg/inh.a</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mixed municipal waste</td>
<td>1,405,300</td>
<td>168</td>
</tr>
<tr>
<td>Bulky waste</td>
<td>243,200</td>
<td>29</td>
</tr>
<tr>
<td>Separately collected secondary raw materials</td>
<td>1,340,100</td>
<td>160</td>
</tr>
<tr>
<td>Separately collected biological waste</td>
<td>705,400</td>
<td>84</td>
</tr>
<tr>
<td>Separately collected hazardous waste and WEEE</td>
<td>94,600</td>
<td>11</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>3,788,600</strong></td>
<td><strong>452</strong></td>
</tr>
</tbody>
</table>
## Waste treatment plants in Austria 2010

<table>
<thead>
<tr>
<th>Type of Plant (incl. Innercompany Plants)</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Incineration plants for municipal waste</td>
<td>10</td>
</tr>
<tr>
<td>Thermal treatment plants (without waste incinerators)</td>
<td>49</td>
</tr>
<tr>
<td>Chemical-physical treatment plants</td>
<td>43</td>
</tr>
<tr>
<td>Treatment plants for specific wastes (food oil recycling, asbestous waste, chemicals, batteries, etc)</td>
<td>93</td>
</tr>
<tr>
<td>WEEE treatment plants</td>
<td>40</td>
</tr>
<tr>
<td>Shredder plants for metall scrap</td>
<td>9</td>
</tr>
<tr>
<td>Building waste recycling plants</td>
<td>400</td>
</tr>
<tr>
<td>Mechanical biological treatment plants (mbt)</td>
<td>16</td>
</tr>
<tr>
<td>Composting plants</td>
<td>466</td>
</tr>
<tr>
<td>Biogas plants</td>
<td>157</td>
</tr>
<tr>
<td>Sorting and treatment plants for separately collected wastes</td>
<td>182</td>
</tr>
<tr>
<td>Recycling plants for separately collected secondary raw material</td>
<td>48</td>
</tr>
<tr>
<td>Landfills</td>
<td>666</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>2,179</strong></td>
</tr>
</tbody>
</table>
waste to energy plants in Austria 2010
Share of public - private collection services after amount of waste

Approximately one third of the waste is collected on order of municipalities and municipal associations by private contractors and delivered to ordered treatment plants.
Example CWMA Krems

Voluntary association of all 30 communities of the district since 1972

ca. 925 km² --- inhabitants ca. 55,000

Tasks:

organisation of waste collection, treatment and disposal
Setting into operation of separate collection of waste
Intake of communal taxes

structures:
Example CWMA Krems
Collection system

Collection at house

Collection point for glass and metal packaging aprx. every 100 households

19 Recycling centers
5,000 - 10,000 inh.
## Example CWMA Krems

Amounts 2011 - 23,700 households appr. 55,000 inh.

<table>
<thead>
<tr>
<th>Total waste:</th>
<th>31,500 Mg/a (570 kg/EW)</th>
</tr>
</thead>
</table>

### 1. level - collection at house:
- **Residual waste:** 5,800 Mg/a
- **Composting bin:** 4,600 Mg/a
- **Waste paper:** 3,600 Mg/a
- **Plastic bottles:** 350 Mg/a

### 2. level - Collection points
- **glass:** 1,530 Mg/a
- **metal-packaing:** 190 Mg/a

### 3. level - recycling centers
- **Bulky waste, wood, scrap, branches, grass, cardboard, construction waste, foiles, big bottles, corrugated cardboard packaging, textiles, tyres, agricultural foiles, plastics, WEEE-devices and 22 diff. Kinds of hazardous wastes:** 15,400 Mg/a
Example CWMA Krems

organisation of tasks

Contracts to private companies

- Transport orders
- Disposal orders
- Recycling orders

Collection of waste fees

- Financing by inhabitants
  - By size of a collection bins for residual waste
  - And by number of flats
  - Appr. 160 € per household and year
Lower Austria waste transportation system
sustainability

Waste generation contract:

„Every generation of people has to treat it’s waste in a manner, that the selfpurification abilities of nature are not overstressed and no abandoned waste sites will be handed over to the next generation.“
Success of Austrian waste management

Verwertung und Beseitigung von Abfällen aus Haushalten und ähnlichen Einrichtungen
1989 - 2009

Erste Behandlungswege:

1. Verwertung von biogenen Abfällen insbesondere aus der getrennten Sammlung und von Grünabfällen
2. Verwertung von Altstoffen insbesondere aus der getrennten Sammlung
3. Behandlung von Problemstoffen und von Elektro- und Elektronikaltgeräten aus der getrennten Sammlung
4. Thermische Behandlung (MVA und Mitverbrennung)
5. Biotechnische Behandlung in (M)BA
6. Ablagerung
## EU-study July 2012

### Table 1: Overview of scoring of each criterion and overall score for each Member State (order according to achieved overall score)

<table>
<thead>
<tr>
<th>EU MS</th>
<th>1.1 Disposing</th>
<th>1.2 WPP</th>
<th>1.3 Disposal of MSW</th>
<th>1.4 Waste recovery</th>
<th>1.5 Disposal of MSW</th>
<th>1.6 Waste recycling</th>
<th>2.2.0 Disposal of MSW</th>
<th>2.2.1 Treatment of MSW</th>
<th>2.3.3 Collection coverage for MSW</th>
<th>2.3.4 Treatment capacity for MSW</th>
<th>2.3.5 Composting of MSW</th>
<th>2.3.6 Energy from MSW</th>
<th>2.3.7 Treatment of MSW</th>
<th>Overall score</th>
</tr>
</thead>
<tbody>
<tr>
<td>AT</td>
<td>0</td>
<td>2</td>
<td>2D</td>
<td>0</td>
<td>2</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>NL</td>
<td>0</td>
<td>2</td>
<td>2D</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>DK</td>
<td>0</td>
<td>2</td>
<td>2D</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>DE</td>
<td>1</td>
<td>2</td>
<td>2D</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>SE</td>
<td>1</td>
<td>2</td>
<td>2D</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>BE</td>
<td>1</td>
<td>2</td>
<td>2D</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>LU</td>
<td>1</td>
<td>2</td>
<td>2D</td>
<td>1D</td>
<td>2</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>UK</td>
<td>1</td>
<td>2</td>
<td>1D</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>FI</td>
<td>1</td>
<td>2</td>
<td>2D</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>FR</td>
<td>2</td>
<td>1</td>
<td>2D</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>SI</td>
<td>1</td>
<td>2</td>
<td>1D</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>ES</td>
<td>2</td>
<td>2</td>
<td>2D</td>
<td>1D</td>
<td>2</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>PT</td>
<td>0</td>
<td>2</td>
<td>2D</td>
<td>1D</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>HU</td>
<td>1</td>
<td>0</td>
<td>2D</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>IE</td>
<td>2</td>
<td>0</td>
<td>1D</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>CZ</td>
<td>0</td>
<td>0</td>
<td>1D</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>NL</td>
<td>0</td>
<td>0</td>
<td>2D</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>IT</td>
<td>0</td>
<td>0</td>
<td>1D</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>LV</td>
<td>0</td>
<td>0</td>
<td>2D</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>CY</td>
<td>0</td>
<td>0</td>
<td>2D</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>RO</td>
<td>0</td>
<td>0</td>
<td>2D</td>
<td>0</td>
<td>2</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>LT</td>
<td>2</td>
<td>0</td>
<td>2D</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>MT</td>
<td>0</td>
<td>0</td>
<td>2D</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>BG</td>
<td>0</td>
<td>0</td>
<td>2D</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>GR</td>
<td>1</td>
<td>0</td>
<td>2D</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
</tbody>
</table>

**Note:** Scores for the criteria 1.3, 1.4 and 1.5 (marked with 'D') are doubled for overall scoring.

**European Commission**

Screening of waste management performance of EU Member States
Support to Member States in improving waste management based on assessment of Member States' performance

**BiPRO**
Figure 2.10 Bio-waste recycling as a percentage of municipal waste generation in 32 European countries, 2001 and 2010
Study on European waste management

Figure 2.12 Regional variation in municipal waste recycling rate in 13 countries, 2008/2009

Note: The variation bar shows the highest and lowest regional recycling level within each country. 2008 data were used for Belgium, Germany, France, Hungary, Slovenia and Romania. 2009 data were used for the rest of the countries.

packaging waste – stake holder dialog

LEICHTVERPACKUNGEN – SAMMELVOLUMEN JE SAMMELREGION -> WENIG/KEINE ÜBEREINSTIMMUNG

Quelle: ARA (Stand 31.12.2012)
VERTEILUNG DER LVP-SAMMLUNG AUF REGIONSEBENE NACH 8 SAMMELTYPEN

ID  Sammelfraktion / Sammelsystem

- A910  Leichtverpackungen / Rücknahme über Altstoffsammelzentren
- B910  Leichtverpackungen / Bringsystem (Behälter oder Säcke)
- H910  Leichtverpackungen / Holsystem (Behälter oder Säcke)
- B914  Plastikflaschen / Bringsystem (Behälter)
- H914  Plastikflaschen / Holsystem (Behälter oder Säcke)
- B930  Leicht- und Metallverpackungen / Bringsystem (Behälter)
- H930  Leicht- und Metallverpackungen / Holsystem (Behälter oder Säcke)
- H934  Plastikflaschen und Metallverpackungen / Holsystem (Säcke)

Beispiel: Osttirol
Farbgruppe GELB: Sammelfraktion = Leichtverpackungen
Farbe LEUCHTGELB: Sammelsystem = Bringsystem
1,00 = 100% Übereinstimmung bei Sammelfraktion
0,97 = 97% Übereinstimmung bei Sammelsystem

Quelle: ARA (Stand 31.12.2012)
Competition in Packaging PROs in 2015

- Negotiations on opening the PROs market for more companies since 2006
- Amendment of Waste management act and packaging ordinance
- Contract and ordinance on payment for packaging in residual waste: 2.6 € per inh/a more for municipalities
- No competition on collection bin level
- Compulsary usage of municipal collection and information infrastructure
Initiative Verantwortungsvolles Wertstoffmanagement (VWM) - responsible valuables management

- making clear the benefit of sustainable and responsible services of general interest to decision makers and to the public.

- calling public attention on the importance of public waste management for society

- referring not only to economic efficiency, but also to environmental compatibility and to social sustainability

- developing a SWOT-analysis in comparison with „private waste management: finally strengthen strong points, improve weaknesses
VWM becomes a trade mark: a platform, to reach common goals together with appropriate partners

QUALITY OF LIFE IN A REGION

• We make waste management transparent
• We focus know-how and networks
• We act for the benefit of people and their future
AVN- Waste to Energy plant in Zwentendorf
Verbrennungsergebnis - Schlacke
Thank you for your attention!
Links

- www.argeabfallverband.at
- www.bmv.at
- www.umweltverband.at
- www.abfallverband.at
- www.ooe-bav.at
- www.atm.at
- www.abfallwirtschaft.steiermark.at
- www.gemeindebund.gv.at
- www.staedtebund.gv.at
- www.oewav.at
ARGE Österreichischer Abfallwirtschaftsverbände

Marc Aurel-Straße 5, 1010 Wien

Dr. Johann Mayr, Bundeskoordinator

Tel +43 664 390 97 20

Email: hans.mayr@argeabfallverband.at

www.argeabfallverband.at