

EUROSAI WGEA

The Austrian Experience in Waste Management Auditing

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- **Audits on the implementation of the Austrian Landfill Directive**

6 *Laender* reports, 1 overall report

- **Audits on municipalities associations**

Random samples, targeted audits

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Austrian Landfill Directive:

- From 1 January 2004 only non reactive waste must be landfilled
- Implementation by the *Laender*
- Extention of time possible
- Waste incineration and mechanical-biological pre-treatment are regarded equivalent

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Austrian Landfill Directive:

- Only 4 of 9 *Laender* fulfilled land fill criteria in 2004
- 2 *Laender* needed time extension to finish plants
- 1 *Land* (Tyrol) still has no treatment option

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Austrian Landfill Directive:

- Even after the implementation of the Directive reactive wastes (textiles, screenings, bitumen) were landfilled

(Source: Landfill Supervision Reports)

- Specific landfill prohibition disregarded:
Clearance and treatment of wastes:
14 Mill EUR (2004)

Recommendations:

Check landfill prohibitions timely, inform landfill operators, control landfill input continuously

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Austrian Landfill Directive:

- Waste incineration and mechanical-biological pre-treatment are regarded equivalent
- No coordination at federal level
- Only few *Laender* cooperated
- Several plants of uneconomic size

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Austrian Landfill Directive:

	> 300.000 t/a	< 300.000 t/a
Waste Incineration Plans	2	9
	> 80.000 t/a	< 80.000 t/a
Mechanical-biological Pretreatment Plants	2	12

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Mechanical-biological Pre-treatment Guideline, 2002:

- **Benchmarks for equipment, operation, emissions of pre-treatment plants**
- **Legally not binding**
- **Unequal standards for Austrian plants esp. regarding gaseous emissions**

Recommendation: legally binding directive

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**Austrian Federal Waste Management Plan 2001:
65 % minimum energy efficiency of waste incineration
plants**

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			Capacity (t/a)	En.eff. (%)
Carinthia	GF	Arnoldstein	80.000	23
Lower Austria	GF	Zwentendorf	300.000	29
Upper Austria	GF	Wels 1	75.000	25
Upper Austria	GF	Wels 2	230.000	25
Upper Austria	FB	Lenzing	300.000	80
Styria	FB	Niklasdorf	100.000	80
Styria	CM	Peggau	41.900	80
Styria	CM	Retznei	80.000	80
Vienna	GF	Flötzersteig	200.000	72
Vienna	GF	Spittelau	200.000	75
Vienna	FB	Simmering	270.000	75

GF ... grate firing

FB ... fluidised bed

CM ... cement mill

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Austrian Federal Waste Management Plan 2001:

65 % minimum energy efficiency of waste incineration plants

Recommendation:

Waste heat recovery should be a fundamental criterion for selecting waste incineration sites

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Waste Management Plans of *Laender*:

Differing quality of plans

Recommendations:

- Describe and analyse the present situation
- Precise and quantify targets
- Set measures for target achievement
- Evaluate target achievement

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Municipalities Associations:

- Regulations of *Laender* differ

Establishment: optional, obligatory

**Tasks: collection / collection and pre-treatment of
municipal solid wastes**

- Many municipalities still operate collection on their own

Recommendation:

**establish municipalities associations and delegate
tasks extensively**

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Recycling Centres:

- **Not available area-wide in some *Laender***
- **Heterogeneous service (opening hours, types of wastes, costs)**
- **Complicated settlement of accounts between member municipalities**

Recommendations: area-wide availability, simple settlement of accounts, finance by disposal fees, regulate services through subsidies

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Separate Collection:

- **Organic waste collection, Lower Austria:**
participation rate of households 4 – 76 %
costs: 23 – 86 EUR/a (2004)
correlation of participation and costs
- **Paper collection, Burgenland:**
change from bring system to collect system
paper in residual waste 14 → 9 %, collection rate 56,5
→ 65,5 kg/head.a

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Separate Collection:

- **Bulky waste:**

Problems with collect system

- **Plastics:**

**Only 1/3 is recyclable (e.g. plastic bottles);
some *Laender* adjust collection system;
additional expenses for municipalities (estimations up
to 38 %), less expenses for ARA**

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Separate Collection – Recommendations:

- **Develop fees to support separate collection (cost recovery versus cross-subsidy)**
- **Change collection of bulky wastes to bring system**
- **Cost savings from the separate collection of plastics must be passed on to municipalities**
- **Importance of residual waste analysis**

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Sureties for landfill aftercare:

- Landfill operators had to provide surety for landfill aftercare (financial surety or declaration of liability) by 1 January 2004 – operator obligation
- Partly non-existing, partly insufficient, partly not available (despite charged within fees)

Recommendations:

Administration should demand sureties;
Quantify declarations of liability to inform association / municipalities on future financial obligations;

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Sureties for landfill aftercare:

- **Aftercare and Commitment Fund (Vorarlberg)**

***Land* has private-law contracts with all landfill operators;**

Operators contribute to Fund on the basis of tons of waste landfilled;

***Land* finances aftercare measures after landfill closure;**

Recommendation: trend-setting model

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Sureties for landfill aftercare:

Mechanical-biological Pre-treatment Plant Stockerau:

Inappropriate plant, illegal accumulation of not pre-treated wastes around the plant, estimated costs for transport and treatment of wastes:

7 Mill EUR (2004)

Recommendation:

Sureties also for treatment plants depending on waste types and capacities

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**Thank you
very much
for your
attention !!**

