



Food waste statistics Austria

Meeting subgroup food waste measurement, Brussels 25.9.2017

Situation in Austria

- Since the beginning of 2000 the topic "Food waste" has gained importance
- Food waste is one of the focus areas in the Austrian Waste Prevention Programmes (2011 and 2017)
- In the last years food waste has been investigated in more detail
- Focus on food waste in mixed municipal solid waste (MSW), the retail sector and the food service sector
- Some studies are also available on food waste in wholesale sector and manufacturing sector

Avoidable food waste generation per year in Austria

- Mixed household waste: 157.000 t (19 kg/inh.a)
- Retail sector: 109.700 +6.600 t food donation t
- Food services (hotel industry, catering, industrial kitchens): 175.000 t

Only rough estimations:

- Home composting
- separate collected biowaste,
- Sewerage
- Agriculture: (estimates only for selected vegetables and fruits)

Food waste in mixed municipal solid waste

Composition analyses of mixed MSW with the focus on food waste

- No legal requirement to determine waste composition
- Federal states carry out waste analyses in irregular intervals in the course of preparation of their waste management plans. Some examples:
 - A region in **Upper Austria 2009** (Schneider and Lebersorger 2009):
http://www.land-oberoesterreich.gv.at/files/publikationen/US_lebensmittel_restmuell.pdf)
 - **Lower Austria 2010-2011** (Schneider and Lebersorger 2011:
<http://www.noel.gv.at/Umwelt/Abfall/StudienTrends/Restmuellanalyse.html>)
 - **Vorarlberg 2012** (Technisches Büro Hauer 2012:<http://www.hohenems.at/zoolu-website/media/document/6528/Analyse+2012,+Vorarlberger+St%C3%A4dte.>)
 - **Styria 2013** (Ingenieurgemeinschaft Innovative Umwelttechnik 2013:
http://www.abfallwirtschaft.steiermark.at/cms/dokumente/10168259_4336659/d8cfd42f/Endbericht_RM-Analysen_2012-2013_Steiermark_vom_2014-02-20.pdf)

Lower Austria 2010-2011

– Some methodological aspects

- Clustering in 3 levels:
 - rural, without centre
 - rural, with centre
 - urban regions
- 796 samples a 15-30 kg; randomly chosen waste bins in the three levels
- 2 sieving steps:
 - > 40 mm: allocation to 38 sub-fractions;
 - > 20 mm: allocation to 14 main fractions

About 16% of total waste is < 20 mm – was not allocated

Challenges related to the interpretation of different waste analysis:

- There was no uniform procedure to determine the food waste fraction in the past – Comparison of the results of different studies is tricky
 - Which fractions are included/identified?
 - Mass of packaging included?
 - Number and volumes of samples
 - Clustering of the region
 - Sorting or sieving? If sieving: which sieving steps are used?
 - ...

Food waste and other biodegradable waste in mixed MSW in selected federal states of Austria

| | Lower Austria 2010/2011 ¹ | Upper Austria 2009, urban areas ² | Upper Austria 2009, rural areas ² | Vorarlberg 2012 ³ | Burgenland 2010 ⁴ | Styria 2013 ⁵ |
|---|--------------------------------------|--|--|------------------------------|------------------------------|--------------------------|
| Avoidable foodwaste (% by weight) | 13 | 17 | 10 | 7 | | |
| Food waste total (% by weight) | 16 | 30 | 19 | 17 | 15,5 | 17 |
| Biodegradable waste total (% by weight) | 18 | 32 | 24 | 18 | 28,5 | 17,7 |

¹ Schneider and Lebersorger (2011): <http://www.noel.gv.at/Umwelt/Abfall/StudienTrends/Restmuellanalyse.html>

² Schneider and Lebersorger (2009): http://www.land-oberoesterreich.gv.at/files/publikationen/US_lebensmittel_restmuell.pdf

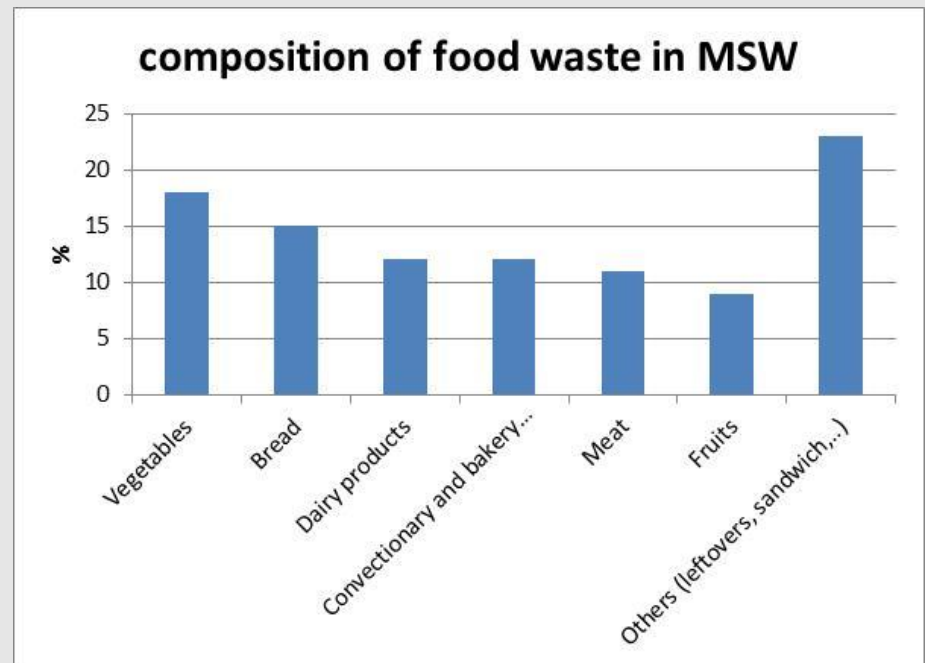
³ Technisches Büro Hauer (2012): <http://www.hohenems.at/zoolu-website/media/document/6528/Analyse+2012,+Vorarlberger+St%C3%A4dte>

⁴ Technisches Büro Hauer (2010): http://www.bmv.at/uploads/media/Restmuellanalyse_2010.pdf

⁵ Styria 2013 (Ingenieurgesellschaft Innovative Umwelttechnik 2013): http://www.abfallwirtschaft.steiermark.at/cms/dokumente/10168259_4336659/d8cfd42f/Endbericht_RM-Analysen_2012-2013_Steiermark_vom_2014-02-20.pdf

The current state of knowledge for Austria for Mixed Municipal Solid Waste

- 276.000 t food waste (avoidable, partly avoidable, not avoidable) (estimated)
- **157.000 tonnes** of avoidable and partly avoidable food waste¹ (19 kg /inhabitant/year)
- Composition of food waste²:



¹ Schneider et. al.(2012): Sekundärstudie Lebensmittelabfälle in Österreich. University of Natural Resources and Life Sciences (BOKU). November 2012.

See also: https://www.bmlfuw.gv.at/land/lebensmittel/kostbare_lebensmittel/lebensmittel.html

² Schneider et. al.(2009): Untersuchung der Lebensmittel im Restmüll in einer Oberösterreichischen Region http://www.land-oberoesterreich.gv.at/files/publikationen/US_lebensmittel_restmuell.pdf

Foodwaste from food service sector

United against waste - Methods

- Study carried out by the initiative „United against waste“, University of Natural Resources and Life Sciences (BOKU) and University of Applied Sciences Upper Austria in 2014 and 2015
- Waste analyses were carried out in 50 establishments:
 - 23 canteen kitchens (including also hospitals and nursing homes),
 - 13 accomodation establishments
 - 13 restaurants and
 - 1 catering

Initiative United Against Waste: <http://united-against-waste.at/erheben/ergebnisse-der-testerhebung/>

United against waste - Methods

- Food wastes were sorted and weighed
 - Allocation to kitchen areas: storage, preparation, unspent food, buffet leftovers, dish returns
 - Allocation to product groups: meat & fish, vegetables & fruit, salad, soups, side dishes, desserts, beverages, dairy products, others
- Extrapolation of the annual quantities in Austria were made based on
 - food waste quantities per meal
 - number of meals per type of establishment and
 - number of establishments per type of establishment

United against waste - Results

Avoidable food wastes generated annually in Austria according to the results of the extrapolation:

- Total amount of avoidable food waste: 175.000 t
 - 45.000 tonnes in restaurants
 - 50.000 tonnes in accommodation establishments
 - 61.000 tonnes in canteens
 - 19.000 tonnes in other similar establishments like coffee houses

- Not avoidable: residues from food preparation: 48.500 t
(about 22% of total food waste from restaurants / canteens / catering and from accommodation establishments)

Foodwaste from retail sector

Generation of food waste in the Austrian retail sector - Methods

- Study carried out by the University of Natural Resources and Life Sciences (BOKU)
 - Five companies representing the major part of the food retail sector in Austria contributed to the study
 - Together they have a market share of 83%
 - The study was based on internal data of the companies, which covered the complete food losses for the year 2013.
- Very accurate estimation on food losses from food retail

LEBERSORGER, S. & SCHNEIDER, F. (2014); Aufkommen an Lebensmittelverderb. ECR Austria – Efficient Consumer Response & ABF-BOKU, Wien. <http://www.ecr-austria.at/abfallwirtschaft/berichte>

Generation of food waste in the Austrian retail sector - Results

- 2013: a total of 74.100 tonnes of food loss in food retailing.
 - 48% fruit and vegetables
 - 17% bread and pastry
 - 8% sausages and
 - 8% Convenience products
 - 7% dairy products
 - 5% fresh meat, fish and poultry
 - 7% others (non alcoholic drinks, snacks, ice, etc.)
- In addition, 35.600 tonnes of unsold bread and pastry had been returned to bakeries

In addition, 6.600 tonnes of edible food was donated to social institutions (this is not considered as food waste)

Outlook Austria

- Analysis of municipal solid waste in all 9 federal provinces: start in 2018, duration 2 years, results will be available in 2020; will be repeated every 5-6 years
 - Common methodology
 - The food waste fractions „avoidable“, „partly avoidable“ and “not avoidable“ will be considered
 - Samples will be taken from a representative number of waste bins
 - Sorting will be carried out – no sieving
- New results for food waste from the retail sector in 2018; in the future every 3 years new data will be available

Selected open questions

- Base year for the reduction of 50%
- How to deal with countries which have already started activities for food waste reduction several years ago – adjustment of the amount of food waste in the base year?
- Common understanding: Reduction of 50% until 2030 from the avoidable part of food waste?

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