



MUNICIPAL WASTE EUROPE

– promoting public responsibility for waste

BioIntelligence,
European Commission DG Environment

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EC Preparatory on Food Waste

Following your petition for information, please find the following national studies covering food waste as a part of a biological waste management.

All of this information has been accessible to the national authorities in the Member States, and has been used for the national information provided to the European Institution. More information from other countries is expected shortly and will be sent to you.

Norway

Waste Management Norway conducted a survey among the municipalities in 2005. The answers covered 78 % of the population. The theme was wet organic waste and the results showed the following main results: more wet organic waste in the remaining waste, a close raise in the choice between paper bag or bio-plastic bag for collection, good information about but low usage of biodegradable bags, a dominating use of two-chamber waste trucks for collection, source separation generating lesser collection costs totally, nappies in the biowaste fraction enables lower collection frequency for the remaining waste, the wet-organic waste contains a lot of nappies and garden waste and at that time only 5 % of the municipalities allowed food or garbage mulches in the households.

Collected amounts

- **Norway statistics**
(www.ssb.no/waste)
 - 172 000 t biowaste
 - 65 kg/inhab*y
(that have source separation)
- **Survey**
 - Average 67 kg/inhab*year
 - More in regions where napkins and/or garden waste is included

System	Average collected biowaste kg/inhab*y
All	67
With napkins	96
With garden waste	85
Only kitchen waste	50

All information is available here

<http://www.avfallnorge.no/content/view/full/4214>

United Kingdom

Municipal Waste Europe
www.municipalwasteeurope.eu

The local authorities have through WRAP funded a number of food waste collections. All have been excellently documented through their database.

All can be accessible here:

http://www.wrap.org.uk/local_authorities/research_guidance/food_waste/index.html

The following reports are the most recent and with special interest to food waste quality and qualification:

- Down the drain

Quantification and exploration of food and drink waste disposed to the sewer by households in the UK

http://www.wrap.org.uk/downloads/Down_the_drain_-_report.455f3827.8049.pdf

- Household food and drink waste in the UK

A report containing quantification of the amount and types of household food and drink waste in the UK. Information is collated from recent studies covering all major disposal routes, and can assist WRAP, national and local governments and the food industry to develop policies, advice and tools to help us all reduce the amount of good food and drink that we purchase but don't eat.

http://www.wrap.org.uk/downloads/Household_food_and_drink_waste_in_the_UK_-_report.99142155.8048.pdf

- Waste arising in the supply of food and drink to households in the UK

This research builds on previous studies and recent data collected by WRAP to derive estimates of waste arisings in three key stages of the UK food and drink supply chain and links it with household waste. It identifies areas of greatest opportunity for cost savings, improved resource efficiencies and future interventions.

http://www.wrap.org.uk/downloads/RSC002-005_March_25_2010_FINAL.f46ccf41.8904.pdf

Sweden

Swedish Waste Management has recently published the following study on food waste

- Microbiologic handbook for biogas plants

The report also contains an extensive literature list.

<http://www.avfallsverige.se/m4n?oid=U2009:03>

The dedicated study program on biological treatment methods generated the following reports in 2009:

- Collected amounts of food waste in different collection systems in Swedish municipalities

- Strategic work with odour problems from biological treatments – good examples from Swedish plants

- Identification and risk assessment of the mould *Neurospora* at waste collection

- Assessment of sewage- and fat separators function

All reports are accessible for downloads here:

http://www.avfallsverige.se/m4n?oid=2965&_locale=1

Reports from previous years are available upon request.

Flanders

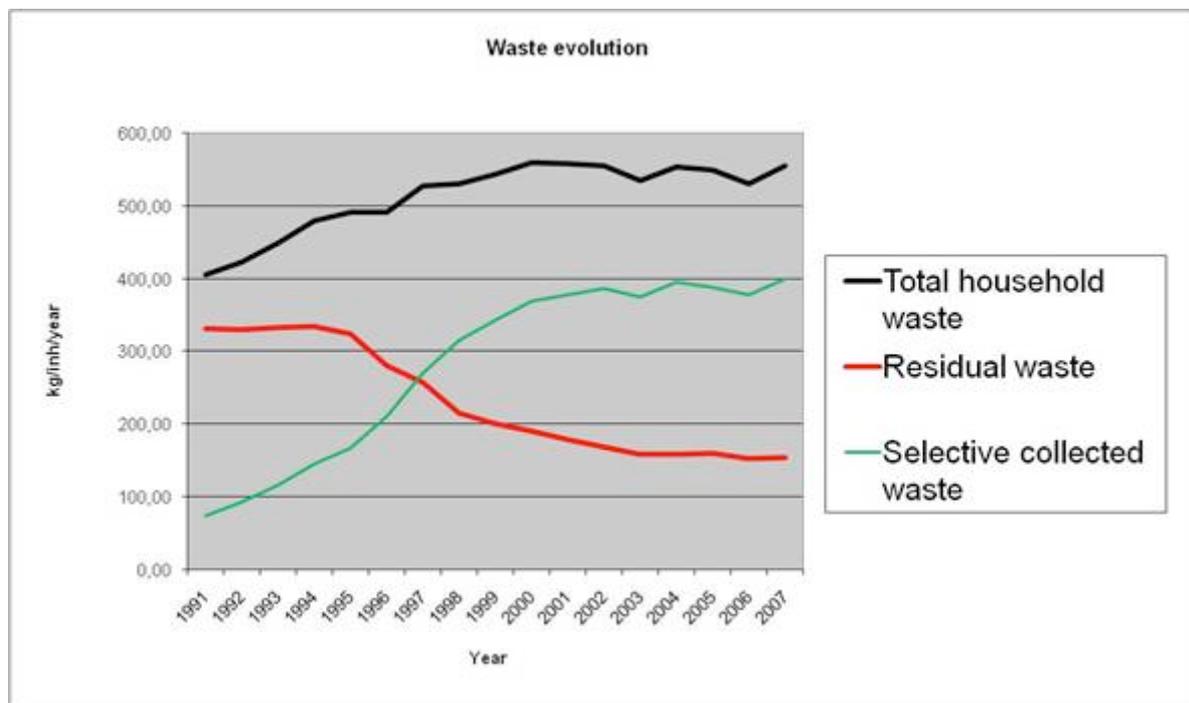
1. History of the Flemish waste management

Flemish municipalities have a long tradition in collecting municipal solid waste (MSW). It was Napoleon, who initiated the obligation for municipalities in his empire to keep the streets clean and collect all waste in order to store it in central places, far away from the settlements. This went on for many years without any further form of legislation. In the 1960's, when Flanders slowly became a very densely populated area, people started to complain about inconveniences from all these landfills and municipalities had to find other solutions. Instead of keeping one small landfill in every municipality, cooperation was initiated. Most landfills were closed, and new, larger, better situated landfills, meeting all necessary requirements were created within intermunicipal cooperations (so called intercommunals). By 1980, every Flemish municipality participated in one of those intercommunals. Those made it possible to invest in other technologies for waste treatment like waste incinerators. In 1990, following the European waste treatment hierarchy, the separate collection of recyclables was started. 1997 became a new turning point for Flemish waste management policy with the creation of a new Waste Management Plan which put a strong emphasis on the prevention of waste. At the same time, the Flemish Region banned landfilling for MSW. The most recent regional waste management plan continues to stress that prevention remains the highest priority, and tries to consolidate the actual good results in collection, composting and recycling. **In 2007, 72% of all MSW was collected separately for recycling** (incineration with energy recovery not included) or **composting** (in 1991, this was only 20%).

Waste treatment starts to diversify: next to waste incineration, one plants for mechanical-biological treatment of waste is operational.

Flanders now has doorstep collection of lots of recyclables, the 308 municipalities provide more than 300 civic amenity sites, and the recycling rate is very high. 2002 was the first year in which the growth of the total waste production stopped. Nevertheless, the costs in Flanders for disposal and collection of waste are lower than in other countries who up till now have done less efforts and do not reach similar results[1].

[1] http://www.acrr.org/prevention/pdf/management_costs.pdf



2. Competences and role of the Flemish municipalities

2.1 Household waste: responsibility of local authorities

In Flanders, the **collection and treatment** of household waste is a **municipal responsibility**, including the establishment of an adequate network of treatment facilities. In some cases, municipalities also collect the waste from small and medium sized enterprises, because this waste is often comparable to household waste. While for household waste, the law provides that municipalities are responsible for collection and treatment, for industrial waste, the responsibilities are defined in a more general manner, laying the responsibility for collection and safe treatment upon the producer.

When it comes to MSW, municipalities:

- set up all kinds of local actions,
- decide about the way of collection of household waste (how, when, by whom?),
- fix the prices to be paid by the citizens,
- select the treatment of waste (how, where),
- organize collection and treatment through public utilities (intermunicipal cooperation) or in cooperation with private companies.

We strongly believe in the importance of integrated waste management on municipal level. The way of collection should be decided on a local level, to make sure that the service provided meets the needs of all citizens. Local situations and needs can vary greatly both between and within countries and thus the organisation of the waste management should be decided on the basis of the local conditions. For instance, industrial composting may be favoured in some regions, whereas home composting may be preferable in other surroundings. Local authorities should have the greatest degree of flexibility, consistent with the principle of subsidiarity, in determining outcomes and methods for managing waste in their areas. Municipalities should be given the power to choose the best form of treatment on the basis of the local situation and needs, so as to achieve the environmental targets set at EU-level. Waste collection should be organized in a specific way, adapted to local circumstances. This allows optimal community service and full participation by all citizens. As the way of treatment often has an important impact on the way of collection, integrated approach – from prevention up to treatment – should be managed at the local level.

3. Present approach on prevention of waste

Municipalities try to convince the population to prevent waste with all kinds of actions. Some examples:

Prevention of organic waste

Home composting: distribution of compostbins and –boxes or wormeries.

Reuse of prunings

Masters in composting: they are volunteers, supported by the municipality or intermunicipal organization, who try to convince other citizens to compost organic waste at home and demonstrate techniques for home-composting. VLACO (the Flemish composting organisation) gives these volunteers a training. The training programme started already in 1995. The objective of the Flanders prevention strategy is 6 active masters in composting per 10.000 inhabitants. At this time there are 4,9. A continuously support of those volunteers and a good collaboration with the local authority is necessary.

“Chicken projects”: municipalities distribute free chickens (3/family) or work out a special trade discount system with local pet shops for the distribution of

chickens, who are then kept in the gardens and eat the organic kitchen and garden waste. People are often requested to register the amount of organic waste fed to the chickens. The success of these projects has – in some cases – been dazzling.

Community composting: the municipality foresees a place where people of the neighbourhood can bring their kitchen waste to compost. This way of composting finds place in cities where the people don't have enough place for home composting.

The concept of the waste-free garden: this is mostly demonstration of good practices of gardens, in which all the organic waste from the garden can be processed in the garden itself. In these gardens, mostly indigenous plants are used because they often produce less waste. Alternative management can also be helpful to avoid organic waste (hayfield).

Distribution of stickers against free junk mail

Supply of durable products (bread boxes,...)

Raising awareness through intensive information provision and communication

Local authorities give feedback on results to the citizens. This is important to keep them motivated.

Waste prevention campaigns in schools

Yearly actions like volunteers cleaning up litter, environmental week,...

Waste mediators: municipal staff, present at civic amenity site, responsible for direct communication with the population at the moment those discard waste.

4. Reuse centers

Flanders has a covering network of reuse centers. These not for profit organisations have three objectives:

waste reduction through reuse of discarded products;

selling reusable goods at discount prices;

creating jobs for the poorly skilled.

Today, repairing furniture, bicycles, is often more expensive than buying new stuff. Reuse centers try to break the short 'from product to waste' cycle through the extension of the service life of products by repairing them and selling them again at a low price. Saving energy and resources. Today, Flanders has almost 100 selling points where you can find all kinds of tools and equipment. The reuse centers have a contract with all municipalities, and collect all reusable goods. They receive a fee which is just below the disposal cost of the collected goods. This way, municipalities make a small economy and support the reuse of goods. Reuse centers can rely on a repair shop for those goods that need small repairs or cleaning-up.

In 2002, almost 1700 people were working in the Flemish reuse centers, in 2005 over 2500 people. From the start, reuse centers engaged themselves in social employment, and opened up jobs for people who, for one reason or another, had difficulties introducing themselves into the regular employment market. Most reuse centers provide specific training to new employees. The reuse-centers will collect over 6 kg of reusable goods per inhabitant per year in 2005 and are expecting to receive over 2,5 million customers in their shops.

WEEE is a very interesting waste stream for the reuse centers:

it is one of the most wanted products in their shops;

very often, WEEE is discarded at a moment where it is still quite recent and only needs

small repairs;
the training for the repair of WEEE often results in opening back the regular labour market for the staff of the reuse centers.

The Flemish reuse centers have their own quality label for repaired WEEE and give a one year warranty on the sold products.

5. Separate collection and treatment of waste in Flanders

5.1 General remarks

Flemish municipalities organise **doorstep collection** of many waste streams:

Paper and cardboard: monthly

In some regions: organic kitchen waste (at least every two weeks)

Garden waste: at least four times a year

Glass: monthly or in bottle banks (1 for every 700 inh.)

Packaging waste: at least monthly

Textile: 4 times a year or in street containers

Metals: at least two times a year

Re-usable materials: on demand

Bulky waste: on demand

Residual – not-recyclable waste: weekly

These collections are carried out by the municipality, intermunicipal organisation or in cooperation with private companies.

Every municipality also has a **civic amenity site** available for the acceptance of paper and cardboard, glass, packaging waste, textile, construction and demolition waste, garden waste, metals, wood, specific dangerous waste from households, batteries, WEEE, large refuse... On these sites, inhabitants can dispose of their waste during certain opening hours under the supervision of municipal personnel.

For organic waste, there is a specific approach on a regional basis, linked to the history of waste treatment in that region. Intermunicipal organisations that invested in waste incinerators (thus diverting almost all waste from landfilling) called '**green regions**' accept garden waste on the civic amenity sites, and have to collect garden waste at home at least four times a year. Regions that depended for a longer time on landfills, are called '**kitchen waste regions**'. Municipalities in these regions have to collect also the organic kitchen waste at home at least every two weeks. This is environmentally a better solution than not collecting organic kitchen waste, but it is also more expensive than the approach used in the 'green regions'.

Waste **treatment facilities** are in both private and public ownership. Flanders has a network for the treatment of MSW:

Composting garden waste: 20 plants with a total yearly capacity of over 240.000 tonnes;

Composting kitchen waste: 9 plants with a total yearly capacity of over 435.000 tonnes;

A certification scheme to provide quality assurance for compost made from organic and green waste has been in place for more than ten years. The only competition is from manure from farms, which is subject to less stringent standards before being put back on the land.

Legislation could level the playing field here, without necessarily turning the manure into a waste problem.

Incineration: 11 plants, all with flue gas treatment and energy recovery, with a total yearly capacity of 1.243.000 tonnes;
Soon first Mechanical-Biological-Pretreatment plant with a yearly capacity of 150.000 tonnes;
Some remaining landfill capacity.

Municipal Waste Europe is the European association representing municipalities responsible for waste management and their publicly owned waste management companies promoting public responsibility for waste management as a service of general interest.

Please feel free to contact us for more information about waste management.

Best regards,

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Secretary General (Ms)

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