“We recognise the services of the Vienna waste managers and the commitment of the employees in the area of waste management through presentation of the award ‘Vienna Waste Manager of 2006.’” – Municipal Department for Environmental Protection – MA 22

“The new plastic sorting plant in ‘Tent 48’ is the most modern in Europe and ensures optimal recycling of plastic bottles.” – MA 48 Waste Management, Street Cleaning and Vehicle Fleet

“The professional work in ecological animal waste processing guarantees safe feeding of our domestic animals and makes an important contribution to maintaining a healthy population of production animals.” – MA 60 Veterinary Office
Waste and Resource Management

The duties of the employees of the Waste and Resource Management Unit (AREM) of the Municipal Department for Environment Protection – MA 22 include inspections performed on-site as well as based on submitted documents. The activities of experts are closely connected with the obligations of the Environmental Law Unit of MA 22, as described in Chapter 1.

Inspection of Waste Collecting and Treatment Companies Registered in Vienna

In 2007 inspections process of the Waste and Resource Management Unit of the Municipal Department for Environmental Protection had the focus on-site control of 66 collecting and treatment companies of hazardous and non-hazardous waste. The inspections checked whether the records required by the Waste Documentation Ordinance were properly maintained, and storage level checks were performed based on the supplied volume records and the documentation of the specific organisations. In addition, entries in the electronic register were inspected in accordance with the requirements in § 22 of the Waste Management Act. During the course of the inspections, the operations were advised by municipal experts and informed of new provisions of waste management laws.

The waste management at several construction sites was also inspected, and numerous cases of illegal dumping on private property were discovered, as is the case every year.

For clarification of waste management questions and to obtain a basis for strategic recommendations scientific projects are commissioned and work groups established.

Heavy Metals in Vienna’s Residual Waste

Since the year 2000, the levels of various heavy metals in Vienna’s residual waste have been analysed, such as at the waste incineration plant MVA Spittelau.

The investigations show that the levels of both cadmium and mercury have decreased significantly since the year 2000. Over the same period, zinc concentrations appear to exhibit a slightly decreasing trend. No clear trend could be observed for the other elements examined.

Another project, “Monitoring Concept for Determination of Causes for Changes in Heavy Metal Levels in Vienna’s Residual Waste”1, is intended to determine which fractions of residual waste significantly influence the heavy metal content of the waste. According to the results of this project, heavy metals primarily enter into the waste via hazardous waste (batteries, paint cans, etc.), electronic scrap and metals. Roughly 85% of the mercury and 45% of the lead comes from hazardous waste and 50% of the copper from electronic scrap. Aluminium, iron, zinc and chromium primarily enter the waste through metals. Despite the low share of these materials in the waste by weight (hazardous materials: 0.75% by weight, electronic scrap 0.75% by weight and metals 3% by weight), the materials contribute significantly to the heavy metal input. Greater attention must be paid in the future to separate collection of these types of waste.

Bioplastics Platform

Bioplastics are enjoying increasingly broad use as a replacement for typical plastic. These biodegradable plastics produced from substances such as starch or polyactic acid are frequently an equivalent alternative to plastics produced from fossil-based resources but can also offer additional advantages. In order to identify bioplastics applications that are particularly useful for Vienna to create suitable

1 Geopartner AG, 2006
framework for their sustainable use, the Municipal Department for Environmental Protection – MA 22 has initiated a Bioplastics Platform to promote those bioplastics that are especially relevant for environmental protection and climate protection. The most important partners, such as Chambers of Commerce, Employees’ Chambers, Chambers of Agriculture, trade interests, interest groups, the scientific community and representatives of public administration, were invited to work with the Bioplastics Platform on a broad basis to produce a jointly defined position for Vienna.

In some cases, there exists a need to establish regulations for specific procedures. For example, MA 22 initiated an ÖNORM rule for identification of harmful substances in buildings.  

Identification of Harmful Substances in Buildings Before Demolition Work

Buildings frequently also contain harmful substances, such as asbestos, polychlorinated biphenyls (PCB), polyaromatic hydrocarbons (PAH), synthetic mineral fibres, etc., which can pose health, safety and environmental risks in case of improper demolition. For this reason, the expected harmful substances should be identified prior to building demolition. This is also important with regard to achieving quality standards in order to use the building debris in recycling construction materials. For this reason, the Municipal Department for Environmental Protection – MA 22 initiated and promoted the creation of ON rule ONR 192130, “Identification of Harmful Substances in Buildings Before Demolition Work”. This ON rule has been available since May 1st, 2006.

4th and 5th Environmental and Waste Managers Days

Vienna’s Municipal Department for Environmental Protection – MA 22 and TÜV Österreich Akademie have joined together for several years to host the Environmental and Waste Managers Day at the Vienna Rathaus as an event for interested companies. This annual event is an important platform for waste and environmental managers, whose activities, ideas and projects make significant contributions to considerable reduction of the environmental impact of Austrian companies.

In 2006, the event focused on the importance of teamwork in environmental protection at companies. Olympic champion and trainer Toni Innauer was obtained as a prominent speaker with great experience in the area of motivation. In 2007, climate researcher Prof. Helga Kromp-Kolb spoke about the key area of climate protection.

Vienna Waste Manager of 2006

In order to honor the services of Vienna’s waste managers and employees in the area of waste management, the Municipal Department for Environmental Protection – MA 22 presented the award “Vienna Waste Manager of 2006” as well as a commendation for the longest-serving waste managers and representatives on November 28th, 2006.

Environmentally Friendly Planning and Building

Enormous quantities of energy resources and waste can be saved and negative environmental impacts avoided in the area of building planning and execution through building planning with consideration
for environmental aspects, ecologically-oriented building management and waste management and construction measures that contribute to energy efficiency and thereby climate protection.

To better familiarise the corresponding target groups with these approaches, the Municipal Department for Environmental Protection – MA 22, in cooperation with the Chambers of Architects and Engineering Consultants for Vienna, Lower Austria and Burgenland, held a professional conference at the Vienna Rathaus on September 3rd, 2007. This event offered architects, construction engineers, building developers and representatives of the city of Vienna an opportunity to learn about the successful projects implemented to date, such as RUMBA – Guidelines for Sustainable Construction Site Management – and “Thürnlhof”, the most environmentally friendly construction site in Europe, as well as best practice examples and effective measures for reducing the impact of construction. Due to the high level of interest and the actuality of the issue, the Municipal Department of Environmental Protection – MA 22 is planning to host the professional conference again. All conference articles and reports can be found at http://www.wien.gv.at/umweltschutz/abfall/bauen.html.

The Waste and Resource Management Unit is also implementing projects for waste prevention and saving resource, such as providing the Vienna Web Flea Market as an Internet market service and supporting projects within the framework of initiatives for the reduction of waste (Waste Reduction Initiative, Repair Network).

Vienna Web Flea Market

The Municipal Department for Environmental Protection – MA 22 established the Vienna Web Flea Market (www.webflohmarkt.wien.at) as an Internet platform for selling, trading or giving away items that have not yet reached the end of their useful life. With this successor to the Vienna Used Goods Exchange, articles can be offered or requested with up to 3 images. In this way, household and office articles, toys and sporting equipment, devices, tools and construction materials can find new users and are not disposed of as waste. The Vienna Web Flea Market is primarily intended for the greater Vienna region, features an easy-to-use interface, does not inflict annoying advertisements on the users and also offers useful information on the service pages.
The Municipal Department 48 - Waste Management, Street Cleaning and Vehicle Fleet is responsible for the collection and treatment of residual waste and recyclables. Proper waste handling must take into account the perspectives of resource conservation, minimising hazards and the type and suitability of the waste as well as allocating waste to the appropriate, state-of-the-art recycling, reuse and disposal plants. These considerations are the basis for the priorities of the Waste Management Act: waste prevention first, waste recycling second, waste disposal third.

**Waste Prevention**

Waste prevention and resource conservation have the highest priority in Vienna. This can be seen in the numerous programmes and initiatives of the city of Vienna, all of which share the goal of sustainable utilisation of resources.

MA 22 and MA 48 support projects of the initiative “Naturally Reducing Waste” and actively implement numerous measures within their areas of activity that are dedicated to sustainable handling of waste.

Tips & More Information:  
[www.natuerlichwien.at/wenigermist](http://www.natuerlichwien.at/wenigermist)

**Projects:**

- Vienna Repair Network – Repair it, don’t toss it [www.repanet.at](http://www.repanet.at)
- Toy collection at waste collection points and in Vienna’s kindergartens for worthy causes
- The 48 Bazaar – “Old but good” – flea market goods from Vienna’s waste collection sites
- Bring a sack for your finds – Ecological Christmas packaging
- Eco Event Plan 2007 – Hosting environmentally friendly events
- “Eco-Checkers” at the ZOOM Children’s Museum – Sustainability exhibit for children
- Sustainable Breakfast – of regional organic and FAIR TRADE products
- Web Kitchen – food tips and tricks: [http://webkueche.natuerlichwien.at](http://webkueche.natuerlichwien.at)

**Waste Collection**

The approximately 400,000 containers provided for collection of non-recyclable waste and recyclable materials were emptied roughly 26 million times by MA 48 personnel during 2007. Roughly 190,000 containers are made available on private properties and in public areas for sorted collection of paper, white glass, coloured glass, metals, organic waste and hollow...
plastic containers. MA 48 collects approximately 1 million tonnes of waste every year.

Recycling and Treatment

Roughly 40% of the waste was collected separately (recyclable materials, organic waste, hazardous materials and inert substances such as construction scrap), allowing it to be recycled.

With the commissioning of the waste incineration plant Pfaffenau in autumn of 2008, non-recyclable and bulky waste is completely thermally treated – with utilisation of its energy content – so that only inert materials (primarily solidified incineration residues) need to be landfilled.

The Most Modern Plastic Sorting Plant in Europe Ensures Optimal Recycling

The new plastic sorting plant in “Tent 48” now employs state-of-the-art technology for the recycling of plastic bottles.

The material from plastic bottle collections, which is largely free of disruptive substances and inappropriate materials, is now sorted by material and colour through the multi-stage use of the newest generation of sorting equipment. This plant makes it possible to ensure sorting purities over 98% in four separate categories (PET in 3 colours and HDPE). These plastics are then used in high-quality material recycling processes, primarily for the production of new PET beverage packages in “bottle-to-bottle recycling”.

“Biogas Vienna”

The extensive services offered by MA 48 for ecologically meaningful disposal of waste in the interests of closed-loop recycling management have now been further expanded with the plant “Biogas Wien”. In the current expansion phase, clean energy can be obtained from an annual total of 17,000 tonnes of organic waste, which saves 3,000 tonnes of CO₂; the resulting digested residue is composted. In this way, Vienna sets yet another example in the use of alternative energies and climate protection.

In the future, this plant will supply 600 Vienna households with district heating.

8th International Conference on Waste Management

Under the title “Safe and Clean”, the city of Vienna, represented here by MA 48, is hosting an international waste management conference now for the 8th time. From November 26th to 28th, 2007, the title was “Safe and Clean” and “Safety of disposal & Clean City”. 300 participants from 26 nations used the conference as an international platform for communication and discussion.

“Clean City Campaign”

Vienna already numbers among the cleanest cities in the world, but the international phenomenon of an increasing number of people heedlessly throwing rubbish out onto the street has been observed even in Vienna.

To counteract this trend, this comprehensive set of measures was established:

- Pilot project “Mobile Hazardous Waste Collection” with SMS and email information service, in 2 districts
- 1,000 additional public wastepaper baskets
- 150 below-ground wastepaper baskets with a capacity of 600 l
- Expanding street cleaning to 1,200 people
- Mobile task group – Sweeping Force
- 1,450 dispensers with dog stool bags
- Public supervisory bodies (Waste Watchers) for monitoring and penalising the soiling of public spaces (littering)
SEA – Strategic Environmental Assessment of the Vienna Waste Management Concept 2007 (AWK 2007)

After an 18-month strategic environmental assessment process for the Vienna Waste Management Concept 2007 according to the requirements of EU directive 2001/42/EC and with intensive participation by numerous experts from various departments of Vienna’s municipal administration, the scientific and business communities and representatives of the qualified public, the Vienna Waste Management Concept 2007 and the associated environmental report were passed by the Vienna provincial government on 11 December 2007.

The process was led by Municipal Department 48, in cooperation with MA 22 and the office of the Vienna Environmental Ombudsman.

The city of Vienna is dedicated to effective, modern and state-of-the-art municipal waste management services. The focus always lies on protection of people and the environment, disposal self-sufficiency, treatment safety, climate protection and resource conservation as well as the necessary financeability of the respective measures.

In addition to depicting the current status of Vienna’s waste management and current waste management forecasts, the AWK 2007 contains a number of different measures that should be implemented in the coming years.

All developed measures were evaluated with regard to their environmental impact and apply to a wide range of topics: from waste prevention, littering, waste sorting, waste collection and waste treatment to aspects of environmentally friendly waste transport. Naturally, financial perspectives as well as national and international cooperation are also addressed by the concept.

The most important waste management topics were:

- Promoting waste prevention
- Optimising the collection of old metals, …
- Construction of a baling plant for waste to secure sufficient supply regulation and fail safety.
- Optimising the handling of incineration residues for improving self-sufficiency & resource conservation
- Optimising the handling of “Waste Electrical and Electronic Equipment”
- Despite optimal utilisation of the existing Rautenweg landfill, an immediate search for a new landfill site is essential
- The organic waste management as practiced for many years received a technically founded confirmation. The organic waste collection system, the system of open composting and the close cooperation with Viennese agriculture will be continued – with consideration of further improvements. A strong emphasis was also placed on the collection and handling of food waste from large operations and on energetic utilisation of biomass. The results of the process obtained through a consensus of all experts and extensive participation by the general public represent an important basis for further operational planning of waste management in Vienna.

All documents are available at https://www.wien.gv.at/ma48/awk/index.htm for downloading.

Biogas Vienna and incineration plant Pfaffenau
Proper, legally compliant disposal of animal products according to modern scientific and technological principles prevents the spread of pathogens and ensures that neither hazardous residual wastes nor unsuitable by-products enter into feed production. This guarantees safe food for our pets and makes an important contribution to maintaining a healthy population of production animals. Healthy production animals are the basis for supplying the populace with safe and high-quality food. Proper disposal of animal by-products and dead animals also makes a valuable contribution to environmental protection.

The extremely important task of disposing of animal by-products is handled within the province of Vienna by Tierkörperbeseitigung Wien GmbH Nfg KG, which is subject to supervision by the Veterinary Office (MA 60).

Tierkörperbeseitigung Wien GmbH was founded in 1878 as a company for safe utilisation of animal wastes in the Austro-Hungarian Monarchy. In 1916, the company was changed to the “Association for Operation of the Municipal Rendering Plant and Thermochemical Factory in Vienna”, the predecessor of the current TKB-Wien. The processing plant was closed in 1982. Operation of the company was continued as the central collection centre for Vienna. In the years 1990 to 1992, modern business facilities were erected and the administrative building in use since the founding was renovated.

Tierkörperbeseitigung Wien GmbH charges private businesses for its services in picking up and disposing of animal by-products and also acts under contract to the city of Vienna. These municipal duties are regulated in a service contract.

The cases of avian influenza occurring in the wild bird population in the year 2006 represented a major challenge for MA 60 and TKB-Wien. All reported finds of dead wild birds were picked up by TKB after documenting of the locations where they were found. The collected dead birds were subjected to a veterinary examination on the premises of TKB and, in some cases, sent to AGES Mödling for further examination. A total of almost 2,500 birds were collected in 2006, of which 400 animals received virological examinations at AGES Mödling. In order to perform this task, TKB-Wien established a stand-by service that required the use of additional personnel.

The new service contract between MA 60 and TKB-Wien concluded at the end of 2007 guarantees the safe and proper disposal of animal wastes (by-products) in the future as well.

### Ecological Animal Waste Processing

Disposal of animal products according to modern scientific and technological principles prevents the spread of pathogens and ensures that neither hazardous residual wastes nor unsuitable by-products enter into feed production. This guarantees safe food for our pets and makes an important contribution to maintaining a healthy population of production animals. Healthy production animals are the basis for supplying the populace with safe and high-quality food. Proper disposal of animal by-products and dead animals also makes a valuable contribution to environmental protection.

The extremely important task of disposing of animal by-products is handled within the province of Vienna by Tierkörperbeseitigung Wien GmbH Nfg KG, which is subject to supervision by the Veterinary Office (MA 60).

TKB-Wien was founded in 1878 as a company for safe utilisation of animal wastes in the Austro-Hungarian Monarchy. In 1916, the company was changed to the “Association for Operation of the Municipal Rendering Plant and Thermochemical Factory in Vienna”, the predecessor of the current TKB-Wien. The processing plant was closed in 1982. Operation of the company was continued as the central collection centre for Vienna. In the years 1990 to 1992, modern business facilities were erected and the administrative building in use since the founding was renovated.

Tierkörperbeseitigung Wien GmbH charges private businesses for its services in picking up and disposing of animal by-products and also acts under contract to the city of Vienna. These municipal duties are regulated in a service contract.

The cases of avian influenza occurring in the wild bird population in the year 2006 represented a major challenge for MA 60 and TKB-Wien. All reported finds of dead wild birds were picked up by TKB after documenting of the locations where they were found. The collected dead birds were subjected to a veterinary examination on the premises of TKB and, in some cases, sent to AGES Mödling for further examination. A total of almost 2,500 birds were collected in 2006, of which 400 animals received virological examinations at AGES Mödling. In order to perform this task, TKB-Wien established a stand-by service that required the use of additional personnel.

The new service contract between MA 60 and TKB-Wien concluded at the end of 2007 guarantees the safe and proper disposal of animal wastes (by-products) in the future as well.

### Disposal by Tierkörperbeseitigung Wien GmbH Nfg KG:

#### Specified Risk Materials (SRM) and Material of Category 1

<table>
<thead>
<tr>
<th>NO. OF ANIMALS</th>
<th>2006</th>
<th>2007</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cattle (excluding calves/young cattle under 1 year)</td>
<td>5</td>
<td>3</td>
</tr>
<tr>
<td>Calves/young cattle under 1 year</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Sheep/goats (excluding young animals under 1 year)</td>
<td>73</td>
<td>47</td>
</tr>
<tr>
<td>Young animals (lambs and kids) under 1 year</td>
<td>7</td>
<td>28</td>
</tr>
<tr>
<td>Dogs and cats</td>
<td>9,457</td>
<td>9,053</td>
</tr>
<tr>
<td>Other cat. 1 animal corpses (pets, zoo animals, test animals)</td>
<td>47,490</td>
<td>61,382</td>
</tr>
</tbody>
</table>

#### Culled Animals and Material of Category 2

<table>
<thead>
<tr>
<th>NO. OF ANIMALS</th>
<th>2006</th>
<th>2007</th>
</tr>
</thead>
<tbody>
<tr>
<td>Horses and solpeds</td>
<td>161</td>
<td>143</td>
</tr>
<tr>
<td>Cattle (excluding calves/young cattle under 1 year)</td>
<td>88</td>
<td>103</td>
</tr>
<tr>
<td>Calves/young cattle under 1 year</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Pigs (excluding piglets up to 50 kg)</td>
<td>53</td>
<td>223</td>
</tr>
<tr>
<td>Piglets up to 50 kg</td>
<td>15</td>
<td>29</td>
</tr>
<tr>
<td>Sheep/goats (excluding young animals under 1 year)</td>
<td>28</td>
<td>2</td>
</tr>
<tr>
<td>Young animals (lambs and kids) under 1 year</td>
<td>7</td>
<td>0</td>
</tr>
<tr>
<td>Other animals (e.g. wild)</td>
<td>468</td>
<td>370</td>
</tr>
<tr>
<td>Fish</td>
<td>42</td>
<td>13</td>
</tr>
<tr>
<td>Poultry</td>
<td>352</td>
<td>183</td>
</tr>
<tr>
<td>Slaughter waste/confiscations – category 2</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Other (e.g. birds)</td>
<td>2,438</td>
<td>828</td>
</tr>
</tbody>
</table>

#### Material of Category 3

<table>
<thead>
<tr>
<th>WEIGHT KG</th>
<th>2006</th>
<th>2007</th>
</tr>
</thead>
<tbody>
<tr>
<td>Waste from slaughter/butchering operations etc.</td>
<td>3,375,073</td>
<td>3,813,361</td>
</tr>
</tbody>
</table>

#### Total Number of Transactions

<table>
<thead>
<tr>
<th>NO. PER PIECE</th>
<th>2006</th>
<th>2007</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pickups</td>
<td>19,807</td>
<td>17,034</td>
</tr>
<tr>
<td>Receipts</td>
<td>805</td>
<td>779</td>
</tr>
<tr>
<td>Total</td>
<td>20,612</td>
<td>17,813</td>
</tr>
</tbody>
</table>