

Vienna, Austria

City Information

Population: 1,867,582 Inhabitants (City of Vienna, MA 23, 2017)

Area (km²): 41,487 ha / 160 mi² (City of Vienna, MA 23, 2017)

Climate: Köppen Climate Classification: Cfb = Oceanic Climate

Main Economic Activities: commerce and industry

City website:

<https://www.wien.gv.at/english/>

<https://www.wien.gv.at/umwelt/ma48/>



Country Information

Population: 8,795,073 Inhabitants (Statistik Austria, 2017)

Area (km²): 8,858,000 ha / 34,200 mi² (Statistik Austria, 2017)

Economy and GNI/Capita

World Bank Classification: High Income

GNI / Capita: 44,000\$ / Year (World Bank, 2016)

Main Economic Activities

Government Agencies responsible for guidance on waste legislation

Country Level:

Bundesministerium für Nachhaltigkeit und Tourismus (BMNT) – Federal Ministry for Sustainability and Tourism
Umweltbundesamt (UBA) – Environment Agency Austria

City Level:

Municipal Department 22 - Environmental Protection in Vienna (MA 22)

Political Level: Geschäftsgruppe für Umwelt und Wiener Stadtwerke

Wiener Umwelthanwaltschaft – Advocacy of the Environment Vienna

Operational Level: Municipal Department 48- Waste Management, Street Cleaning and Vehicle Fleet (MA 48)

Climate and Clean Air Coalition Municipal Solid Waste Initiative

<http://waste.ccacoalition.org/>

Classification of MSW (Source: Waste Management Act Vienna)

Waste from households or from enterprises that produce waste that is similar to household waste. All recyclables, residual waste and hazardous waste from households and bulky waste from households fall within the term “municipal solid waste”. MSW that was treated but did not change its chemical and physical characteristics severely still falls under the term MSW.



MSW Generation

1.024.407 tons per year; 549kg per capita per year

Collection Coverage and Type

In Vienna, 100% of the waste is formally collected and treated. The residuals of waste incineration are landfilled. Source separation of different waste streams is practiced as follows:

- Bins for residual waste and wastepaper are present in every apartment building and are emptied one to six times per week
- Scrap metal, glass (white and colored separately) and plastic bottles are collected separately at publicly situated collection points (4.363 around the city)
- In areas where the majority of people live in houses with gardens, organic waste is collected separately.
- Hazardous waste from households can either be brought back to the distributor (batteries, electronic waste), to publicly situated collection points (4 around the city, located at big markets) or to recycling centers (16 around the city).

Waste Composition (Waste Management Plan Vienna, 2016)

Residual Waste: 70%

Paper & Cardboard: 16%

Organic waste: 9%

Glass (white and stained): 3.8%

Plastic bottles: 0.8%

Scrap metal: 0.4%

Waste Management Practice (estimated)

59% - Incinerated in waste to energy plant (residual waste)

22% - formal recycling (Paper & cardboard, glass, scrap metal, plastic bottles)

9% - composting (garden waste and green kitchen waste)

8% - sanitary landfill (inert material from construction waste)

2% - anaerobic digestion in biogas plant (food waste)

Recovery Rates by material (estimated)

Paper and Cardboard: 56% recycled

Colored glass: 63% recycled

White glass: 40% recycled

Plastic: 10% recycled

Scrap metal: 77% recycled
Wood: 79% recycled
Garden waste & green kitchen waste: 46% composted
Food waste: 20% energy recovery through anaerobic digestion

Formal Waste Sector

Publically owned and operated

Waste operations in place:

- 4 publically owned and operated waste incineration plants
- 1 publically owned and operated compost plant
- 1 publically owned and operated biogas plant
- 1 publically owned and operated sanitary landfill for residuals of waste incineration

All the residual waste of the city of Vienna is treated in Vienna, no waste is exported for treatment. Recyclable materials are partly exported to recycling facilities in other counties of Austria.

Informal Waste Sector

There is no informal waste sector in the city of Vienna.

Financing of MSW

The municipal solid waste management services are financed through household fees as well as through Extended Producer Responsibility.

Waste Management Challenges

Throughout the past years, Vienna managed several challenges in the waste management sector:

1. The waste management system of Vienna is 100% autonomous. The ALZ (waste logistic center) assures that the waste of the city can be managed locally even if parts of the plants stop working unexpectedly.
2. Organic waste is turned into a valuable product in Vienna. The waste management sector of Vienna manages to turn separately collected garden waste into A+ contact that can even be used in organic farming. The compost as well as the soil produced by the city of Vienna are very popular amongst citizens.
3. By implementing the landfill directive 2009 no waste is landfilled without being treated in Vienna. The landfill that is operated by the city is only used for incineration residuals.

Future challenges:

- meeting the recycling goals for different packaging materials set by the EU; Time frame: 2025

Technical Assistance

compare to CCAC checklist

General description and overview of common practice (Source: National Waste Management Plan, 2017)

Overview of treatment and disposal of MSW in Austria:

41.4% - waste incineration in waste to energy plants (residual waste)

27.1% - formal recycling (paper and cardboard, glass, scrap metal, plastic, organic waste)

22.1% - composting

7.2% - biological treatment of mixed MSW and bulky waste

2.1% - treatment of problematic waste and electronic waste

0.1% - landfilled (inert material)

Waste Generation (per capita/year) (Source: National Waste Management Plan, April 2018)

Total: 4.27 million tons residual waste per year (excluding industrial and construction waste)

485kg residual waste per capita per year (excluding industrial and construction waste)

Collection Coverage

100% of the population of Austria receives a collection service

Number of Landfills/MSW Disposal rate (tons/year) (Source: National Waste Management Plan, 2017)

There are 999 landfills in Austria. It is forbidden to landfill untreated household waste. Only inert material from excavation, construction waste and residuals from incineration are landfilled.

Recycling Rate (Source: National Waste Management Plan, 2017)

Overall Recycling Rate of MSW (excluding waste from excavation and construction waste): 65%

Recycling Rate for different packaging materials:

Paper and Cardboard: 84,9%

Glass: 85,6%

Scrap Metal: 87,2%

Plastic: 33,6%

Wood: 18,1%

Overall Quota: 67,1%

Waste management of Organic fraction (composting, anaerobic digestion) (Source: National Waste Management Plan, April, 2018)

23.4% of green waste and kitchen waste is either composted or anaerobically digested.

Energy Recovery Rate (Source: National Waste Management Plan, April 2018)

41% of the waste produced in Austria is thermally treated in waste to energy plants.

Plans, Strategies, Policies (incl. financial instruments) & National Objectives

City Level

Aimed at improving Waste Management in General

Every six years, a new waste management plan is compiled for the city of Vienna. This means that each six years, the waste management sector of the city is evaluated and strategies for improvement are formulated.

Strategies formulated in Vienna's Waste Management Plan:

- Numerous strategies for waste prevention (highest priority in the waste management hierarchy) including:
 - Re-use of material that does not have to go to waste (48er-Tandler = second hand market of the City of Vienna)
 - Sponsoring of repair businesses & networks
 - Re-selling of vehicles of the waste management that are no longer used
 - Usage of reusable packaging for food and drinks at public events
- Strategies for waste prevention in the building sector:
 - Re-use of used building parts after building dismantling
 - Rehabilitation instead of new construction
- Strategies for waste prevention in the food sector:
 - Passing on of food instead of letting it go to trash
 - Initiates for food waste prevention in the public sector (schools, kindergardens, hospitals)
 - Building up awareness for the value of food
- Promotion and support of eco-friendly events
- Spreading Awareness for sustainable waste management and waste prevention
- Waste prevention in businesses
- Measures in Waste collection
 - Adjustment of collection intervals if needed
 - Increase of collection of separate recyclables by making the collection centers more attractive (easier to reach, providing more fractions at collection point, etc...)
 - Evaluating if containers for recyclables can be placed in certain buildings



Aimed at addressing Climate change and reducing SLCPs through waste related activities

The Viennese Waste Management Plan aims for the lowest rate of climate active emissions possible and furthermore defined the goal to further reduce emissions from the waste collection vehicles until 2024.

Overall, the Viennese Waste Management sector has a positive impact on climate change as it prevents more climate relevant emissions (by providing energy and therefore saving emissions from fossil fuels) than it causes.

Country Level

Aimed at improving Waste Management in General

Starting with different strategies for waste prevention, to more effective collection and treatment of waste, to awareness campaigns and adjustments in the legislation the Austria waste management sector is constantly improving. Measures similar to the ones outlined for Vienna are in place.

All waste streams are treated in the most sustainable and efficient way possible, while collections routes are constantly improved and plant engineering is updated continually.

Aimed at addressing Climate change and reducing SLCPs through waste related activities

The waste management sector is responsible for **4%** of the overall climate relevant emissions in Austria.

Regulations in order to reduce the emission of climate relevant gases from the waste management sector:

- 1995: The regulation for separate collection of organic material comes into place and makes sure that organic material is collected separately and composted in order to reduce emissions
- 2001: The compost regulation regulated the quality of compost produced from organic waste
- 2008: The landfill regulation comes into place – from now on only pre-treated waste with a TOC content below 5% can be landfilled. The methane emissions from landfilled waste have been reduced by 65% between 1990 and 2015.
- The amount of waste that is treated in waste to energy plants has risen and showed a positive effect on the reduction of climate active emissions. It not only prevents methane emissions from landfills, but also replaces emissions from primary energy sources like fossil fuels.

City Level

Legislation governing MSW management

Viennese Waste Management Act

Guidance for MSW management (after legislation, before inspection activities)

Municipal Department 22 - Environmental Protection in Vienna (MA 22)

Inspection activities/supervision and enforcement of legislation

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Geschäftsgruppe für Umwelt und Wiener Stadtwerke

Wiener Umweltschutz – Advocacy of the Environment Vienna

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National Level

Legislation governing MSW management

National Waste Management Act

Guidance for MSW management (after legislation, before inspection activities)

Inspection activities/supervision and enforcement of legislation

Current Projects or Activities Aimed at Reducing SLCP Emissions

Study on climate relevance of the Viennese Waste Management Sector
Numerous projects in the field of waste prevention

Key Stakeholders

Areas of Expertise of the City

- Collection in large cities with complex routes
- Household / community-based collection
- Collection from large waste generators
- Government managed collection service
- Residential segregated collection (six waste streams: paper, glass, metal, plastic bottles, organic material, residual waste and special waste streams like hazardous waste from households, bulky waste from households, etc...)
- Commercial segregated collection (similar model)
- Centralized waste to energy plants (incineration and biogas plant)
- Centralized sanitary landfill and landfill gas collection systems with the use of energy
- Centralized composting of green waste
- Waste prevention and re-use
- Recovery of metal content for recycling from incineration residuals
- Street sweeping service and winter service

Additional Useful Information

<https://www.wien.gv.at/umwelt/ma48/service/publikationen/index.html>

<https://www.bmnt.gv.at/umwelt/abfall-ressourcen/bundes-abfallwirtschaftsplan/BAWP2017-Final.html>

<https://www.wien.gv.at/umwelt/ma48/beratung/umweltschutz/awk.html>

Contacts

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