



LANDFILL SITE RAUTENWEG



StadT  Wien
Wien ist anders.



Having an authorized depositing volume of more than 14 million m³, Rautenweg is Austria's largest landfill site. While in 2006 about 70 % (about 150,000 tons) recycled combustion residues from Viennese incineration plants and in addition about 30 % bulky waste and residual waste from Viennese households were deposited, from 2008 onwards, the year in which Pfaffenau, the new refuse incineration plant is put into service, only recycled residues from Viennese refuse incineration plants are being deposited. All other kinds of refuse, though, which are deposited, i.e. debris from construction work or excavated earth, only constitute a very small amount.

Those areas of the landfill, which are not deposited on, are used for interim storage and treatment. Treatment and storage is only kept for a certain time. These fractions leave the landfill site again. Therefore, during the last couple of years, Rautenweg has become a hub of Vienna's waste management.

The landfill site is situated in Vienna's north, about 10 kilometres from the city centre and is Vienna's only municipal landfill site. The trapezoid-shaped landfill covers an area of 58 ha (143,21 acres) and exists as a landfill site since the 1960s. Originally, the location was used as a gravel pit; on 14 March 1966,

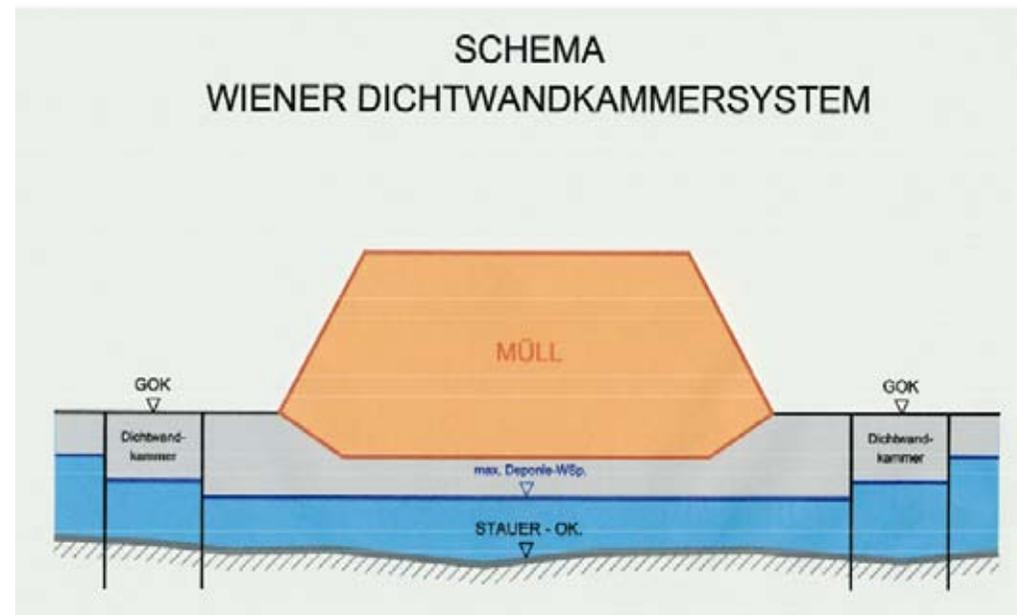
the Water rights authorities approved the use of the area for depositing residual waste.

A Viennese invention: The Viennese chamber system

20 years later, in June 1986, the first spadeful of earth was turned in order to create a milestone in the history of the landfill: the Viennese chamber system which has safeguarded the location's existence.

All along its boundaries, the landfill site has been surrounded by two leak proof walls with a distance from each other of 8 metres. Both leak-proof walls were incorporated in the aquiclude, whereby a separation of the groundwater inside the landfill from the surrounding groundwater system took place.

Since the two leak-proof walls were connected with each other through 49 transversal steel girders, the space between the two leak-proof walls was divided into 49 leak-proof chambers. Each of these chambers is tested for impermeability every year. In addition, the pumping down of water from the landfill area, produces a hydraulic gradient from outside the landfill into the landfill's body. This water is being channelled into the sewer system and cleaned in EbS's (Sewage Plant Simmering) sewage purification plant.





Degasification plant

Decomposition processes in residual waste deposits produce methane, a gas with a high calorific value. It can be used for power production. Therefore, the landfill has a degasification plant which is in use. It consists of 194 gas wells, gas manifolds and gas compressor stations.

The thus gained landfill gas is transferred to a private company in a landfill gas utilisation plant (gas engine modules with a wattage of 659 kW each) in order to produce electricity which is then fed into Wienstrom's (Vienna's number one energy provider) network.

Thus, in the year 2006, 4,000 Viennese households could be supplied with electricity. On the whole, 7.2 million m³ gas could be extracted from the landfill's body in 2006, although a steady decrease of landfill gas production can be observed. The reasons are a decreasing amount of fills of residual waste being deposited.

These measures guarantee that water from the landfill does not reach its surrounding environment uncontrolled. Changes of the groundwater level outside the landfill site caused by the construction of the leak-proof walls, are counterbalanced by a system of

compensating wellheads in the upper current of the ground water and a system of absorption wells in the lower current of the ground water. Thus, natural groundwater currents are being restored.

Plants on the landfill

Since only a very small portion of the area is actually filled, vast parts are used as areas for interim storage or for further treatment.

Temporarily stored are:

Construction waste, bulky waste which has been shredded, timber, winter road sand, baled residual waste (light fraction from the mechanical treatment plant („Splitting-Plant“ – ABA) and waste from street cleaning.

The following plants can be operated on the landfill:

A recycling plant for winter road sand, window devitrification plant, shredding machine for bulky waste, crusher for the residues of construction materials, recycling plant for grit and sand traps, transhipping station for bulky waste, baling machine

Every year on the landfill`s terrain more than 100,000 tons of waste from Vienna are stored temporarily or treated and leave the site again. By the treatment a considerable reduction of the waste which is to be deposited takes place.

All bulky waste which Viennese citizens deliver to the 19 recycling centres, is being shredded on the landfill and then transferred to the waste incineration plants to be burned. Every year, about 30,000 tons of bulky waste are shredded. Construction waste which is temporarily stored at Rautenweg, is being used again as recycled material in the building



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industry. As a rule, this is the construction waste which the Viennese collect, separate and deliver to the recycling centres (about 70,000 tons every year).

For interim storage and processing, an area of more than 30 ha (74,07 acres) is necessary. On a different location, such an area would otherwise have to be developed and sealed first. Consequently, in the sense of land recycling, prophylactic soil protection and a safeguarding of resources, a prophylactic environmental protection is pursued.

The site Rautenweg with its landfill site, in-

terim storage areas and treatment facilities has become a major transshipping point for Vienna's waste management.

The landfill and its wildlife

In the meantime, the landfill site has become home to many animals. The most prominent example is the Pinzgau mountain goat, which in Austria is a highly endangered animal. More than 10 years ago, the goats were released on the landfill site by a veterinary surgeon. They still very much feel at home at the landfill site. By now, they have multiplied: 120 young goats could successfully be

reintegrated in their natural habitat.

Furthermore, Rautenweg has become home to the crested lark (*Galerida cristata*), a strictly protected bird which is significant with high priority according to Vienna's Nature Conservation Act. In the whole municipal area, its habitat is protected.

Rautenweg is both: Austria's largest and most important landfill site and secondly a habitat for endangered animals – Vienna, indeed, is different!



Foto: Felicitas Matern



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