



Drinking Water for Vienna

**City of
Vienna**

Vienna Water



wien.gv.at/wienwasser



Refreshingly Viennese

DIRECTLY FROM THE SPRING

Vienna's water supply is entirely covered by mountain springs – a factor that contributes to the high quality of life in our city. Groundwater is additionally introduced into the network in case of extremely high consumption during hot spells or maintenance work inside the spring water mains.

VIENNA'S WATER IS EFFICIENTLY PROTECTED




Vienna's crystal-clear drinking water reaches the city directly from pristine, untouched Alpine areas. The spring zone of the 1st Vienna Spring Water Main comprises the Schneeberg, Rax and Schneealpe region, while that of the 2nd Vienna Spring Water Main extends across the Hochschwab massif. The protection zones designated to safeguard the purity of these water resources cover an area of 675 square kilometres – more than the municipal territory of the Austrian capital. In these zones, special regulations apply to protect the water resources against contamination. Due to this extensive spring protection, Vienna's water is of outstanding quality.

NO PUMPING STATIONS REQUIRED

The two spring water mains transport the water into the city solely by following the natural gradient, without one single pump. From the endpoints of the mains, the water is distributed across 31 reservoirs and then fed into the pipe network. Moreover, the height differential along the mains is used for power generation.

HOUSEHOLD WATER USE

The average total water consumption of 130 litres per inhabitant and day is composed as follows:

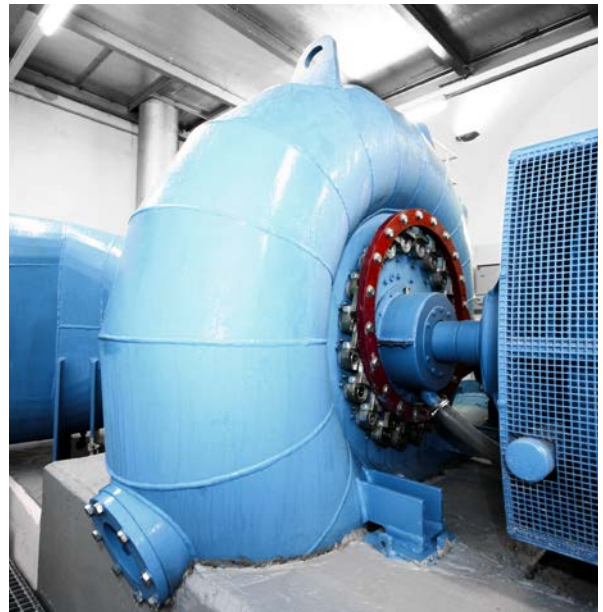
 Showering, bathing: 44 Litres	 Housecleaning: 8 Litres
 Toilet flushing: 40 Litres	 Dishwashers: 6 Litres
 Laundry washing: 15 Litres	 Garden watering: 5 Litres
 Body care: 9 Litres	 Drinking, cooking: 3 Litres

DRINKING WATER POWER STATIONS

Sixteen drinking water power stations operated with mountain spring water generate approx. 65 million kilowatt hours per year. Thirteen of these environmentally friendly power stations are situated along the two spring water mains; three more, in Vienna. The total energy volume produced corresponds to the power requirements of a city of the size of Wiener Neustadt (45,000 inhabitants). The biggest power station is located in Mauer, a suburb of Vienna. Here, the water of the 2nd Spring Water Main drives a Francis turbine and in this way generates approx. three million kilowatt hours of green electricity per year.

FACTS AND FIGURES ABOUT DRINKING WATER

- 💧 Total population of Vienna: **1.9 million**
- 💧 Average daily consumption in Vienna: **390,000 cubic metres**
- 💧 Average water consumption per person (excluding industry and trade): **130 litres per day**
- 💧 Number of reservoirs: **31**
(29 in Vienna, one each in Moosbrunn and Neusiedl am Steinfeld)
- 💧 Capacity of biggest reservoir: **600,000 cubic metres**
- 💧 Total storage capacity of all reservoirs: **1.6 million cubic metres**
- 💧 Water volume delivered by 1st Vienna Spring Water Main: up to **220,000 cubic metres per day**
- 💧 Water volume delivered by 2nd Vienna Spring Water Main: up to **217,000 cubic metres per day**
- 💧 Length of 1st Spring Water Main: **150 km**
Length of 2nd Spring Water Main: **180 km**
- 💧 Water flow time from Alps to Vienna:
1st Spring Water Main: **24 hours**
2nd Spring Water Main: **36 hours**
- 💧 Number of aqueducts: **130**
- 💧 Number of abstraction points in spring zones: **70**
- 💧 Number of drinking water power stations: **16**
- 💧 Power generated with spring water: **65 million kWh per year**
- 💧 Number of drinking water fountains in Vienna: **1,100**
- 💧 Water tariff (including 10% VAT): **Euro 1.92 per 1,000 litres**

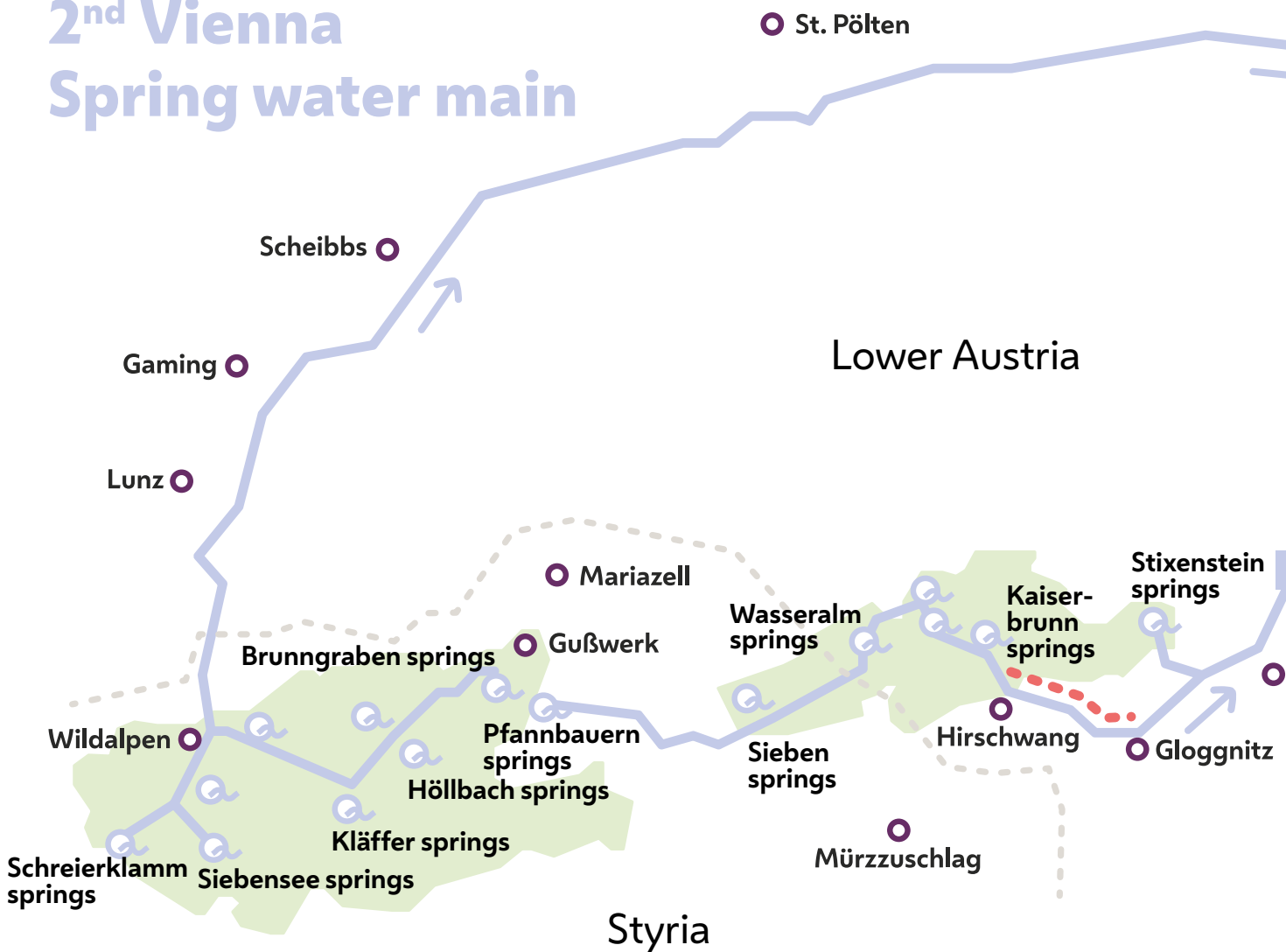


Part of the water transported to Vienna via the 2nd Spring Water Main is used for electricity generation by driving a Francis turbine situated in the Mauer power station.



The path of spring water to Vienna

2nd Vienna Spring water main



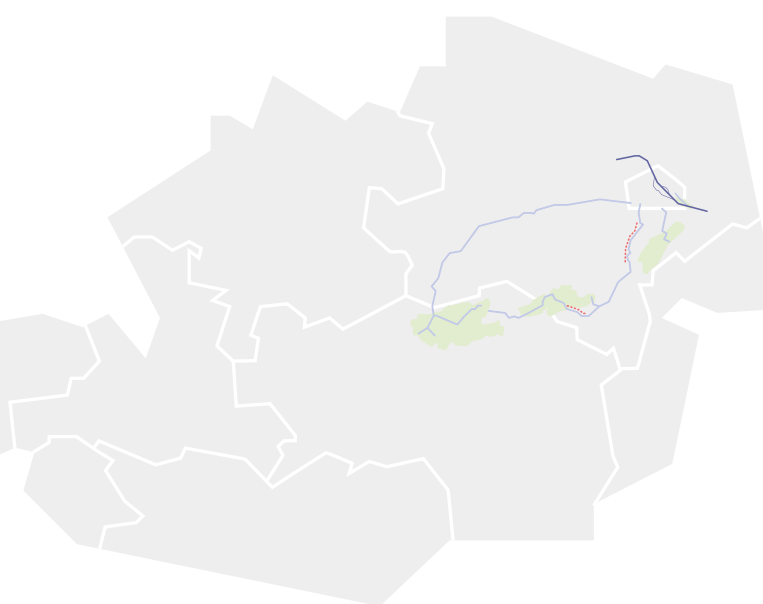
 Spring

 Waterworks

 Reservoir

 Water Main Hiking Path

 Protection and conservation area



1ST VIENNA SPRING WATER MAIN

The water resources of the 1st Spring Water Main rise in the pristine and untouched areas of the Rax, Schneeberg and Schneealpe mountains. From the Pfannbauern Spring, the water travels 150 kilometres to reach Vienna.



Kaiserbrunn spring

2ND VIENNA SPRING WATER MAIN

The springs feeding the 2nd Spring Water Main originate at the Hochschwab foothills. Summer or winter, the temperature of the crystal-clear water gushing forth from the spring never exceeds a maximum of eight degrees Celsius. Arriving in Vienna after a journey of 180 kilometres, it is warmer by one degree Celsius only.

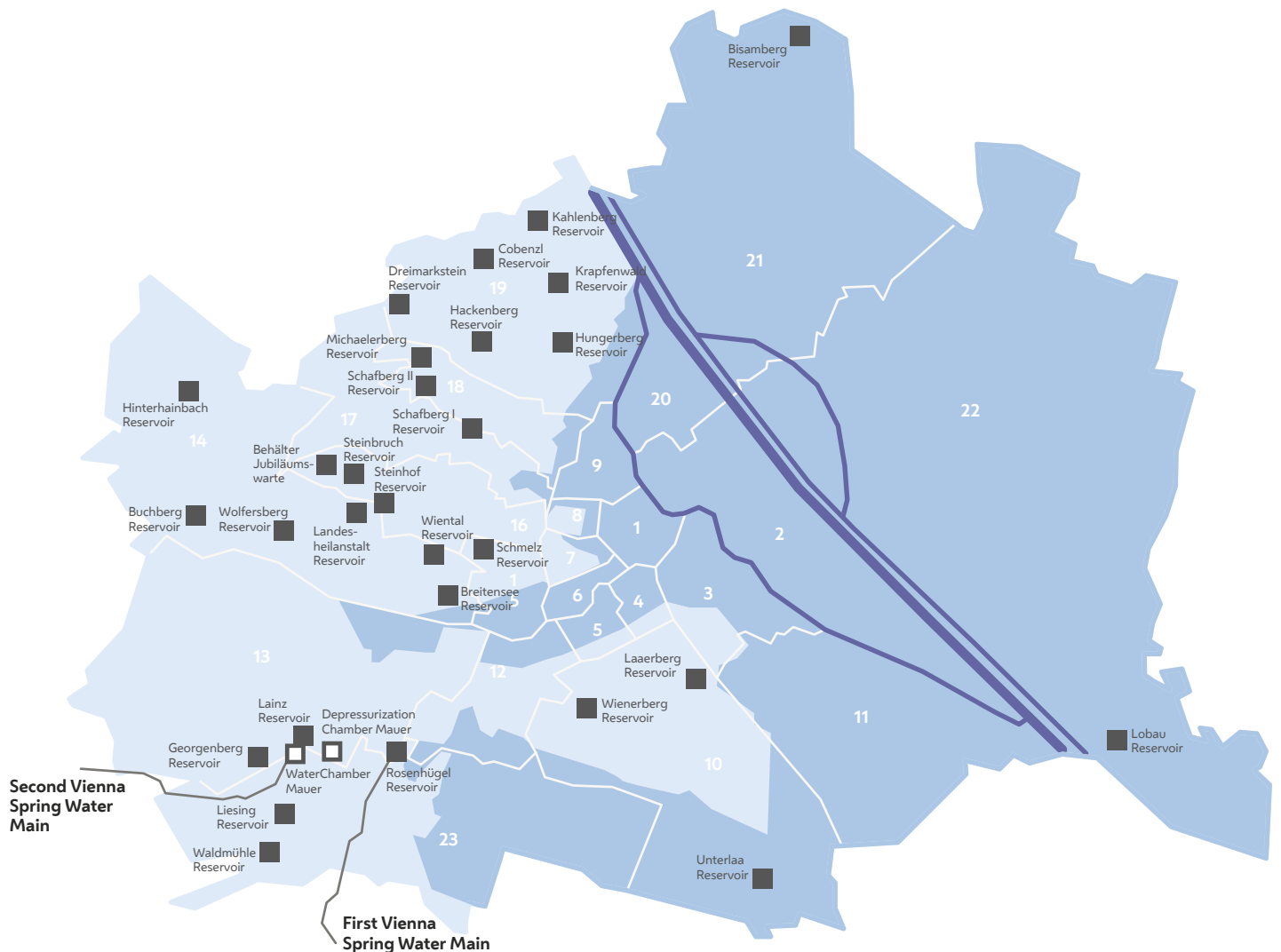


Aqueduct of 2nd Spring Water Main across Salza river

WELLS

The Lobau waterworks with its five wells is situated inside the Danube Wetlands National Park. Water consumption in Vienna may rise markedly during particularly protracted heat waves. In times of increased demand, these wells, together with other waterworks, safeguard the city's water supply. The efficient filtering and purification effect of the soil results in very high water quality.

All districts of Vienna are supplied with spring water



TWO SPRING WATER MAINS FOR ONE CITY

The 1st Spring Water Main supplies the lower-lying districts encircled by the Gürtel ring-road as well as the two districts east of the Danube, whereas the 2nd Spring Water Main supplies the higher-lying areas beyond the Gürtel.

- Water Reservoir
- Facilities

WATER DISTRIBUTION

First Vienna Spring Water Main:

- District 1.–6.
- District 7.–8. east
- District 9.
- District 10. south
- District 11.
- District 12. north and south
- District 15.
- District 17.–19. east
- District 20.–22.
- District 23. east

Second Vienna Spring Water Main:

- District 3. south
- District 4.–5. south
- District 7.–8. west
- District 10. Wienerberg
- District 12.–14.
- District 15. north
- District 16.–19.
- District 23. west



RAPID RELIEF IN CASE OF DAMAGE

On an average, the stand-by repair teams are called ten times per day to remedy defects and leakages. Whenever a defective pipe is discovered in the public network, they are quick to arrive and repair the damage. The experts of the City of Vienna – Vienna Water can be reached around the clock by calling **01 599 59**, no matter whether the problem is a damaged water hydrant or a burst pipe.



NEW TECHNOLOGY, FEWER CONSTRUCTION SITES

In recent years, the technology of water pipe installation has made significant progress. With the new methods, it is possible to lay pipes without digging up the road – for example, by inserting the new pipe through the old one, as shown in the illustration. This leads to fewer excavations, in its turn entailing reduced earthworks, fewer lorry trips, less dust, less noise and lower construction costs.



CONTROL CENTRE

The control centre staff makes sure that sufficient quantities of water flow from the spring zone to Vienna. 29 reservoirs are distributed all over the city. Two more reservoirs are situated outside Vienna's city limits – adjacent to the Moosbrunn waterworks and in Neusiedl am Steinfeld along the 1st Vienna Spring Water Main. These 31 reservoirs are able to store water reserves for a few days.

High quality – Rigorous checks



The staff of Vienna Water aim to supply top-quality spring water for the metropolis.



UNIQUE ON A WORLDWIDE SCALE

No other metropolis of this size is comprehensively supplied with fresh mountain spring water. To safeguard high drinking water quality, water protection zones were established in the spring areas. These are zones where special regulations apply to protect the water resources against contamination.



ONLINE QUALITY MONITORING

Monitoring equipment installed at numerous measuring points along both spring water mains and in the spring protection zone records a variety of quality criteria. From there, the data are transmitted online to the nearest control centre.



BETTER SAFE THAN SORRY

Before being introduced into the pipe network, Vienna's drinking water is disinfected with minimal quantities of chlorine dioxide, a chemical compound of chlorine and oxygen. This safety measure is stipulated by the Municipal Department for Water Rights to ensure satisfactory hygienic conditions, as it prevents microbial contamination of the water. The chemical is added in minimal doses, is absolutely odourless and does not affect the taste of the water.

HYGIENE CHECK

The Hygiene Laboratories of the City of Vienna are there to check whether Vienna's drinking water corresponds to all legal provisions. For this purpose, regular tests are carried out to determine whether the water contains contaminants or whether its physico-chemical composition presents conspicuous changes.



QUALITY CHECKS FOR NEWLY LAID PIPES

If no workers are seen around a construction site, this may be because the pipes in this area are undergoing a hygiene check. Before being taken into operation, new pipes must be flushed and the water examined for compliance with specific quality criteria. While such construction sites are indeed unstaffed, the experts of Vienna Water are yet busy ensuring that local residents will be supplied with top-quality spring water from their house pipe.



Vienna Water landmarks

FAVORITEN WATER TOWER

The Favoriten water tower celebrated its 120th birthday in 2019. Before the 2nd Vienna Spring Water Main was built, the tower supplied the high-lying areas of the 10th and 12th municipal districts with spring water. In 1956, the structure was decommissioned. Today, it is under monument protection and used as an exhibition venue. For information about guided tours and exhibitions, please call **01 599 59** or visit **wasserturm.wien.at**



OLD INSTALLATION CHAMBER

When today's Meiselmarkt shopping mall in the 15th municipal district was still a water reservoir, the valve chamber served as its access route and also contained inlet and outlet pipes as well as shutting-off devices ("valves"). Today, the valve chamber serves as an event venue. Among other architectural elements, the entrance gate and windows were reconstructed on the basis of historical plans.

For information about events:
wien.gv.at/schieberkammer



WATER PLAYGROUND AT FAVORITEN WATER TOWER

This playground is situated atop the reservoir on Wienerberg hill. Two waterfalls and a fun brook offer ample opportunities to splash and cool off. The lake can be crossed with two cable ferries while the mud zone invites youngsters to play with mud and sand to their hearts' content. The water playground is open daily from 9 a.m. (11 a.m. on Fridays) to 9 p.m. from early May to late September. Admission is free. For more information, please visit wien.gv.at/wienwasser



MOBILE DRINKING FOUNTAINS

A transportable, stainless-steel drinking fountain was designed for the 2008 European Soccer Championships to be put up as needed in highly frequented spots. These modern drinking fountains proved very popular and have become a summer staple of Vienna's cityscape. In co-operation with the Municipal Department for Parks and Gardens, Vienna Water moreover maintains around 1,300 permanent drinking fountains in public space.



Water for Vienna – A short history

Men and women working at the construction of the Mödling aqueduct



Vindobona

100–200 A.D. **Vindobona**

Already the ancient Romans had spring water channelled from the area south of today's Vienna to their legionary camp Vindobona.



Well chamber of Hernalds water pipeline

1565 **Hernalds water pipeline**

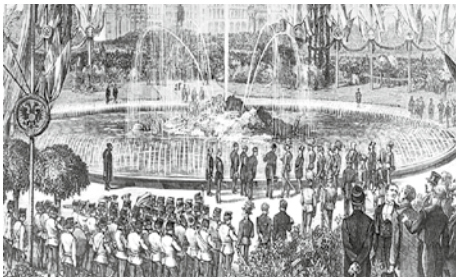
The Hernalds water pipeline transported water from today's 17th municipal district to Hoher Markt square in the city centre.



Duke Albert Water Pipeline

1804 **Duke Albert water pipeline**

The Duke Albert water pipeline led from the village of Hütteldorf to Vienna, supplying four suburbs with fresh spring water.



Inauguration of 1st Vienna Spring Water Main



Inauguration of 2nd Vienna Spring Water Main



Construction of Schneealpe gallery



Pipe-laying work

12 July 1864 **Resolution to build 1st Vienna Spring Water Main**
On the basis of an initiative launched by the geologist Eduard Suess, the City Council decided in favour of this project.

1869–1873 **Construction of 1st Vienna Spring Water Main**

1900–1910 **Construction and inauguration of 2nd Vienna Spring Water Main**
On 2 December 1910, Emperor Francis Joseph I inaugurated the 2nd Vienna Spring Water Main during a solemn ceremony at Vienna City Hall.

1964–1966 **Construction of Lobau waterworks**

1965–1970 **Construction of Schneealpe gallery**
The 9,680-metre Schneealpe gallery was constructed to integrate the Seven Springs in the Karlgraben rift into the water supply system.

2006–2017 **Green electricity campaign**
Since 2006, Vienna Water built three new power stations operated with drinking water. The green electricity campaign will be continued in coming years.

Ongoing **maintenance of all water supply installations (reservoirs, spring water mains, pipe network)**

ON THE TRAIL OF VIENNA WATER

With the free Vienna Water audio guide, it is easy to visit specific sights flexibly and without having to wait in line or to plunge into the world of Vienna Water from the comfort of your home. Learn interesting facts about Vienna's water supply, Vienna's mountain spring water and sights to visit throughout the city. The audio guide is available in German, English and Italian.

How does it work?

Just download the free Hearonymus app to your smartphone, search for the "Vienna Water" keyword and get your guide free of charge (available for iOS and Android or from hearonymus.at).





Vienna Water international

WATER KNOWS NO BORDERS

The natural water cycle does not stop at national borders and comprises far more than drinking water management. Vienna Water meets this comprehensive responsibility for water also by means of cross-border research projects as well as national and international co-operation.

CO-OPERATION OF WATER UTILITIES ALONG THE DANUBE

The International Association of Water Service Companies in the Danube River Catchment Area (IAWD) is an organisation of 30 water and sanitation service providers in the riparian countries. An important task of IAWD lies in safeguarding and improving the water quality of the Danube and its tributaries. The members of the association promote the exchange of know-how as well as capacity building across the water industry. The Danube Water Program is a central project of IAWD. Once every year, a conference of representatives of the urban water sector in the Danube region is organised to exchange ideas and experience. This is complemented by events conducted jointly with partner institutions (IWA, GWP).

IAWD

Grabnergasse 4–6, 1060 Wien
 Email: office@iawd.at
iawd.at



KNOWLEDGE EXCHANGE

The City of Vienna – Vienna Water participates in numerous national and international expert bodies to ensure that the shared knowledge relating to drinking water can be efficiently used and further developed:

ÖVGW – Austrian Association for Gas and Water



The lobby of Austrian water companies develops technical guidelines and organises a wide variety of events. ovgw.at

ON/CEN/ISO – International Committee for Standardization



Development of national and international standards that serve as the basis for the construction and operation of water supply installations. on-norm.at, cen.eu

EUREAU – European Federation of National Associations of Water Services



This body represents the interests of water utilities vis-à-vis the institutions of the European Union. eureau.org

IWA – International Water Association



The worldwide network of water and sanitation professionals organises international and regional events and conferences. iwa-network.org

APE – Aqua Publica Europea



Is the European Association of Public Water Operators. It unites publicly owned water and sanitation services and other stakeholders working to promote public water management at both European and international level. aquapublica.eu



MUSEUMS OF VIENNA WATER

The history of Vienna's water supply is instructively documented by the spring water mains museums in Kaiserbrunn and Wildalpen.

Spring water main museum Kaiserbrunn

Kaiserbrunn 5, 2651 Reichenau an der Rax

Opening hours:

The museum is open from 1 May to early November on Saturdays, Sundays and public holidays from 10 a.m. to 4.30 p.m.

Admission/guided tours:

Admission is free.

Against prior appointment, guided tours for groups of at least 10 persons are available at a cost of € 50.– per group.

Guided tours for family groups cost € 25.– against presentation of the Lower Austrian family pass or family card. Guided tours for public educational establishments (schools, etc.) are free.

For appointments and information:

Phone: 02666 525 48

Email: museum.kbr@ma31.wien.gv.at



Spring water main museum Wildalpen

Säusenbach 14, 8924 Wildalpen

Opening hours:

1 May to 26 October

Mondays-Fridays: 10 a.m. – noon and 1 p.m. to 3 p.m.

Sundays and public holidays: 10 a.m. – noon

Admission/guided tours:

Adults: € 5.–

Schoolchildren from 6 to 15 years: € 2.–

Children under 6 years: free

Guided tours: € 20.– per group

Guided tours for groups of at least ten persons can also be conducted outside the regular opening hours. Prior appointment is required. The guided tour takes approx. 90 minutes.

Please note:

The MountainSpringWater museum zone and the "Water & Forest" exhibition are barrier-free.

For appointments and information:

Phone: 03636 451 318 71

Mobile: 0676 811 832 923

Email: museum.wal@ma31.wien.gv.at

Website: wasserleitungsmuseum.at

WATER CLASSROOM

The Vienna water classroom targets children aged 8 to 14 years (3rd to 8th form). Here, youngsters learn about water in general, our water supply and the history of City of Vienna – Vienna Water. The free visit starts at 9 a.m., ends at 1 p.m. and is followed by a guided tour of the Favoriten water tower.

For an appointment, please call **01 599 59 31007** between 1 and 2 p.m. on regular schooldays:
Stadt Wien – Wiener Wasser, Windtenstraße, 1100 Wien
Email: oeffentlichkeit@ma31.wien.gv.at; wien.gv.at/wienwasser



WATER HIKING TRAIL – EXPERIENCING NATURE

In 1998, the City of Vienna – Vienna Water inaugurated the water main hiking path. The route leads from Kaiserbrunn to Gloggnitz and from Bad Vöslau to Mödling and can be comfortably completed as a two-day hike.

For ordering brochures on Vienna's water supply:
01 599 59 31006 and oeffentlichkeit@ma31.wien.gv.at



I wish you a lot of fun
experiencing, interacting,
learning and finding out!

Mag. Jürgen Czernohorszky

Handwritten signature of Mag. Jürgen Czernohorszky.

Executive City Councillor for
the Environment and Vienna
Public Utilities

City of Vienna – Vienna Water

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