

## **FRESHWATER COUNTRY PROFILE**

### **AUSTRIA**

#### **Decision-Making**

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**Decision Making: Sustainable development.** Since 1992, the following legislation in the area of sustainable development entered into force: Ozone Act; Environmental Assistance Act; Environmental Information Act; Environment Accident Information Regulation; Federal Act on Environmental Impact Assessment and Citizens' Participation; Federal Act on the Establishment of an Environmental Board; Trade Regulation Act; Genetic Engineering Act; Fertilizers Act; Act on Eco-Auditors and Register of Sites; Packaging Regulation. Amendments have been added to the Regional Planning Acts, the Environmental Protection Acts and the Construction Codes of the Laender. Environmental impact assessments are usually used for projects, but not for programmes and policies. In 1994, the Federal Act on Environmental Impact Assessment and Citizens' Involvement (UVP Act) entered into force. The UVP Act calls for active participation of citizens in Environmental Impact Assessments and requires a concise approval procedure to be carried out by the Laender governments for instance in waste treatment plants, power plants, certain industrial plants and skiing areas. The Environment Council consisting of representatives of the political parties, organizations of the Social Partnership, as well as federal, provincial and local governments controls compliance with the UVP Act.

In 1995, Austria adopted its first national environmental plan (NUP). The planning process was supervised by a National Committee chaired by the Minister of Environment, and engaged all relevant actors within administration at the Federal and the provinces (Laender) level, industry and manufacturing, employer's association, unions, the agricultural sector as well as the scientific community and environmental organizations in developing environmental quality goals and corresponding proposals for implementation procedures to comply with these targets along a long-term gradient. The key objective of the National Environmental Plan was to define the necessary structural changes needed to integrate environmental concerns into all political levels of the society. Developing the NUP was a necessary first step designed to intensify the discussion on sustainable development.

In 2002, the Austrian Government adopted the National Strategy for Sustainable Development. Within the strategy framework, the Committee for a Sustainable Austria develops annual work programmes for the Council of Ministers in cooperation with the Austrian Laender (sustainability coordinators) and an expert panel (Forum for a Sustainable Austria). On a regular basis, the Committee exchanges information with the "Austrian Council for Sustainable Development" (ÖRNE), which is responsible for the preparing and coordinating the Austrian position with regard to international activities for sustainable development (e.g. UNCSD).

*Water resource management.* The competence for decision making is allocated in the water divisions of the Ministry of Agriculture, Forestry, Environment and Water Management, and within the administrations of the nine federal "Laender" (states). Expert advice in the administrative system is also available at the Federal Office of Water Management and the Federal Environment Agency (investigations, monitoring, etc.), and in similar institutions at Laender level. The involvement of the interested public, of stakeholders as well as of experts and parties concerned is an important part of the decision making process. The regions may grant to specific purpose associations the same powers as granted to the municipalities; some 500 of such associations exist to provide water and to deal with sewerage treatment or waste management. The federal authorities are responsible for the legislation and execution of water pollution control. Compensation mechanism for conservation and regeneration of natural resources have been introduced based on the principle of true cost under the precautionary and the polluter pays principle.

The Water Act (major amendment in 1990; last major amendment in 2003) aims at an ambitious protection of all waters, surface and groundwater bodies, irrespective of uses. Since 1990, intensive efforts have been directed towards the re-vitalization of Austrian rivers, in order to improve the ecological functioning as required by the Water Act and of the EU Water Framework Directive (WFD). The last major amendment of the Water Act in 2003 transposes the requirements of the EU WFD into national

law. The target of the WFD is e.g. to achieve in 2009 (after an analysis and relevant monitoring work) a 'management plan for river basin districts'. The term 'river' refers in this regard to a surface water body and its basin discharging to the sea.

The territory of Austria is part of three important European river basins: the Danube, the Elbe and the Rhine. Austria is a member of the EU, and thus bound to implement the WFD. Austria limits its polluting discharges via emission ordinances, based on the Water Act and on best available techniques. The Water Act is implemented by the administrative systems of the "Laender". These ordinances thus allow a uniform implementation of the relevant aims of the Water Act in particular for individual discharge permits. These emission ordinances cover urban as well as industrial wastewater. A large number of sector specific ordinances have been issued for industrial discharges (e.g. pulp and paper; metal finishing plants; etc.). The emission ordinances are subject to periodical reviews.

Organizational issues: Water supply, sewerage and wastewater treatment are as yet mainly non-profit community-run enterprises. The main association of experts and professionals in the field of water management (including water pollution control, but not supply) is the Austrian Water and Waste Management Association (OeWAV). In the field of water supply the Austrian Gas and Water Association (OeVGW) is the relevant body. Other bodies (hydrography/hydrology; limnology) also exist. The professionals participating in all these associations' work come from the wide range of all water-related activities, be they private or public.

In all projects Austria follows a participatory approach to create local ownership. Under the Federal Act on Environment Impact Assessment, each project financed by the Austrian Development Agency is subject to an environment impact assessment (EIA).

One of the most innovative projects in Austria is the establishment of a Competence Network "Research - Economy for Water Resources and their economic utilisation" (K-Net Water):

Main goal or principal aim of the competence network is supporting economic partners and building research capacities to exploit water resources in Austria for the economic benefit while at the same time preserving the resources, and to enhance international competitiveness in water sector through the close cooperation of economy and research. For this purpose, major projects are developed, which are supported by enterprises and companies (economy) willing to sponsor research work.

The main Austrian competence network "Water Resources and their Economic Utilization" to-date involves strategically important partners from the neighbouring countries Slovenia, Croatia and Italy. It is, therefore, a well-suited instrument to actively mould researches of European dimension.

The competence network "Water Resources and their Economic Utilization" will bring closer together water technology companies, water supply enterprises and institutions involved in water related researches in Austria and Central and Eastern Europe. This will enable to develop innovative and integrative solutions to problems and ultimately to optimally utilize water resources. The competence network is advantageous in two ways: (1) it enables to regulate the national water market duly in a well-founded manner and (2) it forms the basis for exporting Austrian know-how in the international market.

*Sustainable Forest Management:* Covering over 47% of the federal territory, forests constitute a dominant element of the Austrian natural and cultural environment. They provide a number of highly important economical, ecological and socio-cultural benefits. Due to the high share of mountain areas in Austria, the protective function of forests against natural hazards and their role in balancing the water cycles are of significant importance and a major concern of forest policy and sustainable forest development.

At present the Austrian Forest Dialogue, a continuous, participatory, cross-sectoral dialogue process is carried out in order to engage a broad range of stakeholders in forest policy formulation. The Austrian

Forest Dialogue puts a special focus on issues concerning water, water protection and water management in the context of sustainable forest management.

### **Programmes and Projects:**

A. Integrated Water Resources Development and Management: *Integrated land management*: Environmental aspects of land have increasingly been enforced by behaviour-controlling regulations, like requirements for waste-disposal (especially concerning dangerous wastes) and speed-limits for cars (emission-reduction), but also by plant-related regulations, for instance regulations concerning installation and operation of locally fixed sources of soil-contamination (emission-limitation), etc. The Clean-Up of Contaminated Sites Act, in existence since 1989, forms the legal basis for the surveying, financing and implementation of securing and remediation of contaminated sites in Austria. Environmental aspects of land use have increasingly been enforced by planning-standard specifications: consideration of land-management-issues in the context of local and supra-local space-management and space-related specialized plans, e.g. forest development plan (federal level), plans for dangerous zones and concept for the improvement of the protective function of the forest. A land-political approach for better self precaution by public stock-piling of land by the municipalities is of increasing importance in the light of a lack in building land especially in municipalities close to urban centres and tourist-municipalities. This approach offers broader flexibility and the possibility of punctual intervention. Successful efforts of municipalities on the land-market require exact market-knowledge and entrepreneurial acting on the market. The importance of professionalism has led to a number of different ways of semi-autonomous organization.

B. Water Resources Assessment: A systematic monitoring of water quantity and quality is in place. This system is publicly administered, but it involves also private services (for sampling and analyzing of samples for observing water levels). This programme provides a sound basis for decision-making aiming at maintaining and restoring good quality of waters. This assessment of the quantity and quality resources relied on an Act on Hydrography until 2003 and has been regulated by the Water Act ever since this Act's last amendment. The quantitative view is gained via ~1,300 observation sites for precipitation, via ~760 gauges for water level and ~550 gauges for flow in rivers, and via ~3,050 observation sites for the water level in groundwater bodies. Additionally there are 50 observation sites for natural wells (mainly in the Austrian karst). The qualitative view is gained via ~1,572 sampling sites in ~149 porous groundwater aquifers, via ~237 groundwater sampling sites in the fissured rock or karst, and via ~242 sampling sites in rivers. The holder of a permit monitors wastewater discharges according to the requirements in the permits, in line with the provisions in the emission ordinances, and cross-checked by public administration. See also chapter Information.

C. Protection of Water Resources, Water Quality and Aquatic Ecosystems: The protection of water resources is one of the main objectives of the nature conservation programmes, which have to be approved by the local authorities and population. Particular attention is being paid to the identification of the RAMSAR reserves (Convention on Wetlands of International Importance Especially as Waterfowl Habitats) and biogenetic reserves.

The massive investment into sewerage and wastewater treatment, strongly ongoing since the 1960s, is the key part of a programme to protect all waters. In 2001 86.0 % of the resident population of Austria was linked to public sewers and biological wastewater treatment (WWT) plants. Between 1998 and 2003 5.293 billion Euro were invested in this field (an average of 882.2 million Euro per year). The projections for 2004 amount to 45 million Euro.

The criteria document for issuing environmental awards for tourism companies was passed in October 1996, including environment-friendly laundry detergents, water saving toilets.

“Integrated pest management” was implemented into national law with the “Plant Protection Products Act 1997” in August 1997. According to this Act plant protection products have to be used taking into account the principles of integrated pest management.

In order to cope with the sustainability of agricultural operations the Austrian government introduced in 1995 the “Austrian Program for Sustainable Agriculture” (OePUL). In 2000, the OePUL follow-up programme was started, which considers measures for a sustainable and water-protective agriculture. Through OePUL farmers receive under well-defined conditions, payments for their sustainable agriculture (e.g. limiting the use of fertilizer), co-financed by the EU. In the context of OePUL the condition of the Austrian land was presented, development tendencies were pointed out and preventive measures were suggested. By the end of 2003, a mid-term evaluation of OePUL was finalised, which included scientific studies on the success of the programme. The possibilities of land-protection in Austria shown by the OePUL publications are being used as a scientific basis for agricultural aid-management.

The objectives of the aquatic ecosystem conservation programmes, which have to be approved by the local authorities and population, are the preservation and enhancement of biodiversity and the conservation of habitats, creation of combined biotope systems and preparation of biotope conservation programmes, water protection, biotope mapping and the mapping of endangered animal species. Particular attention is being paid to the identification of the RAMSAR reserves (Convention on Wetlands of International Importance Especially as Waterfowl Habitats), among others.

D. Drinking Water Supply and Sanitation: No further projects or programmes apart from implementation of legal requirements.

E. Water and Sustainable Urban Development: No further projects or programmes apart from implementation of legal requirements.

F. Water for Sustainable Food Production and Rural Development: With the accession of Austria to the European Union the agro-environmental “Austrian Program for Sustainable Agriculture” (OePUL) was established according to EU-Regulation 2078/92, last amendment in 2001 and agreed by the European Commission (C(2002)36). The environmental programme consists of 36 measures. Austrian farmers can select and combine measures in a suitable manner. Main objective of the agri-environmental programme is the reduction of harmful impacts of farming to the environment. The programme promotes agricultural intensification and by doing so the conservation of resources like water, soil, landscape, genetic variety and habitat.

G. Impacts of Climate Change on Water Resources: The Austrian Network Environmental Research has established a “Climate Change” node to interlink Austrian research groups working in this field. Research is conducted at several universities and other institutes and covers a broad field of topics, e. g. evaluation of long-term climate data series, participation in the WMO Global Atmosphere Watch program, monitoring of stratospheric ozone, research about alpine regions (mesoscale weather effects, vegetation changes), glacier research, modeling of forest development in relation to climate change, development of a carbon balance model, etc.

**Status:** *Socio-economic aspects*: Austria recognizes that it is one of the world's richest countries and, remembering the misery brought about by past world wars, it accepts its responsibility in regard to hunger and poverty. However, anxiety is also growing about increasing impoverishment at the domestic level, especially affecting socially underprivileged groups. Some social security benefits require certain minimum periods of employment under the social insurance scheme, which is difficult to obtain for some groups of persons, e.g. mothers with many children, women in agriculture and handicapped persons. The poverty rate in 1998 was 11.1% of the total population, of which 58 % were women.

*Geography:* The Alpine regions comprise 67.1% (56,244 km<sup>2</sup>) of Austria's total land area. 32,850 km<sup>2</sup> of the area is forests; 23,500 km<sup>2</sup> is cultivated land; 8,900 km<sup>2</sup> is pastureland; 9,100 km<sup>2</sup> is high mountains with no significant use, and 6,800 km<sup>2</sup> is water surface and building areas (information from 1993). Major obstacles to sustainable mountain development are caused by local or trans-frontier emissions of air pollutants, excessive game populations, forest pasture, avalanches, local overstraining of the physical region through outdoor sports, large number of second homes, leisure time facilities and development of infrastructure.

By January 1, 1998, 133 suspected contaminated sites had been registered as proven contaminated sites in the inventory, 43 proven contaminated sites are being secured or remedied and 11 proven contaminated sites had been registered in the inventory as "secured" or "remedied". In Austria there is a general trend towards transforming land used for other purposes into forest land.

*Water resources management:* The main objective of water resource management in Austria is an ambitious protection of all waters, irrespective of their uses. This means maintaining or improving the quality of both surface waters and groundwater, preserving or restoring the ecological functioning of water bodies, and - by the same token - protecting human settlements and properties against water hazards.

In the period 1966 to 1971 17% of the monitored river length held an unsatisfactory biological quality status, whereas in 1998 this percentage had fallen to < 3% and in 2001 to < 1%. In 2001 86% of the resident population was linked via sewers to biological wastewater treatment plants >50 population equivalents and the rest had on-site disposal systems. The removal of pollutants (carbon and nutrients) from point source discharges can in general be called 'advanced', as demonstrated by the following averaged removal values for all urban WWT-plants, for 2002: BOD5-removal 95%, COD-removal 87% and P-removal 83%, N-removal 67%. Nutrient removal rose strongly in the last years: P-removal from 64% in 1998 to 83% in 2002, N-removal from 51% in 1998 to 67% in 2002. The coping with diffuse pollution has started, but it still has to be tackled further. Due to the methods for flood prevention in the past, but also due to using Austria's hydropower potential man's impact on the river corridor was strong; the re-shaping of this via the re-vitalizing of degraded river stretches (where possible) is an important ongoing task, but also a task for the future. Due to improved wastewater treatment in Austria, the total level of emissions discharged has declined considerably since the 1970s.

In Austria irrigation is primarily used as supplemental irrigation to compensate for the lack of rainfall during the vegetation period. The main irrigation regions are in the north-eastern where natural precipitation reaches approx. 450 - 700 mm/y (approx. 300 - 450 mm in the vegetation period).

**Capacity-Building, Education, Training and Awareness-Raising:** An intensive programme for post-graduate and advanced professional education and training takes place every year, organized jointly by the Professional Associations and the relevant institutions from universities and research institutes. The training of operators for water supply systems, sewer networks and WWT plants is also well established. Courses are offered on biological sewage treatment. Freshwater campaign is for the sustainable use of water. Advanced training seminars for teachers, especially also for pre-service teacher training, have been introduced on such topics as safe drinking water, sanitation, food, ecosystems, and recycling.

**Information:** The systematic monitoring of water quantity and quality provides a sound basis for decision-making aiming at maintaining and restoring good quality of waters. As part of the federal training and further development of teachers and advisors, courses are offered continuously, concerning the promotion of organic farming, environmental protection at farm level, biological sewage treatment, plants, and environmentally friendly production methods for foodstuffs, among others. For aspects related

to monitoring of water resources, see chapter B. Water Resources Assessment on Programmes and Projects.

The Austrian Minister for Agriculture, Forestry, Environment and Water Management is charged to deliver - at least tri-annually - reports on the status of water protection in Austria (“Gewässerschutzberichte”: provided for 1993, 1996, 1999 and 2002) to the Parliament. These reports are published. Overviews to this monitoring are regularly published.

**Research and Technologies:** Universities mainly undertake research; technologies are developed mainly by the relevant industrial enterprises.

**Financing:** Compensation mechanisms for conservation and regeneration of natural resources have been introduced based on the principle of true cost under the precautionary and the polluter pays principle. The setting-up of the primary infrastructure for water supply, sewerage and wastewater treatment was financed by charges and by public funds, in order to speed up the implementation time. The maintaining of this infrastructure will have to be covered by the charges collected from the beneficiaries utilizing these systems.

A federal environmental funding system was initiated in 1987 and modified in 1993 to support environmental activities. It provides interest payment grants, investment grants and loans for water protection projects in municipalities, pollution control by industry and contaminated site clean up.

For aspects related to investment into sewerage and wastewater treatment, see chapter C. Protection of Water Resources, Water Quality and Aquatic Ecosystems in Programmes and Projects.

**Cooperation:** Austria has ratified and taken the necessary legislative measures for the implementation of agreements such as the ECE Convention on Transboundary Environmental Impact Assessment, the ECE Convention on Transboundary Effects of Industrial Accidents and the ECE Convention on the Protection and Use of Transboundary Waterways and International Lakes. In 1998, Austria ratified the Convention on Cooperation for the Protection and Sustainable Use of the Danube River.

Special emphasis in Austria’s overseas development cooperation is put on drinking water supply and water sector development.

Austria cooperates with other European institutes (in the case of capacity-building for agricultural flora) and has established contacts with the Danube riparian countries. A series of international programmes has been launched for Central and Eastern Europe within the framework of the OECD and with the support of international financing institutions. The most important of these are the Danube River Basin Programme, the Black Sea Programme, the Black Triangle Programme, and the Danube Delta Programme.

Austria is cooperating in the field of water among others within the frame of the EU, the UN-ECE as well as with those countries Austria is sharing the river catchments Danube, Rhine and Elbe. Bilateral and multilateral transboundary water commissions for the protection of transboundary bodies of water and the settlement of water management problems have been established with those neighboring countries with which Austria shares surface waters (Germany; Hungary; Slovak Republic; Slovenia; Switzerland). Austria takes particular interest in international cooperation for the protection of the Danube (as around 97% of its territory are situated within the Danube River Basin), and it holds also a long-lasting interest in the protection of Lake Constance. The “Danube River Protection Convention (DRPC)” was signed in 1994, and it entered into force in 1998. The body in charge with the implementation of the DRPC, the “International Commission for the Protection of the Danube River (ICPDR)”, is located in Vienna. The ICPDR has been charged to be the platform for the implementation of the EU WFD in the basin wide

context of River Danube. Austria also participates in the corresponding platform, which was set up for the implementation of the WFD in the Rhine basin.

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