

## SANITATION COUNTRY PROFILE

### CZECH REPUBLIC

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- B. Solid Wastes
- C. Hazardous Wastes
- D. Radioactive Wastes

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- A. Basic Sanitation
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- B. Solid Wastes
- C. Hazardous Wastes
- D. Radioactive Wastes

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- A. Basic Sanitation
- B. Solid Wastes
- C. Hazardous Wastes
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- A. Basic Sanitation
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- A. Basic Sanitation
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#### Financing

- A. Basic Sanitation
- B. Solid Wastes
- C. Hazardous Wastes
- D. Radioactive Wastes

#### Cooperation

- A. Basic Sanitation
- B. Solid Wastes
- C. Hazardous Wastes
- D. Radioactive Wastes

**Decision-Making:**

A. Basic Sanitation: The Ministry of Health creates the legislative framework for securing the quality of the water supplied from the public drinking water supply. Public Health Act (2000, amended 2003) governing public health protection and the changes to some other associated Acts sets out the conditions for the supply of drinking water and the responsibilities of the suppliers during the inspection of the drinking water. The requirements for the quality of the drinking water fully correspond to the requirements of the WHO. The hygienic requirements for drinking water and the scope and frequency of the inspections of the adherence to the limits for the microbiological, biological, physical and chemical indicators in drinking water are set by governmental Regulation (2001).

The Ministry of Agriculture is the central water regulating authority with regard to the use of water and as such its jurisdiction involves the administration of the main watercourses, the administration of the smaller watercourses and the administration of public water mains and sewers.

The Ministry of the Environment is the central water regulating authority with regard to water protection and as such its jurisdiction involves the protection of the amounts and qualities of the surface and ground water, anti-flood protection, the protection of water sources and protected natural water accumulation areas.

The development and management of the water sources is secured by means of the fulfilment of the principles, which are set out for this area in Water Act (2001, amended 2004). The Water Act establishes the administration of the watercourses and catchment areas, the issuing of permits for the use of surface and ground water and the territorial protection of water sources and the inspection of their states, including economic tools such as surcharges for water use and wastewater discharge and fines for any failure to fulfil the designated responsibilities. The planning and program realisation measures should ensure the implementation of the principles of sustainable development.

The area of drinking water supply for public consumption and the sewerage systems for public use is not covered by the Water Act. This area has been resolved independently by the Water Mains and Sewers Act (2001) and Public Health Act. These three Acts also set out the basic legislative measures from the point of view of the transposition of the requirements of EC legislation in the area of water.

B. Solid Wastes: The waste management has been controlled and regulated by Act on Waste (1991, 1997) since August 1991 (amended in 2001). According to this Acts, for example, the local authorities are more responsible in municipal waste management. The new Act on Waste (2001) came into force in the January 2002 and is fully compatible with EU legislation in waste area. Other relevant legislation includes the following: Decree (2001) on the evaluation of hazardous properties of waste, Decree (2001) on Catalogue of Waste, List of Hazardous Waste and other List relevant to transboundary shipment of Waste (including coloured lists), Decree (2001) on the conditions for using treated sludge on agricultural land, Decree (2001) on details concerning waste management, Decree (2001) on managing PCBs and the Packaging Act (2001), which came into force in January 2002.

C. Hazardous Wastes: The Ministry of the Environment is responsible for the management of toxic chemicals and hazardous wastes. The Ministry of Agriculture is responsible for agenda related to pesticides. The National Institute of Public Health and the Czech Environmental Institute also take part in the decision-making. The Ministry of the Environment is responsible for the laws and regulations dealing with the management of hazardous waste: Act on Waste (2001) is fully compatible with relevant EU directives, EU regulations on the supervision and control of Waste within and out of the European Community, Basel Convention on the Control of Transboundary movement of Hazardous Waste and their Disposal and EU Regulation on Catalogue of Waste and List of Hazardous Waste. The competitive Authority for shipment of Waste is the Ministry of the Environment. In addition, the Act on Waste

includes measures to simplify the administrative regime of the hazardous waste transport and to harmonize the general rules regarding the transport of dangerous substances. The new Act will also ensure that provisions for the transboundary movement of secondary raw materials and wastes comply with EU and OECD standards (red, amber and green lists). The Ministry of the Environment has a close cooperation with The Ministry of Health.

**D. Radioactive Wastes:** The responsibility for decision-making in the area of radioactive wastes is divided between The Ministry of Industry and Trade and The State Office for Nuclear Safety. Sound treatment of radioactive wastes is regulated by the Atomic Act (1997) and the Decree of the State Office for Nuclear Safety (1987) on the provision of nuclear safety in handling radioactive waste.

### **Programmes and Projects:**

**A. Basic Sanitation:** The HEALTH 21 program, a long-term program for the improvement of the state of health of the population of the Czech Republic – health for everybody in the 21<sup>st</sup> century, has been drawn up by the Ministry of Health upon the basis of the WHO Health for All policy framework for the WHO European Region. Two of the many tasks are the reduction of the exposure of the population to the health risks associated with pollution of the water, air and soil by microbial, chemical and other substances and the coordination of activities with the goals designated in the Action Plan for the Health and Environment of the Czech Republic, and securing of good public access to sufficient amounts of drinking water of a satisfactory quality, inter alia through the expansion of the numbers of the population supplied from the public water mains, especially in those areas where the quality of the water in the local wells does not correspond to the hygiene requirements (new connections to the existing water mains or the construction of new water mains for public use) according to the “Water Main Development Plan”.

Since 1993, the quality of the drinking water in the public water mains has been evaluated at 30 selected locations representing ca 40% of the population within the framework of subsystem II (“the Health Consequences and Risks of Polluted Drinking Water”) which is part of the program “Monitoring the State of Health of the Population of the Czech Republic in Relation to the Environment”. This evaluation has been secured by the Ministry of Health upon the basis of Czech Government Decree no. 369/91 and it is only part of the overall system which provides the basis for the evaluation of the detrimental health load which the population is subjected to via the environment (it is not therefore directly designated for the monitoring of the quality of manufactured drinking water within the framework of the entire Czech Republic). From 2005, the quality of the water in the public water mains supplying more than 5000 inhabitants and representing approximately 65% of the overall population of the Czech Republic will be evaluated in three-year cycles according to Article 13 of the EC Drinking Water Analysis Council Directive. The first such evaluated period is from 2002 to 2004.

The Ministry of Health and the National Institute of Public Health are jointly involved in the realization of a pilot project for a supporting program aimed at the removal of lead distribution systems in residential buildings, which is being prepared by the Ministry for Regional Development.

The “Program for the Reduction of the Pollution of Surface Water with Dangerous Detrimental Substances and Highly Dangerous Detrimental Substances” is also of benefit in the improvement of the surface water quality, since the largest problem, especially from the point of view of finances, is the securing of the construction of sewers and sewerage treatment plants in municipalities and towns with 2000 – 5000 equivalent inhabitants and the reconstruction and modernisation of the existing treatment plants within the framework of the designated period up to the end of 2010.

B. Solid Wastes: According to the Act on Waste, the Czech Republic prepared in 2003 a system of Waste Management Plan's (on national, regional and a level of waste producers). The Waste Management Plan of the Czech Republic (its obligatory part) was declared as a Governmental Regulation in June 2003.

C. Hazardous Wastes: No information available.

D. Radioactive Wastes: No information available.

#### **Status:**

A. Basic Sanitation: In 2002, 9.16 million inhabitants in the Czech Republic were supplied with drinking water from the public water mains, i.e. 89.8% of the total number of inhabitants. As such, there has been an increase of 7.4% of the inhabitants supplied with drinking water since 1990. The share of the supplied inhabitants within the individual administrative regions is currently in the range of 74.8% to 99.6%. Approximately 12.7% of the population is permanently supplied from individual sources (home wells). 70% of these wells can be considered to contain water, which constitutes a health risk.

In 2002, 7.89 million people lived in houses with connections to the public sewer system, which represents 77.4% of the overall population of the Czech Republic. Since 1990, the numbers of inhabitants living in houses connected to the public sewer system has risen by 12.3% and the amount of wastewater treated in the Czech Republic has risen by 21% in comparison with 1990 so that in 2002 it amounted to 92.6%. The consumption of drinking water in the Czech Republic has undergone permanent reductions since 1990 (by up to 40%), which has mainly been brought about by the introduction of realistic prices for water and sewerage charges. The specific drinking water consumption invoiced in total for one inhabitant of the Czech Republic in 2002 amounted to 163 l/person/day, while the specific drinking water consumption invoiced for households amounted to 103 l/person/day. These values correspond to the average drinking water consumption in the neighbouring European countries.

The largest problem, especially from the point of view of finances, is the securing of the construction of sewers and sewerage treatment plants in municipalities and towns with 2000 – 5000 equivalent inhabitants and the reconstruction and modernisation of the existing treatment plants within the framework of the designated period up to the end of 2010.

B. Solid Wastes: The total volume of waste has been slightly decreasing, although the waste generation remains relatively high (37,968 mil. t in 2002). The greatest fraction of this amount consists of waste from energy industry, industry and agriculture. The portion of hazardous wastes produced is 6.4% of total waste production in 2002.

There continues to be significant disposal of waste in landfills. This unfavorable state of affairs is partly compensated by the fact that only technically safeguarded landfills are in operation. Percentage of reuse of wastes corresponds to approx. 55% of waste production in 2002. Only a low percentage of the waste produced is incinerated (1% of the total amount of waste).

In 2002 there were 371 landfills in total, 18 composting facilities and 52 facilities for biological decontamination and anaerobic digestion, 53 incinerators for hazardous waste and 3 for municipal waste and 64 installations for recycling, regeneration and sorting of wastes. The total number of landfills has decreased by 72% since 1995 (compared to 1270 landfills in 1995) because the unsatisfactory landfills had to be closed according to the Act on Waste (1991). Thus all this installations are operating under binding condition given in permit for operation.

C. Hazardous Wastes: No information available.

D. Radioactive Wastes: No information available.

**Capacity-Building, Education, Training and Awareness-Raising:**

A. Basic Sanitation: The system of training and educating on the influence of environmental conditions on the population's health is based on the infrastructure consisting of a system of institutions, which by law deal with this topic. They specifically include professional schools and universities with a humanities, natural sciences and technical focuses. In medical schools, they are the departments of preventive medicine, hygiene, or epidemiology. At most schools and departments with technical and natural science focuses, a curriculum of environmental protection is introduced as a standard.

The institutions for postgraduate studies include the Institute of Postgraduate Education in Health Care, National Institute of Public Health, the Medical Institute for Postgraduate Training and the Center for Environmental Affairs of the Charles University.

A number of activities are being implemented on the environment, especially under the patronage of the Ministry of the Environment.

The Ministry of Health announced a National Health Program, which is one of the basic articles of the state's policy in promoting health and health education. Through the Health Promotion Project system, the National Health Program finances activities, some of which are focused on educating health care and non-health care professionals, school children and adolescents, municipality groups and the general public. This education and training, which is now at a level higher than the mere passing of information, takes the form of publishing regional bulletins, monothematic publications and videoprograms and even organizing lectures, courses, work seminars and public events like "Health Days". The most frequent themes are proper nourishment, proper movement activity, protection from adverse effects of addictive substances and the reduction of improper social conduct, stress and physical and chemical environmental factors.

Children and youth education comprises its own chapter. In addition to ecological education, which is contained primarily in natural science subjects and is the focus of elective courses and interest activities, health education is a part of school curricula. The objective of this education is to create and reinforce children's and youth's proper behavior and conduct habits for their entire life. In addition, children's parents are informed and educated through them. The health promotion projects resulted in the experience that in our socio-cultural conditions it is the school and the academic education that are significant articles in influencing municipalities and the entire population. Education for proper behavior and conduct regarding health and environmental protection is gradually being introduced as an organic component of many subjects in elementary and high schools.

B. Solid Wastes: No information available.

C. Hazardous Wastes: No information available.

D. Radioactive Wastes: No information available.

**Information:** The Ministry of the Environment operates the Integrated Environment Information System ([www.env.cz](http://www.env.cz)) that includes also the information on waste management and water management.

The Ministry of Agriculture in collaboration with the Ministry of the Environment operates the monitoring of hazardous substances in agrarian ecosystems and in resulting products of agricultural and food production.

The Ministry of Health operates the National Health Information System, which includes the System of Monitoring the Environmental Impact on Population Health (its basic aim is to assess relationships between the degree of pollution of environmental components and population health).

The individual supply of drinking water (home wells) has been removed from the sphere of influence of Public Health Act in accordance with Article 3 of the EC Directive on the quality of water intended for human consumption. The National Institute of Public Health has published an informative flier called “Your well: the advantages and risks” and a guidebook called “The well as a source of drinking water” for the users of these sources of drinking water. The Institute also provides the relevant information on the internet at [www.szu.cz/voda](http://www.szu.cz/voda).

Results of individual monitoring systems are being presented to public mostly as yearbooks or technical reports. The most important are the Report on the State of the Environment in the Czech Republic, the Czech Health Statistics Yearbook, the Statistical Yearbook on the Environment of the Czech Republic, the Report on the Results of the Follow-up of Hazardous Substances in Agrarian Ecosystems, the Summary Report and Technical Reports of the System of Monitoring the Environmental Impact on Population Health of the Czech Republic, the Report on the State of Drinking Water Supply and on the Quality of the Water Supplied, the Report on the State of Protection of Water Against Pollution, etc.

Informing the public with instructions for intervention to improve public health is part of the health promotion strategy and the task of authorities, organizations, and associations engaged in promoting health and preventing diseases. Different projects to support health focus on the relationship between the environment and way of life.

National Institute of Public Health provides the state-paid health education activity. In its edition and drama program, it has roughly 50 titles of flyers, brochures, posters, and videoprograms annually.

**Research and Technologies:** Support for scientific activity in matters of the environment’s influence on health is purposefully provided by grant agencies, which are established in the ministries, universities, or foundations. The Grant Agency of the Czech Republic provides funds while emphasizing fundamental research. The study of health changes is primarily financed by the Internal Grant Agency of the Ministry of Health. Focused research in agriculture, forestry, the food industry, and water management with regard to the environmental question, is supported by the National Agency for Agricultural Research. Also involved in financing projects is the Grant Agency of Charles University, the University Development Fund, the Internal Grant Agency of the Czech University of Technology (CUT), and others.

The research in the area of water is financially supported from the funds of the Ministry of the Environment and the Ministry of Agriculture, as well from the funds expediently earmarked by the government for the support of research and development. Both resorts have a number of specialist institutes, the activities of which are significant not only for the needs of the resorts, but also for the resolution of the selected water management problems of the Czech Republic.

The research in the area of water mains and sewers is currently oriented towards the monitoring of the quality of the water in long pipe systems in association with the increasing periods of time the water spends in the pipes as a consequence of the falling consumption of drinking water and towards the evaluation of the current state of water treatment, treatment plant reconstruction and the renewal of the distribution network in the Czech Republic.

The T. G. Masaryk Water Management Research Institute provides specialist advisory, methodological, consultation, and coordination support for the state sector in the area of water protection and management upon the basis of targeted research in the area of water management. At the T. G. Masaryk Water Management Research Institute operates the Centre for Waste Management, which plays a very important role in research in waste management. Its role is focused mainly on information and analysis.

The Czech Cleaner Production Centre is a non-governmental, non-profit and independent organization that plays a catalytic and coordinating role in the promotion of cleaner production by providing training, implementing demonstration projects, providing policy advice, providing advice on financing mechanisms and being a source of information.

### **Financing:**

A. Basic Sanitation: Charges are levied on all wastewaters discharged into water courses. The revenues from wastewater charges are part of the State Environmental Fund's budget, and in the last decade it has been increasing. Water management is heavily subsidized from the national budget. Since 1992, constructions of many waste water treatment plants and actions for elimination of floods consequences were supported by the State Environmental Fund, which was established in 1991 as an additional financial resource for environmental protection.

The Ministry of Health ensures the inspection of the fulfilment of the obligations of the entities supplying drinking water via public supply networks and the collection of the data necessary for EC reporting.

B. Solid Wastes: Financing is provided by the private sector and the State Environmental Fund.

C. Hazardous Wastes: Existing economic instruments such as increasing waste disposal charges often encourage hazardous waste producers to establish low-waste technologies. Many waste producers have made necessary investments in environmentally sound management and reached a quality system ISO 14000, EMAS to reduce a production of their waste.

D. Radioactive Wastes: Financing of research and management of radioactive waste is covered through special Nuclear Power Plans and by other waste producers corresponding to the amount of their waste.

### **Cooperation:**

A. Basic Sanitation: External co-operation in the sector of water supply and sewerage systems on the ministerial level is done through transmitting the know-how and information mainly about the organisational structure of given service, its control and legal regulations significant for this sector.

Water supply and sewerage subjects are engaged in active co-operation – from the side of both their owners and their operators in boarder areas. As far as the operators are concerned, the co-operation is given mostly by the fact, that 60% of them are operated with property share of large foreign company based in France, Austria and Germany.

From the owner's point of view, it concerns the transboundary mutual solutions to environmental problems connected with discharging the wastewaters – both the technical and economical co-operation.

The trade in this area gradually grows as well, e.g. North-Moravian Water Supply and Sewerage Systems Company Ostrava supplies the Jastrebí zdroj in Poland with population of 100 000 inhabitants. The co-operation with Germany is being developed (on smaller scale) in Western and North-Western Bohemia.

In the area of research, the co-operation is being realised mainly by the universities, especially by the Institute of Chemical Technology in Prague, T.G. Masaryk Water Research Institute, Brno University of Technology, etc.

B. Solid Wastes: Cooperation in this area takes place through bilateral agreements.

C. Hazardous Wastes: The Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal was signed in 1991 and ratified in 1993. The latest information was provided to the Basel Convention Secretariat in Geneva.

D. Radioactive Wastes: Cooperation in this area takes place through bilateral agreements, IAEA and OECD.

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