

SANITATION COUNTRY PROFILE GERMANY

Decision-Making

The Federal government consists of the Federal Chancellor and the Federal Ministries, the former determining the general policy guidelines. At the federal level the Federal Ministry for Environment, Nature Conservation and Nuclear Safety and the Federal Ministry for Cooperation and Development are – in close cooperation with the Federal Foreign Office - jointly in charge of co-ordinating the Rio follow-up process. On the local level, over 2,000 municipalities, including almost all major cities, have introduced local Agenda 21 processes. In its Basic Law, Germany has enshrined the protection of vital natural resources as a state objective – in terms of responsibility for both present and future generations. The German government's ministries and departments co-operate closely. Integration of development in decision-making has been developed further in recent years: The Ministry for Cooperation and Development is now a member of the Federal Security Council that decides, among other things, on arms exports. In addition, all new German laws will be examined in future in terms of whether they touch upon development policy concerns; this includes their relevance for poverty reduction. For certain fields of sustainable development, special inter-ministerial bodies have been established, examples of which include the national climate protection programme and the national sustainable development strategy. In addition, there is highly developed planning legislation in Germany that also prescribes the rational use of land and soil as well as consideration of nature conservation concerns. In addition, Environmental Impact Assessments (EIA) is required for all projects with particular environmental relevance.

The German government has elaborated a national sustainability strategy in 2002, which then was presented at WSSD. The State Secretaries' Committee for Sustainable Development ("Green Cabinet"), which comprises state secretaries from 10 ministries, was commissioned with the task of developing this strategy. The Green Cabinet is currently working on the first progress report which should be finalized by September 2004. A national Council for Sustainable Development advises the German government and promotes the dialogue within the society on the goals and measures of sustainable development.

Current measures for integrating environmental protection and development policy concerns into other policy areas include: Ecological tax reform started on 1 April 1999, introducing an eco-tax on energy and fuel consumption, the revenue of which is used mainly to decrease social security contributions.

A. Basic Sanitation: The Federal Ministry for the Environment, Nature Conservation and Nuclear Safety deals with basic questions of water resources management as well as with transboundary cooperation in this field. It is responsible, inter alia, for the Federal Water Act and the Wastewater Charges Act. The revenue from wastewater charges is earmarked for measures that prevent water pollution. The Closed Substance Cycle and Waste Management Act introduced the use of sewage sludge and bio-waste as organic fertilizers.

B. Solid and Hazardous Wastes: The objective of the German government's policy on waste is to achieve a recycling-based economy that conserves resources and the environment. The Act for Promoting Closed Substance Cycle Waste Management and Ensuring Environmentally Compatible Waste Disposal entered into force in 1996. According to this Act, the owners or generators of waste are in the first instance responsible for waste avoidance, recovery, and disposal; in order to promote this environmentally sound recycling-based economy, balance sheets for different substances and materials must be drawn up. The Act represents the consistent implementation of the polluter-pays principle in the field of waste. The 1991 Packaging Ordinance ("Verpackungsverordnung") is a prototype for legislation designed to close substance cycles. The Packaging Ordinance generally requires manufacturers and distributors to take back packaging and to re-use it or recycle its constituent materials. Based on this Act, the Federal government has issued a number of statutory ordinances and guidelines as well as voluntary agreements, containing

requirements for waste supervision, transport licenses, specialized waste management companies and associations, waste management concepts, waste-life-cycle analysis and requirements for the disposal and recovery of wastes, e.g. for landfilling of wastes, packaging, end-of life-vehicles, batteries, waste oil, construction and demolition waste, biodegradable wastes, sewage sludge, PCB-wastes and hazardous wastes in general. In addition, the Federal government has issued a waste incineration ordinance based on the Federal Immission Control Act.

The economic agents affected (producers and distributors) have come together to set up a “Dual Disposal System”, which operates alongside the existing public waste disposal arrangements. The Duales System Deutschland GmbH (DSD) organizes the curb side collection of waste packaging directly from private households, the sorting of this waste into material groups, and the recycling of these materials. The levying of charges, on a scale related to the type of packaging material used, is documented by the license label, the “Green Dot” (“Grüner Punkt”), which is printed on products. Since the introduction of the Green Dot System in 1993, more than 20 million tons of used packaging have been brought to recycling and the consumption of packaging per year has been reduced by about 1.3 million tons compared to 1991 levels.

Further progress has been made on the closed loop substance cycle and on product liability. The deposit on drinks cans to be levied from 1 January 2003 will curb the flood of single-use packaging. The Waste Disposal Ordinance, in force since 1 March 2001, stipulates that by 1 June 2005 at the latest, household waste must be sufficiently pre-treated before disposal; thermal and high-performance mechanical/biological processes may be employed for pre-treatment. The Federal government has also adopted a Landfill Ordinance. With a view to encouraging more waste recycling, the Federal government has in addition introduced ordinances on commercial waste from settlements, waste wood and underground stowage of waste, together with amendment of the Waste Oil Ordinance.

C. Radioactive Wastes: The Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (BMU) is primarily responsible for the final disposal of radioactive waste. Waste management steps prior to disposal are the responsibility of the operators (waste producers) under the supervision of the state governments as the regulatory body. The final disposal of radioactive waste is carried out by the Federal Office for Radiation Protection (BfS), a subordinate body of the BMU. The BfS makes use, as a third party, of the German Association for the Construction and Operation of Final Repositories for Waste Substances (Deutsche Gesellschaft zum Bau und Betrieb von Endlagern für Abfallstoffe-DBE) for operating the disposal facilities. Other waste management activities, including interim storage, are carried out by the utilities and on behalf of the utilities by the Society for Nuclear Service (Gesellschaft für Nuklear-Service - GNS). Final disposal of radioactive waste is a national responsibility. Consequently, no radioactive waste has been exported for final disposal elsewhere. The government advocates refraining from exporting radioactive waste to countries in which safe and environmentally sound management of this waste cannot be ensured. The safety standards for the transport of radioactive wastes in Germany are on a par with valid international provisions. No major accidents or failures have occurred in recent years. In order to harmonize national regulations on the transport of radioactive waste within the EU and to achieve a uniformly high standard, the government has transposed corresponding EU guidelines into national law.

Programmes and Projects

A. Basic Sanitation: Level of connection to public wastewater systems has reached the limits of what makes economical sense. Nearly 100% of collected urban sewage is treated. The infrastructure for waste water removal, and refuse disposal is of a high standard in Germany.

The public health tasks comprise supervision of employees in environmental hygiene, among others.

The Environmental and Energy Conservation Programme of the European Recovery Programme (ERP) grants loans at favourable conditions for commercial investment projects aimed at lowering or avoiding pollution. These projects include those related to waste management (avoidance, use, and disposal of waste and measures to clean up pollution from the past) and sewage treatment (water treatment, protection of water resources, avoidance of sewage and hazardous waste transport, purification and treatment of sewage).

Since Rio 1992, Germany has ratified the Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade and has signed the Stockholm Convention on persistent organic pollutants. Germany also hosted the INC 9 of the Rotterdam Convention in October 2002.

B. Solid and Hazardous Wastes: for details see under section *Decision making*

Trade unions and private-sector businesses are playing a growing part in actively shaping integration of ecological and business concerns in waste recovery and disposal, among others.

C. Radioactive Wastes: See under the section on *Cooperation*.

Status

A. Basic Sanitation: A comparative study of environmental pollution caused by private consumption in households over the past 10 years has shown reduction in waste water (-4.5%), while there were slight increases in household waste (around +4%).

The primary sources of land-based marine pollution are industry, agriculture and transport.

B. Solid and Hazardous Wastes: The implementation of the closed substance cycle economy is already bearing first fruits. After growing for decades, the waste volume was nearly constant within the last decade. More and more raw materials are being managed with a life cycle approach. Manufacturers have changed their packing habits and production of packaging materials has decreased in Germany. Secondary packaging has almost disappeared from the market. The amount of private post-consumer packaging recycled has increased to several million tons. Recovery rates are also increasing for other wastes. Recycled paper is the most important material used by the paper industry. At 61%, the rate of the use of recycled paper reached a new peak in 1998. In view of the increasing importance of secondary raw materials, the classification of the basic material is of great importance. Despite these efforts, a certain proportion of waste still remains to be disposed of.

Despite these efforts, a certain proportion of waste still remains to be disposed of. The German government is prescribing uniformly high nationwide standards for both disposal and recovery. These standards are laid down in several ordinances and regulations, e.g. for end-of life-vehicles, batteries, waste oil, construction and demolition waste, bio wastes, and hazardous wastes.

C. Radioactive Wastes: So as to make the decision on a final repository transparent and to enable the public to take part in the decision-making process, the Federal Minister for the Environment, Nature Conservation and Nuclear Safety established a working group on site selection procedures for repositories in 1999. For the first time, the search for a final repository is being based on a sound set of criteria; social groups such as environmental associations, churches and trade unions are being involved in the discussion on a search for a final repository. The working group has presented its first set of findings, which it discussed with the public at a workshop in the autumn of 2001.

In mid-2000, the Federal Ministry for the Environment, Nature Conservation and Nuclear Safety established a project group, partly made up of external experts, to develop a national concept for the disposal of radioactive waste. The national plan for the disposal of radioactive waste, which is in discussion with the federal states concerned, is based on the key parameters of the nuclear phase-out and consists of three main steps:

- establishing the disposal concept, outlining the strategic and conceptual goals;
- taking stock of radioactive waste and disposal facilities and forecasting future developments in the volume of nuclear waste; and
- publishing a concrete disposal plan.

Capacity-Building, Education, Training and Awareness-Raising

Since the late 1980s, the Federal Environment Ministry has, as part of its environment education programmes, funded projects conducted by social actors and lobby groups on the promotion of sustainable consumption and production patterns, with the objective of anchoring the subject matter in large groups of society through measures that enhance general awareness. In addition, a large number of consulting and education projects were implemented to enhance individual players' effectiveness in these areas of activity.

Germany publishes a wide range of informational material on the promotion of sustainable consumption and production patterns. Apart from subject-specific environment reporting, the majority of available information is based on the work of the Federal Statistics Office and the above-mentioned research programmes. The general public also has access to diverse information on a variety of issues and instruments such as life-cycle assessments, product-related eco-labelling and substance databases. Consumer protection agencies (e.g. Stiftung Warentest) are another reliable source of information on this subject.

A. Basic Sanitation: For aspects related to freshwater, see under the *Freshwater Profile*.

B. Solid and Hazardous Wastes:: Since the late 1980s, the Federal Environment Ministry has, as part of its environment education programmes, funded projects conducted by social actors and lobby groups on the promotion of sustainable consumption and production patterns, with the objective of anchoring the subject matter in large groups of society through measures that enhance general awareness. In addition, a large number of consulting and education projects were implemented to enhance individual players' effectiveness in these areas of activity. Various activities are carried out on Federal level, *Länder* level and community level as well as by the private sector and non governmental organisations.

C. Radioactive Wastes: No information available.

Information

A. Basic Sanitation: For aspects related to freshwater, see under the *Freshwater Profile*.

B. Solid and Hazardous Wastes: The focal point of future work is to improve the coherence of existing indicator systems and systems currently under development at the national and international levels. Furthermore, options are to be created for increased aggregation of indicator systems. This includes greater consideration of data and indicator work in industry and at the municipal level. In addition, options for improving the communicability of indicators and indicator systems using modern communication means and media are to be examined. Information can be found e. g. on the websites of the Federal Environment Ministry (www.bmu.de) and the Federal Environment Agency (www.umweltbundesamt.de).

C. Radioactive Wastes: No information available.

Research and Technologies

Research policy in the environmental sector is characterized by an increased focus on socio-ecological research, a sustainable economy and innovations in the field of construction and housing, food, agriculture, mobility and energy.

To improve the transfer of technology to developing countries, the International Centre for Transfer of Environment Technology (ITUT) was established in Leipzig. In addition to this, a special project is under preparation to assist small and medium-sized enterprises with the introduction of environmentally oriented management methods. The ERP Environmental and Energy Conservation Programme grants loans at favourable conditions for commercial investment projects aimed at lowering or avoiding pollution. These projects are related to the following fields: waste management (avoidance, use, and disposal of waste and measures to clean up pollution from the past); sewage treatment (water treatment, protection of water resources, avoidance of sewage and hazardous waste transport, purification and treatment of sewage); clean air measures (avoidance or considerable reduction of emissions, fuel gas purification and the filtering of emissions, as well as the reduction of noise, odours, and vibrations); and energy conservation (conservation and efficient use of energy and investments in the use of renewable energies

A. Basic Sanitation: Research and technology improvement are concentrated at wastewater treatment companies. Special research and technology improvements were brought about by amendments to the EC Directive on the Quality of Water for Human Use and the German Drinking Water Ordinance as well as the EC Urban Wastewater Directive, the German Wastewater Ordinance and the German Wastewater Charges Act.

The European Recovery Programme (ERP) grant loans at favourable conditions for commercial investment projects. The ERP Environmental and Energy Conservation Programme grants loans at favourable conditions for commercial investment projects aimed at lowering or avoiding pollution. These projects are related to sewage treatment (water treatment, protection of water resources, avoidance of sewage and hazardous waste transport, purification and treatment of sewage), among others.

B. Solid and Hazardous Wastes: In Germany, there are quite a number of fairs specializing in environmental technology. Some examples of environmental protection exhibitions to be held in 1998 are: ENTSORGA - International Fair for Recycling and Waste Disposal, Cologne; ENVITEC - International Trade Fair for Environmental Protection and Waste Management Technologies, Düsseldorf; Hanover Fair - International Industrial Fair, including environmental technology; IFAT - International Trade Fair for Wastewater and Waste Disposal, Munich; etc.

The European Recovery Programme (ERP) grant loans at favourable conditions for commercial investment projects. The ERP Environmental and Energy Conservation Programme grants loans at favourable conditions for commercial investment projects aimed at lowering or avoiding pollution. These projects are related to waste management (avoidance, use, and disposal of waste and measures to clean up pollution from the past), among others. : Under the research programme of the Federal Ministry for Education and Research, a number of projects related to waste are carried out.

C. Radioactive Wastes: In connection with the project for the final disposal of heat-generating high-level radioactive waste (HLW) and spent fuel elements in salt formations, studies have been conducted above and below ground to determine the suitability of a site in Gorleben. The investigation is continuing. Until

radioactive wastes can be disposed of in the planned repositories, it is necessary for them to be safely accommodated in suitable interim storage facilities. For this purpose, facilities have been installed at five sites (Ahaus, Gorleben, Emsland, Jülich and Greifswald). These storage facilities are mainly intended for radioactive waste from ongoing operations; the shutdown of nuclear power plants, and from reprocessing spent fuel elements. Shipments to reprocessing facilities in France and the United Kingdom will end in 2005, therefore interim storage facilities for the spent nuclear fuels shall be built at the nuclear power plant sites.

Financing

The Federal government has put together and financed a wide variety of programmes and projects so as to support sustainability initiatives, which have led to innovations in key industries.

A. Basic Sanitation: €7,15billion is invested annually in wastewater disposal in Germany, approx. 70% for the construction and maintenance of sewage systems, and 30% for the construction and operation of wastewater treatment plants. Despite the high connection percentage, an average annual investment of € 6,64 to 7,66 billion will be needed in future. The focal point of this investment will be in rural areas and in upgrading wastewater treatment plants and sewage systems in the new federal states.

B. Solid and Hazardous Wastes: No information available.

C. Radioactive Wastes: The utilities as waste producers are obliged by law to have funds available for the future decommissioning of plants and the final disposal of waste. At present, the funds amount to approximately €35 billion.

Cooperation

In the field of development cooperation, the Federal government has, through its call for and promotion of the HIPC II Initiative that was launched at the G8 Summit in Cologne 1999, through its support of the Clean Development Mechanism (CDM) under the Kyoto Protocol and through public private partnerships, promoted and supported new initiatives providing for additional financial resources for sustainable development in developing countries.

Germany actively contributes to the ongoing discussion on the reform of the UN system. The German government has started to check all its instruments and fields of work under development cooperation as to their relevance for achieving the objectives of sustainable development and to shape them accordingly. Through a number of supraregional and bilateral projects, the Federal Ministry for Economic Cooperation and Development supports developing countries in implementing the Rio Conventions and poverty reduction strategy papers and in enhancing the coherence and synergies between these planning processes through supporting sustainable development strategies. The Federal Republic of Germany belongs (inter alia) to the following regional or sub-regional organizations: Bonn Agreement for Cooperation in Dealing with Pollution of the North Sea by Oil and other Harmful Substances; Council of the Baltic Sea States (CBSS); Council of Europe; European Bank for Reconstruction and Development (EBRD); European Union (EU); Helsinki Commission (HELCOM); North Atlantic Treaty Organisation (NATO); Organisation for Security and Cooperation in Europe (OSCE); OSPAR Commission (OSPAR); UN Economic Commission for Europe (ECE); and Western European Union (WEU).

A. Basic Sanitation: German bilateral development cooperation in the field of freshwater supply includes measures related to sanitation, and the management of wastes and sewage systems. The German Appropriate Technology Exchange (GATE) is a special working unit of the Deutsche Gesellschaft für

Technische Zusammenarbeit (GTZ) operating in the fields of: water supply and sanitation, and other areas. Hygiene education and awareness-raising measures are integral components of all projects and programmes. **Sanitation** is currently gaining importance in urban areas. The challenge is to find appropriate solutions which fulfil minimum hygienic and environmental standards but are at the same time acceptable to operators and users with regard to costs and operational requirements. Germany is also actively promoting and implementing the ecosan approach in development cooperation. The interest in eco-sanitation systems is increasing, mainly due to the increase in comfort and hygiene they offer by now, the lower costs and the additional benefits due to the reduced water consumption, and the increased agricultural productivity and possible energy yields.

The Federal Government provides voluntary direct financial contributions to the "UNEP POPs Club" (more than EUR 162.000 p.a.). In addition, Germany contributed more than EUR 600.000 for organizing INC 4 of the Stockholm Convention and provided another EUR 750.000 for organizing INC-9 of the Rotterdam Convention.

Future cooperation in the field of urban development will continue to focus on, among others, infrastructure, including sanitation and waste management.

B. Solid and Hazardous Wastes: Within its development cooperation, the German government supports a number of technical assistance projects (two at the global level, eight at the country level in Africa) to further the sound management of hazardous wastes. In the framework of the Basel Convention, Germany contributed actively to the development of different guidelines on the environmentally sound management (ESM) of wastes.

C. Radioactive Wastes: The Federal Republic of Germany supports regional and international research projects dealing with the management of radioactive waste, focusing on final disposal in deep geological formations. Germany is a signatory to the Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter (the London Agreement of 1972). As a signatory to the London Agreement, Germany has committed itself to foregoing sea burial of medium and high-level radioactive waste. For years, the German government had been actively urging a ban on the disposal of radioactive waste in the north-east Atlantic. This was achieved at the international meeting of the Oslo-Paris Commission (OSPARC) in September 1992. At the consultative meeting of the signatory states of the London Convention in 1993, the German government voted in favor of extending the ban to all of the earth's seas. The corresponding resolution was adopted with a qualified majority.

The German government shares the concern regarding the disposal practices of some of the former Eastern Bloc countries that have come to light and has supported the elaboration of national plans for the safe management of radioactive waste in those countries. Therefore, the German government is a contracting party of the Joint Convention on the Safety of Spent Fuel Management and the Safety of Radioactive Waste Management, which entered into force in June 2001 and is expecting a great number of countries to join this Convention. It is also participating in endeavours to update and enhance the international transport regulations in the IAEA. Air transport of large quantities of radioactive materials and highly radioactive materials will require the use of highly accident-resistant packaging and is being considered within this context.

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