

SANITATION COUNTRY PROFILE

DENMARK

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Decision-Making: The Danish Government published the set of sustainable development indicators in Denmark in August 2002 prior to the World Summit on Sustainable Development in Johannesburg. The indicators are related to Denmark's "Sustainable Development Strategy: Common Future – Balanced Development". The aim of the Danish sustainable development indicators is to ensure that decision-makers and the interested public can obtain an overall and explicit description of the path to sustainable development. The indicators are updated annually. The process of formulating the indicators included a public consultation phase involving more than 250 major Danish and international NGOs and the broad public. The indicators for sustainable development consist of a set of key indicators that describes developments and results in light of the overall objectives for sustainable development in Denmark. Furthermore there is a detailed, specific set of indicators that describes developments and results for each area of activity compared to the objectives and initiatives of the strategy. The indicators are accessible in a public database: <http://www.mst.dk/indikator/bu/default.asp?sprogid=2>

In 2003 the Danish Government published "The World Summit in Johannesburg and Denmark's National Strategy for Sustainable Development". The publication follows up Denmark's National Strategy for Sustainable Development in the context of the Johannesburg World Summit. The publication reports on areas in which the Danish government would especially like to see progress. These include climate change and renewable energy, international development, trade and environment, bio-diversity, the environment and health, as well as sustainable production and consumption. It is also about partnerships in areas such as water and energy. In 2004 the Danish government is launching an action plan for Denmark's follow-up to the Johannesburg Summit, focusing on cooperation with developing countries within the framework of the Millennium Development Goals and the Johannesburg targets as well as national strategies for poverty reduction and sustainable development.

In addition several NGO-based activities have published strategies and objectives relating to sustainable development. The most important is "Danmarks Deklarationen" from 2001, a result of several public meetings, and a wide co-operation between several Danish NGOs. The declaration contains a wide range of ambitious objectives to give inspiration to the Danish Government and strengthen public participation. In addition the "92 group", a group of 21 Danish environment and development organisations, is working jointly on the follow-up to the UN Conferences on Environment and Development. The 92 group has been a major driving force behind "Danmarks Deklarationen". At the local level several Agenda 21 activities have raised public awareness about sustainable development.

By legislative requirement, municipalities and counties have to prepare strategies for sustainable development (Local Agenda 21 strategies) as an integrated part of their responsibilities for spatial planning. Until now about 83% of the municipalities and counties have published a strategy, and about 9% have reported to the Ministry of Environment that they expect to publish their strategy within a half year.

NGOs occasionally participate in the design of national sustainable development policies. NGOs participate regularly in local environmental impact assessment projects and occasionally in national environmental impact assessment projects. The Danish government has provided financial and technical assistance to support individuals, groups and institutions contributing to sustainable development. It also collaborates with international NGOs and other organizations of Major Groups in national and regional sustainable development programmes.

The national policy on oceans is part of the National Sustainable Development Strategy. The Ministry of the Environment is the focal point for the Convention on Biological Diversity and has the overall responsibility for the conservation and sustainable use of biodiversity. The Ministry of Food, Agriculture and Fisheries is responsible for domesticated biodiversity and fisheries. The County Councils administer

nature conservation as well as spatial planning legislation at the regional level and manage a large number of protected areas. The Municipalities are responsible for spatial planning at the local level.

The Ministry of the Environment is responsible for the overall environmental protection, including: the overall responsibility for the conservation and sustainable use of biodiversity; integrated management and sustainable development of coastal and marine areas; water resource management; the work on indicators of sustainable development and is further developing its internal information system; natural and social sciences; waste management; the promotion of clean technologies; educational activities in the field of the environment; etc.

The Nature Protection Act of 1992 provides a regulatory framework for biodiversity conservation including: provisions on conservation orders; general habitat protection; protection of coastlands; and species protection. Other legislation of particular relevance to biodiversity includes: the Hunting Act; the Forest Act; the Watercourses Act; and the Planning Act. During the last 12 years a considerable efforts have been made by the Government and the county councils to recreate some of the lost natural areas of the past. Lakes; wetlands; meadows; river valleys; and moors have been restored, and straightened watercourses have been given back their natural course. The Government has designated 194 specially protected areas in pursuance of the EC Habitat Directive of 1992 comprising of approx. 1,000,000 ha. (of which 77 percent are marine areas).

A new Forest Act enters into force on 1 October 2004. The new act will provide a framework for promoting near-to-nature forest management, and it will strengthen the possibilities for outdoor recreation in the forests for children and young people. It also holds provisions for the implementation in the forests of the EC Habitat and Protection of Birds Directives and for protection of forest areas of high nature value. As previous forest acts the new act designate most Danish forests as forest reserve land. The legislative framework also provides for reestablishment of forest areas after national windfall disasters (last disaster in December 1999) and comprises also the Nature Conservation Act of 1992; the Hunting and Game Management Act of 1993; the spatial planning legislation; and the agricultural legislation (under the Ministry of Food, Fisheries and Agriculture).

Principles for the assessment of chemical risk and the setting of limit values in/on: drinking water; groundwater; air; and polluted soil, have been laid down in national guidelines based on the Act on Environmental protection. The Danish Environmental Protection Act enforces: substitution of harmful substances with less harmful substances; the principle of best available technology; and the use of cleaner technologies and products based on life-cycle analysis.

When major laws, policies, and so forth, are prepared, stakeholders are normally invited to take seat in a Committee with the task of elaborating a report with recommendations for action. There is also an act concerning equal representation of women and men in public committees.

A. Basic Sanitation: Coordination of water resource management and development at the national level is the responsibility of the Ministry of the Environment and the Environmental Protection Agency (DEPA). Regional and local authorities coordinate at sub-national levels.

The Watercourse Act of 1992 and the Nature Management Act of 1989 encourage actions to improve the condition of streams and lakes.

B. Solid Wastes: The Ministry of the Environment is responsible for the overall framework legislation on waste management but not on the legislation of radioactive waste. The waste is regulated by one framework Statutory Order (the Statutory Order of Waste) in connection with a series of specific Statutory Orders dealing with specific waste streams. In Denmark the responsibility for management of

all waste lies with the local councils, with the exception for the management of radioactive waste and agricultural waste and residues from coal-fired power plants.

It is the responsibility of the municipalities to provide disposal facilities for all solid waste and ensure the necessary incineration capacity. Special arrangements are made for the disposal of: newspapers; magazines; glass; cardboard (from private households in areas with more than 2,000 households); paper; cardboard and plastic transport packaging from trading companies; steel drums from industries; and paper from all public institutions. Special arrangements are made for the management of PVC and impregnated wood from private household; enterprises; and public institutions. Combustible waste suitable for incineration must not be disposed of at landfill sites

C. Hazardous Wastes: The municipalities are responsible for collecting hazardous waste originating from industries and households. In order to ensure environmentally sound handling of hazardous waste and its safe delivery at a destruction facility, each firm that generates hazardous waste must report to the municipality, which is obliged to collect the waste at site. Each municipality is expected to establish its own collection scheme.

Principles for assessment of chemical risk and the setting of limit values in/on: drinking water; groundwater; air; and polluted soil, have been laid down in national guidelines based on the Act on Environmental protection. The Danish Environmental Protection Act enforces: substitution of harmful substances with less harmful substances; the principle of best available technology; and the use of cleaner technologies and products based on life-cycle analysis.

The Danish legislation on export of chemicals follows the Rotterdam Convention on the prior informed consent (PIC) procedures.

D. Radioactive Wastes: Radioactive waste management is taken care of by the Ministry of Interior and Health. Local councils do not manage radioactive wastes.

Programmes and Projects:

A. Basic Sanitation: Denmark has introduced environmental taxes on both households and industries. In order to reduce the discharge of sewage, a tax on wastewater was introduced in 1997.

The Government has taken several steps to protect and improve the quality of freshwater based on the principle that substances likely to pollute shall not be discharged into watercourses, lakes or the sea; or stored in a manner, which may lead to pollution of the water.

A programme of action for improving wastewater treatment in the countryside has been prepared in order to improve the conditions of small streams and lakes. The programme stipulates that municipalities may offer improved treatment to settlements in the countryside through local wastewater treatment in order to meet ambient surface water quality standards.

B. Solid Wastes: The national Waste Strategy 2005-2008 was developed in 2003 and covers initiatives on both hazardous and solid waste for the period 2005-2008. In autumn 2004 the Danish government will launch a new framework scheme promoting the environmental performance of enterprises. The scheme will focus e.g. on waste and framework conditions regarding the organisation of waste handling and treatment. Under the scheme projects implementing the Waste Strategy 2005-2008 can receive funding. Within the former subsidy programme "Programme for cleaner products etc." funding was provided for projects on recycling, cleaner technology, and waste. The Danish Environmental Protection Agency is in charge of the administration of funds for specific projects.

C. Hazardous Wastes: The Government promotes policies and programmes in the areas of management of toxic and other hazardous waste.

In 2003 a new Plan on Pesticides 2004-2009 was adopted by Parliament setting reduction targets for pesticides in the farmland. The plans are follow-ups to plans from 1986 and 2000. The use of pesticides has decreased with respect to the quantity of active substances. And also the treatment frequency has decreased. A tax on pesticides has been imposed and a number of pesticides have been removed from the market since 1994.

See also under Solid Wastes.

Status: *Socio-economic aspects*: Absolute poverty does not exist in Denmark. All inhabitants in Denmark are ensured an adequate standard of living by law, and generally there is an equal distribution of income. According to the latest analysis made by the Government, low-income families in Denmark were numerated as families with an available income of less than half the median income. In 1998, 162,100 persons were in the low-income group, which is equivalent to 3.1 percent of the population. However it is generally not the same persons who constitute the group of low-income each year, as there is also a high level of mobility in this group.

The Danish population is 5.3 million. Almost one fifth of the population is under the age of 16 years. Approximately 15 percent of the population is more than 65 years and the number of people within this age group will increase by approximately 30 percent in the coming 15 years. Average life expectancy was in 2002 74.4 years for men and for 79.2 years for women.

Due to changes in family patterns and growth in the number of elderly people, more single persons are now demanding accommodation. Therefore emphasis has been put on constructing specifically for young and elderly people. 50 percent of dwellings are in private ownership. The average floor space available is 51m² per person. 98 percent of all dwellings have central heating and 94 percent have bathrooms.

Greenland is a geographically separate and well-defined part of the Danish Realm situated in the North Atlantic, covering an area of 2,175,600 square kilometres. The majority of the population is born in Greenland. As of January 1 2000, the total population was 56,124, out of which 49,369 persons were born in Greenland. By and large, the population born in Greenland constitutes the indigenous population of Greenland, sharing a language and culture distinct from the Danish.

Tourism is Denmark's fourth-largest industry. Tourists attach great importance to a sound environment and to the possibility of bathing in clean water.

Topography: During the last 200 years the forest area has increased from only a few percent of the Danish land to its present more than 10 percent. However, Denmark still remains a low forest covered country making the small forest area available subject to considerable interest and pressure from the surrounding society. Much of the forest increase during the past 200 years has taken place on the poor soils and in scarcely populated areas. Forestry has been competing with agriculture. Due to the demand for timber production and the harsh site conditions in many afforestation areas, foreign conifers dominate the new forests. Even on the better forest soils in the eastern parts of the country foreign conifers have increasingly replaced indigenous deciduous species. Consequently, while the area with indigenous deciduous forest tree species has been almost constant during the past more than 100 years, there has been a dramatic expansion in the area with coniferous foreign forest tree species, mainly spruce. These forests have been subject to intensive forest management involving: drainage; monoculture; heavy machinery; ploughing; clear-cutting; and etc., leaving rather limited room for development of forest biodiversity.

However, during the last 10 to 20 years this situation has changed. In addition to timber production the forests are also expected to provide public recreation, and nature and landscape amenity.

Desertification and drought is not an issue in Denmark. The issue of mountain does not apply to the country.

A. Basic Sanitation: 99 percent of the drinking water supplied to consumers is abstracted from groundwater. The basic principle for the drinking water policy is to prevent pollution of the groundwater rather than having to clean polluted water.

An urgent problem concerning groundwater is toxic leaching from waste dumps and old industrial sites. The regional authorities are actively searching for the location of these sites before serious damage is caused. Further, Danish planning rules concentrate activities with the potential for causing pollution in areas where the water resources are the least vulnerable.

B. Solid Wastes: Presently, 65 percent of the waste is recycled. According to the national waste strategy – “Waste Strategy 2005-2008” – the objective for recycling is 65 percent in the year 2008. This means that the objective for recycling has already been achieved.

The guiding principles for the Danish waste policy are: to prevent the loss of resources and environmental impact from waste; to decouple growth in waste production from economic growth; and to ensure the improved cost-effectiveness of environmental policies by improving the quality in waste treatment and by an efficient waste management sector.

The total amount of waste in Denmark in 2001 was 13 million tonnes. The collected waste is managed in four different ways: 26 percent is incinerated in heat and power producing plants; 9 percent ends up on landfills; 64 percent is recycled; and 1 percent is hazardous waste. Primary efforts are directed towards increasing the recyclability of materials and products. Land filling has been given the lowest priority and waste has been redirected from landfills in the central parts of Denmark to large controlled sites in coastal areas. The need for land filling of waste has been reduced by 50 percent since the mid 90's, significantly reducing the need for new landfill sites. For decades, Denmark has employed deposit return scheme, ensuring that the return of beer and soft drink bottles remains at the rate of 99.5 percent. The same bottle can be in circulation scores of times until it is removed and recycled as raw material in the production of new bottles. Recently the deposit-return scheme has been extended to include cans also.

C. Hazardous Wastes: The collection of problem waste from households and companies is well organized. There is at least one collection point in every municipality. Private citizens can also dispose of oil and chemical waste at these collection points. Pharmaceutical waste is to be handed in to dispensing chemists. From these collection points, the waste is sent to one of the municipally-owned receiver stations, where a final sorting is made before shipment to in around 50 percent to “Kommunekemi”, which is under the common ownership of the municipalities, to be destroyed by incineration, neutralization or depositing. Denmark shares its knowledge of the collection and treatment of hazardous waste through consultancy activity with a number of industrial companies, as well as private and public organizations nationally and abroad.

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

The national plans of action for environmental education and green dimension are implemented through the decisions referred to above and through different national school development projects, including those undertaken as a part of the “Nordic Environmental Education” and by the Nordic Council of Ministers on conflicting interests in the use of natural resources. In addition, several innovative initiatives are being carried out locally with the aim of developing education that gives priority to understanding

sustainable development. Cooperation takes place on several levels among NGOs, research centres and ministries, through projects; seminars; coordination meetings; and other mechanisms. In-service training programmes are available for teachers, concerning the nature and methods of environment and development education. Environment and development concerns are part of teacher educational programmes. A portal for environmental education has been developed in a co-operation between the Ministry of the Environment and the Ministry of Education.

A. Basic Sanitation: See under *Information*.

C. Hazardous Wastes: Training has begun for operators in waste treatment plants. By combining environmental, health and safety aspects, operators will be trained to optimise environmental interests in connection with plant operation, while at the same time, taking health and safety aspects into account.

Information: The Ministry of the Environment coordinates the preparation of the national indicators of sustainable development. The ministry further develops its internal information system (for indicators see under *Decision-Making*).

In 2001 the Ministry of the Environment published a technical report on Environmental Factors and Health. The report describes the relationship between environment and health, encompassing the areas: air; soil; drinking water; bathing water; swimming pools; chemicals; waste; wastewater; and noise. The technical report is available in Danish, English and Russian. In 2003 the Danish Government published a national strategy and action plan for Environment and Health factors “The Environment and Health are Interrelated – Strategy and action plan to protect the health of the public against environmental factors”.

Denmark publishes continuously environmental data and statistics. Statistics Denmark is, to a large extent, fed with data provided by the Ministry of the Environment. The main sources of information on sustainable development are data provided by regional and local authorities and industry. Computer networks, providing access to international information systems are available for the public and private sectors. The main users of sustainable development information are decision-makers at all levels and in all sectors. Danish data collection related to sustainable development is a full-fledged system, which is continually being expanded and revised to account for any shift in needs and circumstances, and it covers virtually every aspect of life in a complex, industrial society. Denmark also has access to international information systems. A comprehensive inventory of databases, relevant to sustainable development, was first carried out in 1994.

The general public has access to environmental data also on the website of the Danish Environmental Protection Agency (<http://www.mst.dk/homepage>). This includes environment and health related data, e.g. the quality of bathing water and national waste water treatment. The data can be downloaded from the website free of charge. Furthermore the Danish Environmental Protection Agency publishes a series of Environmental Essays (“Miljø-Tema”, mostly in Danish) introducing into current environmental issues, latest on “Roads to healthier traffic”, environmental economics in practice, and adaptation to climate change (2004).

A. Solid Wastes: The Danish Environmental Protection Agency publishes waste statistics annually.

B. Hazardous Wastes: See under Solid Wastes.

Research and Technologies:

A. Basic Sanitation: The total capacity for wastewater treatment is 12.6 million PE at public wastewater treatment plants. All urban sewage is treated.

From 1997-2003 the Government supported economically the development of ecological wastewater systems. This means locally decentralized wastewater solutions with low cost and with low energy consumption, like constructed wetland, urine separating toilet systems, local composting systems etc. Guidelines for some ecological wastewater systems were developed.

B. Solid Wastes: In autumn 2004 the Danish government will launch a new framework scheme promoting the environmental performance of enterprises. The scheme will focus e.g. on waste and framework conditions regarding the organisation of waste handling and treatment. Under the scheme projects implementing the Waste Strategy 2005-2008 can receive funding.

C. Hazardous Wastes: See under Solid Wastes.

Financing: Denmark has introduced environmental taxes on both households and industries. Taxable substances or materials are: CO₂; SO₂; mineral phosphates in feed to animals; energy; pesticides; waste; wastewater; chlorinated solvents; Nickel-Cadmium batteries; PVC; raw materials; drinking water; green owner charge for cars; packaging; disposable items; and shopping bags. In 1994, an environment tax on drinking water for household use was introduced in order to encourage conservation. In order to reduce the discharge of sewage, a tax on wastewater was introduced in 1997. The revenue from environmental taxes constitutes approximately five percent of GDP and approximately 10 percent of the total tax revenue.

A. Basic Sanitation: In 1996, the Parliament adopted a tax on wastewater for discharges of nitrogen, phosphorous and organic substances. This tax entered into force 1 January 1997. In accordance with the Action Plan for the Aquatic Environment, in the period 1987-1995 US\$ 1.2 billion were invested for municipal treatment plants.

C. Hazardous Wastes: As an instrument to try to avoid illegal dumping of hazardous waste Denmark has no tax on hazardous waste. But the producer has to pay a treatment fee corresponding to the treatment costs.

B. Solid Wastes: Apart from such traditional control measures as legislation and regulations Denmark has made use of a number of economic instruments within the field of waste management, including: a general waste tax was introduced in 1987. In 2004 the tax was DKK 330 per ton of waste for incineration; DKK 375 per ton of waste for disposal on landfills; and tax exempt on recycling. In addition, there is a levy on certain forms of packaging. All household waste removal is fully paid for by the consumer through waste fees.

Development Cooperation: Sustainable Development is a cornerstone in Danish policy. The principles of sustainable development cut through most policy areas, including development assistance. A number of international agreements have called for national strategies, plans and programmes in cross-sectoral and sectoral areas. Attempts to review and coordinate the totality of these requests, and their interrelationships with regard to sustainable development are undertaken by both the Ministry of Foreign Affairs and the Ministry for the Environment.

Poverty alleviation is the overall objective of Danish support to the developing countries. In order to ensure maximum impact and sustainability of Danish aid the Government re-prioritised its development assistance in 2003 by strengthening the focus in five areas: Human rights, democratization and good governance; Stability, security and the fight against corruption; Refugees, humanitarian assistance and regions of origin; Environment and Social and economic development. Assistance is delivered in response to national priorities and plans for reducing poverty, partnership being the fundamental principle of Danish development cooperation.

Denmark is politically committed to support reaching the Millennium Development Goals by 2015 and the targets set at the Johannesburg World Summit on Sustainable Development. Achievement of these goals will make a significant contribution to worldwide poverty reduction, economic growth and sustainable development.

In 2003 the Danish Official Development Assistance (ODA) totalled 1.747 billion USD, corresponding to 0.84 per cent of GDP. In 2004 the Danish assistance for the environment will total app. 245 billion DKK (approximately 408 million USD)

Meeting the targets on water and sanitation in particular the 2005 target on developing Integrated Water Resources Management and water efficiency plans are integrated as objectives in Danish ODA-policy. Danish bilateral ODA to water, sanitation and integrated water resources management in 2003 totalled 82 million USD. To this should be added support to a growing number of innovative regional initiatives with the aim of strengthening transboundary water governance and preventing conflicts emerging from competition for scarce water resources. Furthermore, Denmark provides support for water and sanitation sector development programmes implemented by multilateral organisations.

With regard to progress on the Millennium Development Goals and the Johannesburg targets marked regional differences can be discerned. Africa, and in particular Sub-Saharan Africa, is progressing with very low speed. Danish development assistance to the water and sanitation sector is defined to address this trend.

In addition to the Danish assistance to the developing countries, Denmark has since the fall of the Berlin wall supported the water and sanitation sector in Central and Eastern Europe. Danish assistance includes more than 400 projects with the majority being investment projects, totalling approximately 200 million Euro

Denmark's development cooperation within Water and Sanitation is described in a publication presented at the CSD 13. The publication describes the Danish contributions to developing countries to meet the targets on water and sanitation in the Millennium Development Declaration and the Johannesburg Summit on Sustainable Development. The themes described in the publication include the main constraints and obstacles identified to reach the goals: Water Governance, Integrated Water Resource Management, Partnership and cooperation, Financing and Capacity Building. The publication can be downloaded at the following address:

<http://danida.netboghandel.dk/publ.asp?page=publ&objno=250000155>

As a member of the European Union, Denmark is contributing to the EU development assistance and assistance to neighbouring countries. The Africa-EU Strategic Partnership on Water Affairs and Sanitation, in which Denmark has played a significant facilitating role, is of special importance to assist Africa. Denmark has played a similar role in the Eastern Europe, Central Asia and Caucasus (ECCA) component. Together with the EU, Denmark is furthermore promoting the work on sustainable production and consumption. Denmark is also within the EU working on the update and follow up to the sustainable development strategy.