Czech Republic
National Reporting for CSD-18/19
Thematic profile: Waste management

1. Prevention and minimization and environmentally sound management of hazardous wastes

a) Policy measures for the prevention and minimization of hazardous wastes

Qualitative and quantitative objectives of the waste management in the Czech Republic till 2013 are defined by the Waste Management Plan of the Czech Republic, and by waste management plans of the individual regions, based thereon (Government Order No. 197/2003 Coll., the Waste Management Plan of the Czech Republic for 2003-2013). Its implementation is reviewed annually by means of an Assessment Report, published on the Ministry of the Environment website. Regional waste management plans and the waste management plans of waste producers in the entire country have to comply with this Plan.

Basic legal regulations consist in *the Act. No. 185/2001 Coll., on waste and amendment of certain other acts* implemented in *the Decree No. 376/2001 Coll., on evaluation of hazardous properties of waste*, as amended by *the Decree No. 502/2004 Coll., Decree No. 381/2001 Coll., Waste Catalogue*, as amended by *the Decree No. 503/2004 Coll., Decree No. 384/2001 Coll., on handling of PCBs.*

The current Act no. 185/2001 Coll. (Waste Act) emphasises waste prevention, defines the hierarchy of waste handling, and promotes the fundamental principles of environmental and health protection in waste handling.

b) Transfer of environmentally sound technologies and know-how on clean technologies and low-waste production

Clean technologies have been applied in the Czech Republic since 1992 by realisation of first pilot projects. Local experts were trained in the Czech-Norwegian programme of clean production assisted by the World Environmental Centre. The international programme of UNIDO/UNEP supported National centres of cleaner production (till 1999) and contributed to the clean production in the Czech Republic. Nevertheless, there is still a capacity. For example the System of Energy Management by Payments from Saving (EMPRESS programme) or Complex Evaluation of Possible Innovation Sustainable Consumption and Production in Enterprises were born as well as the Corporate Social Responsibility – CSR - for small and medium enterprises.

The Czech Republic is involved in projects PREPARE (Preventive Environmental Protection Approaches in Europe) and ACT CLEAN (Access to Technology and Know-how in Cleaner Production in Central Europe).

In the Czech Republic, there is a centre for evaluation of technologies[1] - the Research Institute of Building Materials (VUSTAH - http://www.vustah.cz/en/), and a Czech development and production organisation - the Technology Centre AS ČR (mainly transfer of technologies, http://www.tc.cz/home_/?PHPSESSID=dcea8c9ad4b55bf5d30555aab509393d).

[1] Agenda 21, 20.13

c) Initiatives to treat, recycle, reuse and dispose of wastes at the source of generation and regulatory mechanisms (Polluter-pays principle)

Policy principles of the Enhance Closed-Loop Materials Management and the Value Recovery[2] by setting landfill taxes and ban on certain types of waste (Waste Management Plan of the Czech Republic for 2003-2013) are applied. It means the mandatory recycling, an extended producer responsibility (Waste Act), which is in turn based on the Polluter-Pays Principle[3]. There are "take-back" requirements for End-of-Life Vehicles (with necessary recovery targets for plastic and metal parts) for Electric and Electronic Equipments (refrigerator with CFCs are the most problematic, TV sets with amount of P and Pb, florescent tube containing Hg) and for portable accumulators (industrials and cars accumulators are well exploitable at the source of generation). We used the voluntary agreement on packaging for several past years but nowadays a mandatory agreement based on the Packaging Act is applied because of its better efficiency. The policy instrument of the voluntary agreement on take-back of portable accumulators (and Waste Electric and Electronic Equipments) at the national level – collective systems - is still used.

d) Procedures for environmental impact assessment, taking into account the cradle-to-grave approach

The Environmental Impact Assessment (EIA) process was implemented into the Czech Republic's legal system on 1 July 1992, upon the entry into force of *the Czech National Council Act No. 244/1992 Coll., on environmental impact assessment*. The process constituted both an important element in the system of preventive environmental protection instruments and, simultaneously, a significant component of environmental policy. The objects of compulsory assessment consist of plans (projects) for construction, activities and technologies listed in *the Annex No. 1 of the Act No. 100/2001 Coll., as amended*. The Ministry of the Environment, in accordance with the provisions of Article 21 and the regional authority in accord with the provisions of Section 22 of this Act, provide for assessment of these plans (projects). The results of the process are employed as a professional basis for subsequent decision-making processes on the issuance of a permit for the plans (projects). Objects of compulsory assessment also include plans (strategies) listed in Section 10(a) of the above Act and Land-Use Planning Documentation, the assessment of which is carried out in accordance with the provision of Section 10(i) of the Building Act.

e) Recovery, reuse and recycling of hazardous wastes and their transformation into useful material

The share of the treated hazardous waste in recovery operation over the past years is as follows: 36.1 % of hazardous waste in 2005; 40.7 % in 2006 and 38.8 % in 2007 (hazardous characteristic is removed from the rest of waste and after that it is treated as non-hazardous waste). From the amount of recovered hazardous waste, high part was recycled 32.3% in 2005; 36.3% in 2006 and 35.2% in 2007 respectively (the rest goes for energy use).

The Czech Republic has the system of take-back electric and electronic equipments (WEEE EPR) including portable accumulators, which can be sorted and recycled for exploiting contained chemical elements (without positive buying up unlike industrials and

[2] OECD Policy Principles for Sustainable Materials Management, ENV/EPOC/WGWPR(2009)2, p. 22
[3] ibid, p. 51

cars accumulators processing at the source of generation). End-of-life vehicles are recycled almost as a whole (the buying up is mandatory) after disposal of dangerous liquids and air-backs.

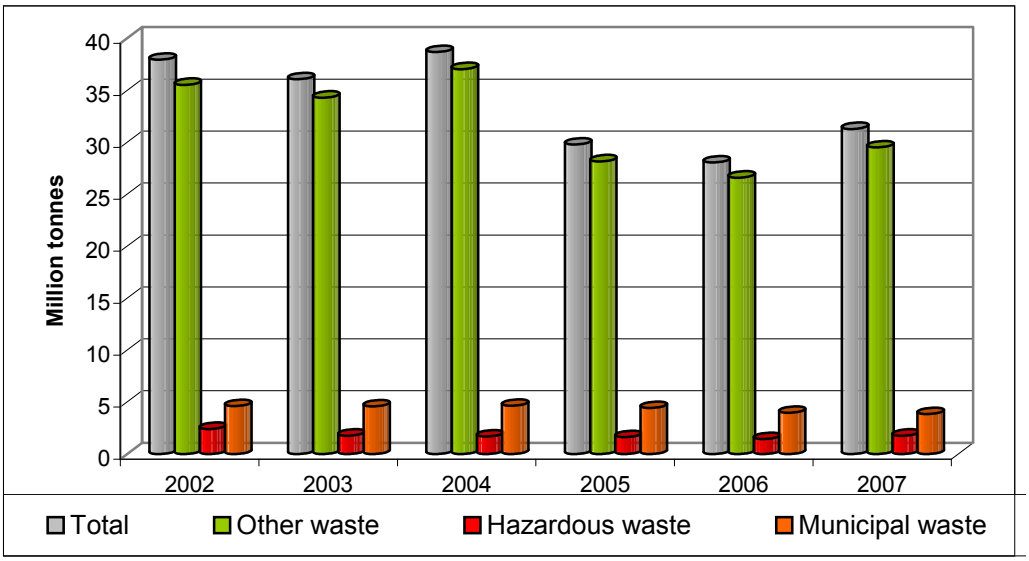
f) Phase-out of toxic, persistent and bio-accumulative waste

Toxic, persistent and bio-accumulative waste is mainly incinerated. There are special enterprises, which are authorized for safe disposal of this type of waste. The generator must report the type and amount of waste produced annually.

g) Environmentally sound waste disposal and treatment

The Czech Republic produces approximately 35 million tonnes of waste per year. 69 % of waste is recovered (66 % recycling, 10 % for fuel, 17% is pre-prepared) and only 25 % produced waste is disposed of (dumping 81 %; physical-chemical preparation 11%). There is an increasing amount of recycled waste (paper 96 %, glass 68 %, metal 54 %, plastic 52 %) and saving raw materials connected with development of technology and information in the waste management, development and modification of industry.

Development of waste generation in 2002 - 2007



h) Inventories of hazardous waste production, their treatment/disposal, and contaminated sites

The generator of hazardous waste has to report production of waste when it exceeds 50 kg. Reporting is sent to the municipality, once a year in the same extent that is in transit entry for hazardous waste. Waste can be also solidified, vitrificated, incinerated or deposited in hazardous waste dumps.

The generation of hazardous waste in the Czech Republic amounted to 1626 ($x10^3$ tonnes), i.e. 5.5 % from general waste production in 2005; 1455 (5.2 %) in 2006 and 1773 (5.7 %) in 2007. From this amount, the following share was disposed of: 5.9 % in 2005; 5.5 % in 2006 and 3.9 % in 2007 and incinerated 2.8 % in 2005; 3.8 % in 2006 and 3.5 % in 2007.

CENIA (the Czech Environmental Information Agency) runs evidence of contamined sites and 5-year programme of the inventarization of these sites as well.

i) Establishment of combined treatment/disposal facilities for hazardous wastes in small- and medium-sized industries

All establishments are small- and medium-sized industries in accordance with a definition of the EU. Other facilities for treatment of waste arise in almost all dumps (sorting lines, biodegradable surface, compost, solidification and stabilization lines, etc.) Everything is situated for maximize utilization of the locality charge by activities of waste treatment and for construction facilities for complex waste treatment.

j) Dissemination of scientific and technical information dealing with various health and environmental aspects of hazardous wastes

In the Czech Republic, there are centres for education and information about environmentally sound technologies[4], e.g. the Centre for Waste Management (CWM - http://ceho.vuv.cz/CWM.html) under the Water Research Institute T. G. Masaryk (WRIM), Public Research Institution. There is a database of the Best Available Technologies on the field of the waste recovery and disposal facilities, which is regularly updated. A large number of research activities (around the waste management) is run by the CWM. The CENIA - http://www.cenia.cz/__C1257257003305C2.nsf/index.html) provides information on the environment enabling the public to get a comprehensive view of the condition and sustainability of the environment. There is also a national collection and dissemination centre - the Czech Statistical Office (CSO - http://www.czso.cz/eng/redakce.nsf/i/home).

k) Preventing illegal international traffic in hazardous wastes

The legal base for the shipment of waste consists in the Regulation (EC) No. 1013/2006 on shipments of waste as amended; the Regulation (EC) No. 1418/2007 on the export for recovery of certain waste listed in Annex III or IIIA to the Regulation (EC) No. 1013/2006 to certain countries to which the OECD Decision on the control of transboundary movements of wastes does not apply; the Waste Act No. 185/2001 Coll. and the Decrees No. 381/2001 Coll. as amended and No. 374/2008 Coll.

The implementation of these rules in the Czech law system is ensured and contributes to the decrease of international hazardous waste traffic to minimum[5]. We prevent the illegal shipment mainly by controls – the Czech Inspection of Environment[6] can make an inspection in the source of waste production, whereas the Customs Office makes an inspection during waste transport. We cooperate with neighbouring countries in the field of controls, coordination of common procedure, inspectors' education and training.

2. Environmentally sound management of solid (non-hazardous) wastes and sewage, in the context of integrated planning and management of land resources:

a) Policies aimed at waste prevention and minimization, reuse and recycling

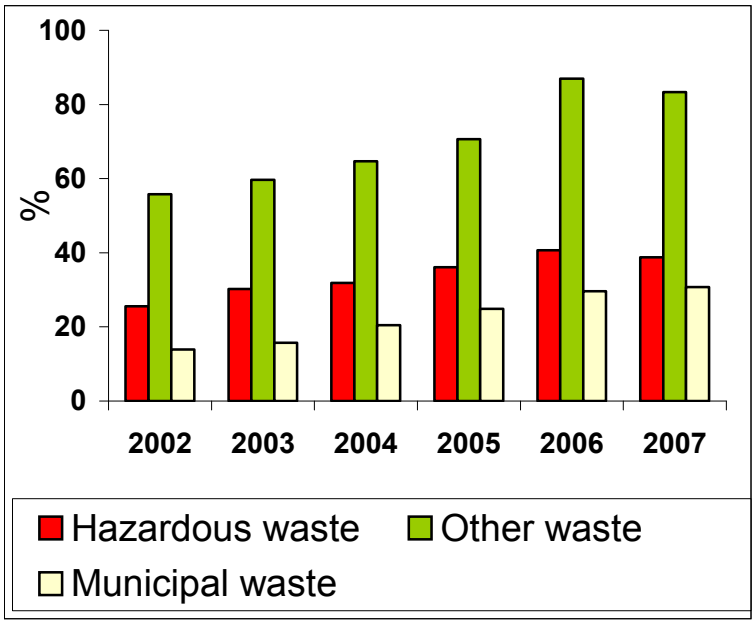
[4] Agenda 21, 20.13, 20.26
[5] Agenda 21, 20.7, 20.34, 20.42
[6] Surveillance and enforcement: Agenda 21, 20.31

Basic legal regulations consist in:

- The Act No. 185/2001 Coll., on waste and amendment of certain other acts implemented in the Decree No. 381/2001 Coll.,
- The Waste Catalogue, as amended,
- The Decree No. 382/2001 Coll., on the conditions of application of treated sludge on agricultural land, as amended,
- The Decree No. 686/2001 Coll., on the details of waste management, as amended,
- The Decree No. 237/2002 Coll., on details of the method of take-back procedure of certain products, as amended,
- The Decree No.294/2005 Coll., on conditions of waste landfilling and its application on land surface, and amendment of the Decree No. 383/2001 Coll., on the details of waste management,
- The Decree No. 352/2005 Coll., on the details of management of electrical and electronic equipment and in more detailed conditions of financing the management thereof,
- The Decree of the Czech Mining Authority No. 99/1992 Coll., on establishment operation, safeguarding and liquidation of facilities for waste disposal in underground space, as amended,
- The Act No. 477/2001 Coll., on packaging and on amendment of certain other acts, as amended, implemented in the Decree No. 641/2004 Coll., on scope and method of keeping records of packaging, and reporting data from these records,
- The Government Order No. 111/2002 Coll., laying down the amounts of deposits on selected kinds of returnable packaging,
- The Decree of the Ministry of Industry and Trade No. 116/2002 Coll., on method of marking returnable packaging.

Economic instruments are also used such as a decrease of the Value-Add-Tax for certain type of recycled materials or services and green public procurement to promote use of recycling[7].

Recovered waste share of total waste generation in 2002 – 2007



[7] Agenda 21, 20.12-13

Recovered waste share of total waste generation in the Czech Republic in 2005 - 2007

	2005	2006	2007
Total waste generation (*1000 tonnes/year*)	**29 802**	**28 066**	**31 295**
Waste generation per capita (*kg/person/year*)	***2907***	***2728***	***3002***
Share of recovered waste (*% of total waste generation*)	***68,7***	***84,7***	***80,8***
Share of recycled waste (*% of total waste generation*)	***66,2***	***82,3***	***78,7***
Share of waste for energy use (*% of total waste generation*)	***2,5***	***2,3***	***2,1***

b) Development of environmentally sound disposal facilities, including technology to convert waste into energy, such as, for example, through utilization of landfill methane

We reduce Material Throughput by improving resource productivity - monitoring of material flow and target setting (this policy principle is embedded in the Waste Management Plan of the CZ and new Waste Act), sharing experience and introduction the best practice and technology innovations (Progress report on the Czech Republic Sustainable Development Strategy: Summary – 2009).

The Czech Republic promotes green public procurement[8] for example for encouraged recycling of plastic materials used for wall against noise in transport infrastructure. We focus on recycling subsidies of the EU structural funds by setting conditions of granted projects for 1) sorting production lines 2) acquisition of energy and production of industrial fuels from secondary materials and disposal of another waste after using Mechanical-Biological-Treatment.

c) Financial mechanisms for waste management service development in deprived areas

There is a possibility to draw subsidies from the EU structural fund (administrated by the State Fund for Environment - http://www.sfzp.cz/). There are also recultivation funds and system of charge.

3. Radioactive wastes and their environmentally sound management (safe storage, transportation and disposal of radioactive waste):

Radioactive waste *(RAW)* and irradiated fuel (IF) are treated in accordance with the Government Order No. 487/2002 Coll., where the treatment strategy of the state and

[8] OECD Policy Principles for Sustainable Materials Management, ENV/EPOC/WGWPR(2009)2, p. 36

state authorities with this type of waste are formulated up to year 2025. The Act No. 18/1997 Coll., on Peaceful Utilisation of Nuclear Energy and Ionising Radiation (the Atomic Act) and on Amendments and Additions to Related Acts and Decree of the State Office for Nuclear Safety No. 307/2002 Coll., on Radiation Protection defined requirements of treatment with radioactive waste. The Decree of the State Office for Nuclear Safety No. 317/2002 Coll., on Type Approval of Packaging Assemblies for Transport, Storage and Disposal of Nuclear Materials and Radioactive Substances, on Type Approval of Ionizing Radiation Sources and on Transport of Nuclear Materials and Specified Radioactive Substances secures safety of transport of radioactive waste. The Atomic Act and its implementing decrees form a legislation framework for all spent fuel and radioactive waste management activities and clearly define the responsibilities of license holders for the implemented level of nuclear safety, radiation protection, emergency preparedness and physical protection.

The State Office for Nuclear Safety (http://www.sujb.cz/?r_id=26) publishes a report on the Radioactive Waste Management in the Czech Republic annually (National Report of the Czech Republic under the Joint Convention on Safety in SF Management and Safety in RAW Management - 2008), in compliance with the Act No. 18/1997 Coll. The Ministry of Industry and Trade established the Radioactive Waste Repository Authority (RWRA) (http://www.proe.cz/surao2/index.php?p), which mission is to ensure the safe disposal of existing and future radioactive waste in the Czech Republic and to guarantee the fulfilment of the various requirements in place for the protection of both the public and the environment from the potentially adverse impacts of such a kind of waste.

The expenses for activities related to repository of RAW and IF are covered by the Nuclear Account (administrated by the Ministry of Finance), paid by the generators of waste. There are three repositories of the RAW in the Czech Republic: Dukovany, Richard and Bratrství (http://www.proe.cz/surao2/index.php?c=86). The safety of repositories is monitored. Operations and manner of closing repository are evaluated by safety analyses. The State Office for Nuclear Safety issues authorization for running repositories.

On March 25, 1999, the Government of the Czech Republic approved the Joint Convention, which came into effect on June 18, 2001. In agreement with the obligations resulting from its accession to the Joint Convention, the Czech Republic has compiled already the third National Report for the purpose of review meetings of the Contracting Parties, which describes the spent fuel and radioactive waste management system in the scope required by the specific articles of the Joint Convention. At the same time, the National Report provides, at the national level, a source of up-to-date and public information (http://www.sujb.cz) on the spent fuel and radioactive waste management practices in the facilities, which are subject to the Joint Convention. The results from the three initial review meetings of the Contracting Parties to the Joint Convention held in 2003, 2006 and 2009 and the existing practices prove that the spent fuel and radioactive waste management in the Czech Republic fully complies with the provisions of the Joint Convention.