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**Question 5. Reduction/Elimination of generation of hazardous/other wastes**
**2004. Africa. (Parties which did not report are not listed).**


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**Algeria:**

- Policies:* The Law no 01-19 of 12/12/2001 set up a National Plan of Management of Special Wastes which defines the choice of options related to wastes treatment trend.
- Legislation:* With Law no 01-19 of 12/12/2001 related to the management, control and disposal of wastes its 2nd article said the management, the control and the elimination of wastes is based on the following principles: -the prevention and the reduction of the production of the noxiousness of the waste in the source; - the organization of the sort, the collect, the transport and treatment of the waste; -the ecological and rational treatment of the waste; -the information and the citizen sensitization.
- Economy:* Tax on pollutant and hazardous activities; Incentive tax encouraging the reduction of stocks of industrials wastes (2002); and Incentive tax encouraging waste care activities.
- Industry:* The generators and/or holders of hazardous special wastes are required to insure or ensure by their own the collection, sorting, transport, stocking, valorization and the elimination of their wastes.
- Others:* Environmental contract, ISO, environmental audit, danger survey (internal organization plan, internal particular plan).

**Benin:**

- Policies:* No adequate strategies for hazardous wastes.
- Legislation:* No adequate strategies for hazardous wastes.
- Industry:* Pre-treatment.

**Burundi:**

- Policies:* · Inventaire des Déchets déjà faits dans les industries; · Plan de gestion des déchets biomédicaux est entrain d'être préparé par le Ministère de la Santé Publique; · Station d'épuration fonctionnelle dans la capitale Bujumbura; · Décharges contrôlées; et · Gestion des déchets: Ramassage, triage, transport, sensibilisation est faite.
- Legislation:* Le code de l'environnement prévoit les obligations générales en matière de déchets en son chapitre 2, art 120, 121, 122 à 126.
- Economy:* Il y des subventions de l'Etat offert pour les services de techniques municipaux en vue de collecter et de transporter les déchets produits dans les sites de décharges. Le FEM a financé depuis 2005, le projet pour la gestion des produits organiques persistants (POP).
- Industry:* · Avant toute installation d'un projet ou d'une unité industrielle, il faut préalablement une étude d'impact environnemental; · Il est strictement interdit d'installer des stations de carburant ou des points de lavage des véhicules à côté des cours d'eau;
- Others:* Des campagnes de sensibilisation pour la population et les industriels sont prévues dans la politique sectorielle du Ministère de l'Aménagement du Territoire, du Tourisme et de l'Environnement pour la gestion rationnelle des déchets.

**Côte d'Ivoire:**

- Policies:* National plan of PCB.
- Legislation:* Draft of PCB legislation.

**Ethiopia:**

- Policies:* The Environmental Policy of Ethiopia and the Conservation Strategy of Ethiopia provide for the application of the said measures.
- Legislation:* Environmental Pollution Control Proclamation, Proclamation No. 300/2002. Two draft regulations on persistent organic pollutants and Industrial Pollution Control and Prevention are prepared.
- Economy:* These are provided for under each legal instrument, e.g. Article 3 Sub-article 4 of the Pollution Control Proclamation.
- Industry:* Certain tanneries have installed waste treatment facilities making use of a revolving fund made available by UNIDO. Some industries have begun implementation of ISO 14001.

**Gambia:**

- Policies:* Gambia Environmental Action Plan (1992); Gambia Waste Management Strategy (1997); and Environmental Quality Monitoring and Enforcement strategy (1997).
- Legislation:* National Environment Management Act (1994); Environmental Management Discharge Permit Regulations (2001); Environmental Quality Standards Regulations (1999); and Ozone Depleting Substances Regulations 2000.

- Economy:* Monthly Environmental Tax on all salaried workers; Environmental tax on all imported second hand items except used clothing; and National Environment Agency conducts an Annual National Environmental Award Scheme.
- Industry:* The Gambia Tourism Authority has embarked on a yearly award for the Most Environmentally Friendly hotel. The National Environment Agency has also embarked on a few demonstration projects to promote best practices in industry.
- Others:* Sensitization and information campaigns under the Environmental Education and Communication Programme of the National Environment Agency; and Integration of Environmental Education in the school curricular at all levels.

### Ghana:

- Policies:* The policy statement on the environment requires that appropriate measures are taken to control pollution and the importation and use of potentially toxic chemicals including waste. Developing a cleaner production center to promote waste minimisation.
- Legislation:* Environmental protection agency act, 1994 (act 490) provides for the establishments of a hazardous chemicals committee to deal with the management of hazardous chemicals including reduction and elimination.
- Industry:* Industries and waste generators are required to comply with existing guidelines on industrial waste.

### Madagascar:

- Policies:* In preparation. On 18 June 1998, the National Committee for the Management of hazardous wastes (GNGPC) was officially created (Decret N°98-444). This committee has been, since this date, the official national mechanism responsible for chemical management in terms of safety.
- Legislation:* A National Law to reduce hazardous wastes is currently being elaborated.
- Economy:* A National Law Ecotax is currently being elaborated.
- Industry:* Decree of application MECI, Law N°99-954 of 15/12/99. (Accountability of investments towards the environment).
- Others:* Le Ministère de l'Environnement, des Eaux et Forêts est en cours d'élaboration de la politique nationale de gestion de déchets dangereux ou non dangereux (année 2005) .

### Mauritius:

- Policies:* - According to the Environment Protection (Standards for Hazardous wastes) Regulations 2001, which came into force on 1 April 2002, a hazardous waste generator shall minimize the generation of a hazardous waste by using the best practicable means; - The law requires new undertakings with significant environmental impacts to go through the EIA process; - Introduction of sulphur-reduced diesel since 2001 and unleaded petrol as from September 2002; - The revised solid waste management strategy plan adopted in 2002 places topmost priority to waste minimisation; - Sensitising campaigns; - Duty remission and soft loans on pollution abatement equipment; and - The Dangerous Chemicals Control Act (2004) regulates the import of dangerous chemicals, which has an impact on the generation of hazardous wastes.
- Legislation:* - Environment Protection (Standards for Hazardous wastes) Regulations 2001; - Standards for air (ambient air quality and emissions); - Guidance notes for the implementation of Environment Protection (Standards for Hazardous Wastes) Regulations 2001; - Dangerous Chemicals Control Act 2004; and - Used Oil Regulations.
- Economy:* Fines for illegal dumping and penalties for non-compliance to standards and regulations. - Duty remission on equipment; - Refund for training expenses incurred by private operators; and - Incentives schemes.
- Industry:* Industries are making efforts to reduce the use of hazardous chemicals.
- Others:* -Sensitisation and awareness campaigns; -Promotion of the Environment Industry; and -National consultation on cleaner production.

### Morocco:

- Policies:* Le Maroc a lancé un projet en vue de mettre en place un centre de traitement et d'élimination des déchets. Le site pour l'installation de ce centre a été choisi et l'étude de faisabilité du projet ainsi que l'étude d'impact ont été réalisées. Dans le cadre de la convention de Stockholm sur les POPs, le Maroc a bénéficié d'un don du GEF pour l'élaboration du plan de mise en œuvre de ladite convention, notamment un plan d'action pour la gestion écologiquement rationnelle des déchets POPs. The CMPP plays a coordinating as well as catalytic role of a natural cleaner production market by means of: The promotion and dissemination of the concept of sustainable ecological industrial development; improvement of the performance and competitiveness of the enterprise; and making public opinion sensitive and aware of cleaner production technologies.
- Legislation:* législation en matière de gestion des déchets: loi cadre sur la protection et la mise en valeur de l'environnement promulguée et en vigueur depuis 2003 qui vise l'obligation d'une gestion écologiquement rationnelle des déchets. loi sur la gestion et l'élimination des déchets qui a été adoptée par le Conseil du Gouvernement, le conseil des ministres et dernièrement au niveau de la

chambre des conseillers. La dernière étape c'est son adoption au niveau du parlement. Quatre décrets d'application de cette loi sont en cours de préparation , à savoir: Décret sur les décharges; Décret sur les déchets médicaux et pharmaceutiques; Décret sur la classification des déchets ;Décret sur la co-incinération des déchets. Directives et plans élaborés pour une gestion écologiquement rationnelle des déchets Guide sur la gestion des déchets ménagers, directives sur les déchets hospitaliers, guide sur le choix du site des décharges contrôlées pour les déchets ménagers, guide pratique sur l'amélioration de la gestion des déchets hospitaliers, quatre directives en cours de préparation en collaboration avec le centre de formation et de transfert de technologie de la convention de Bâle du Caire. Plan de gestion des huiles usées.

*Economy:* Creation within the Department of Environment of the Fund for Industrial Depollution (FODEP). The Fund is destined for industrial enterprises willing to engage in depollution projects. 80% of the cost of the project can be financed by FODEP according to the project type: Integrated project (20% donation and 20-60% of credit at medium or at long term and; Approved Project (40% donation and 20-40% of credit at medium or at long term). \* Le centre marocain de production propre qui a pour attribution la sensibilisation et la formation des industriels pour minimiser la production des déchets à la source.

*Industry:* Certaines unités industrielles ont adopté le concept de production propre en utilisant de nouvelles technologies pour réduire à la source la production d es déchets notamment celles qui ont bénéficié du FODEP.

*Others:* Some wastes are incinerated at the furnace of cement factories and; A project to create a waste stock market is currently being developed. Présence d'unités industrielles spécialisées dans le recyclage de déchets, notamment, plastique, papier, verre, déchets de textiles. Création d'une coopérative spécialisée dans le recyclage des déchets.

### Mozambique:

*Legislation:* EIA Regulation; and Environmental Law of 1997: Based on the relevant provision of the Constitution, the Environmental Law of 1997 provides a general framework for environmental protection, including management of hazardous wastes. The purpose of the law is "to define the legal basis for the proper use and management of the environment and its elements in order to establish a system of sustainable development" in the country. The law includes several provisions addressing this issue. There is as yet no specific legal instrument on the management of hazardous wastes, or on export and import of such wastes. Work is underway to develop several regulations under the law. The following aspects of hazardous wastes management are addressed in the Environment Law or a separate regulation: definition of hazardous wastes; licensing system for persons managing waste and disposal facilities; restriction/prohibition of export/import of hazardous wastes; and civil liability and reparation of damage.

*Others:* In general terms, the Environmental Law of 1997 imposes strict liability on persons who cause material damage to the environment. The State has the right to assess the damage, fix the amount of compensation, and to take counter measures at the expense of the person causing the damage. The provision does not relate to hazardous wastes specifically.

### Seychelles:

*Policies:* Government invested heavily in solid waste management throughout the nineties, especially as part of the implementation of the Environment Management Plan 1990 – 2000. There are now four major landfills in operation, two of which are fully engineered landfills. Hazardous waste management is addressed as part of the overall plan for waste management on the islands (Solid Waste Master Plan), especially since most hazardous is produced in small volumes. There are collection systems for waste oil, scrap metal, lead acid batteries and pesticide containers, and also sorting out of the organic fraction of municipal waste for composting. These are mostly eliminated through export, and in the case of pesticide containers, through recycling. The following additions to the locally available facilities are being explored: incinerator, larger storage facilities for oil and Kraft paper recycling plant. The generation of waste is addressed through a 'reduce, reuse, and recycle policy'. Waste reduction initiatives can be done through the environmental assessment process under the Environment Protection Act. The potential for waste generation, waste reduction, and recycling are three criteria that are used to assess large projects or initiatives. The ministry also regularly engages different sectors of the economy in waste reduction efforts, for example, reduction of throwaway of soft drinks and mineral water bottles, reduction of construction waste reaching the landfill, reduction of pesticide waste through proper stock management etc. The generation of waste at the household level is addressed through educational programs and in some instances through house-to-house campaigns. A varied set of activities is organized throughout the year by this ministry and the agency responsible for waste. Educational/sensitisation programs are carried out in schools, and TV, radio and newspaper items (of which a large part has to do with the generation of waste) are released on a weekly basis. There are also annual events such as the Cleanup the World Campaign, Environment Week, and Recycle fair. In addition, certain products, such as asbestos roofing sheets and POPs pesticides are not allowed in Seychelles, thus the problem with their elimination or treatment does not exist. With regards to avoidance, importers and consumers (also through NGOs) are being continuously encouraged to opt for less dangerous products. With regards to better waste disposal facilities that meets international standards, the government as part of the new solid waste management plan, will install 2 new incinerators one at the port and the other at the airport for the incineration of phytosanitary waste. This is to prevent plant diseases from

entering into the country. The ministry of Health will install an incinerator at its centre for the elimination of medical waste. A program is being drafted to monitor the existing landfills for the purpose of mitigating the effects of leachate in the surrounding marine environment. A new system has also been put in place for the control of hazardous waste importation by screening. All application for chemicals should receive authorization from the environment authority prior to importation. Seychelles is preparing to ratify Decision III/1 of the Basel Convention and also the Stockholm Convention before the close of 2005.

**Legislation:** Environment Protection Act, 1994: at section 12 establishes the agency responsible for waste and defines its functions, and at section 13 onwards establishes other obligations for waste minimization by the authority. Pesticides Act 1996. Seychelles Bureau of Standards guidelines on the storage and handling of dangerous products.

**Economy:** There are presently few economic initiatives to encourage waste minimization. The legal instruments of licensing, environmental authorizations and Public Health are frequently used to force persons to comply with the requirements. The company that exports scrap metal is being encouraged to collect and export all scrap at no cost. Responsible organizations are now being asked to cater for their own waste. The ministry of health will install a new incinerator for the elimination of medical waste. Under the French corporation the ministry of Environment will install 2 incinerators at the port and airport for the elimination of phytosanitary waste.

**Industry:** The Public Utilities Corporation has invested in a waste oil incinerator at the central electricity generating plant. On smaller islands that are not connected with the main waste collection system, owners and managers continue to invest in waste separation, minimization of incoming products, waste transfer, incineration and/or composting.

### Tunisia:

**Policies:** The National strategy on wastes has four objectives. They are: (i) to ensure that wastes management takes place without endangering public health and the environment; (ii) to encourage the reduction in wastes in both qualitative and quantitative terms; (iii) to encourage recycling and re-use of wastes; and (iv) to establish methods and infrastructure to ensure wastes disposal to the lowest possible cost in environmental and economic terms. The National Programme for Solid Wastes Management (PRONAGDES) was launched in 1993. The aim of the Programme is to provide the country with units for the treatment of household wastes, facilities for the treatment of hazardous wastes, and produce appropriate solutions and management plans for all categories of wastes.

**Legislation:** · Waste and waste treatment fall under the law n°96-41 of 1996 in which the following general objectives are defined: (i) prevention and reduction of wastes especially during fabrication and distribution of products (ii) valorization of wastes by re-use and recycling both as materials or energy source (iii) controlled final landfill as a last resort; · Decree n°97-1102 laying down conditions and methods for the collection and management of used bags and packaging; · Decree n°2002-693 (dated April 1st, 2002) laying down conditions and methods for the collection and the management of used lubricating oils and used oil filters. This decree defines the criteria and methods of recovery and regeneration of used lubricating oils, the collection and the valorization of the used oil filters; · Following enactment of law 96-41 on wastes and the control of wastes management and disposal, legal instruments (decrees) on the management of categories of hazardous wastes, based on the polluter pays and producer recovers principles, are in the process of drafting; · Standards on the concentration of pollutants in the industrial wastewater (metals, heavy metals, halogenated solvents, hydrocarbons, mineral oils, phenols, etc.) before junction to the public sewage works or abandon in the hydraulic and maritime property; and · The environmental impact assessment (EIA) mandatory is obligatory for all activities (industrial, agricultural or commercial) that cause risks for pollution or degradation of the environment.

**Economy:** · Companies that carry out hazardous activities are obliged to pay taxes on a yearly basis; · Companies that take measures to abate pollution may profit from special investment and tax tariffs; · Exoneration of import tariffs and VAT for equipment that has to be imported and cannot be locally produced, and for VAT for locally produced equipment; · Deduction of taxes of a maximum of 50% of profits reinvested or investment realized for equipment mentioned by decree n°94-1191; and · The Fund on Pollution Abatement (FODEP). This fund has been installed by law n°92-122. It aims at helping the industries to invest in pollution abatement techniques. Projects are financed through this fund with the following financial scheme: 30% of the total project costs are to be financed with companies own means, up to 20% subsidy and for the remainder 50%, soft bank loans may be obtained. Projects are judged by the Ministry for the Environment through a fixed procedure. As of 2004, the FODEP has contributed in extending funds to 352 pollution mitigation projects, waste collection, treatment and recycling projects and clean technologies projects, which received total grants to about 19 million TND and total investment costs estimated as 94 million TND. The total FODEP interventions as of 31 December 2004 are distributed per sector as follows: - Tanning industries: 7 - Food-processing: 91 - Mechanical and electrical industries: 31 - Textiles: 40 - Construction materials industries: 54 - Waste collection, treatment and recycling: 84 - Chemical industries: 43 - Other industries: 2 It is worth pointing out that the amount of self-financing by industrialists has reached 47.5 million TND, that is around 50% of the total investment amount. This figure attests to the extent of voluntary adhesion by project developers to the national effort invested in environmental protection.

**Industry:** · The only-one industry of pulp and paper has replaced the Denora-Permelec process of electrolysis

for the production of chlorine used to whiten pulp by a membrane process, which presents less risk for the environment. Thus, the release of significant quantities of mercury in wastewater has been avoided; · The new process of SOTULUB (the Tunisian Company of Lubricating Oils) specialized in the re-refining and regeneration of waste mineral oil has permitted the avoidance of the generation of a significant quantity of hazardous wastes especially acid tars and used acid-treated clay; · The Tunisian industry of electric transforms has avoided the use of mineral oils containing PCB; · Two industries of asbestos-cement pipes, over three in Tunisia, have abandoned this process to the profit of plastic pipe process; · The Tunisia's only refinery has set up: (i) pre-treatment facilities to remove chemical pollutants (sulphur base chemicals, acids, etc.) and oil from wastewater (ii) treatment unit of sludge (high lead content); · The two industries of car batteries are recycling the lead fraction of the dead batteries; · By 2004, 30 industrial enterprises (electronics, mechanics, chemicals, oil extraction, etc.) have obtained ISO 14001 Certification.

*Others:* · Over one hundred companies in Tunisia are working in the field of the management of wastes: household wastes, wastewater, plastic wastes, metal wastes, health care wastes, dead batteries and accumulators, used printer cartridges, radiological films, paper, sludge of wastewater treatment facilities. 84 companies received subventions from the National Fund on Pollution Abatement (FODEP); · The Tunisian Company of Lubricating Oils owns and operates a 16000 metric tonnes/year capacity plant for the re-refining and regeneration of used mineral oils; · A public system (ECO-LEF) for the collection (remunerated collection) of used packaging and its treatment, recycling and reuse was created. It is financed by contributions from members (producers, packagers, distributors and importers). Major indicators of the ECO-LEF system (for the year 2002): - Number of "ECO-LEF" used packaging collection points: 49 points; - Number of the small-size enterprises set up for used packaging collection: 1050 (3000 jobs); and - Volumes collected: 3070 tonnes. · A public system (Eco-Zit) for the collection and the regeneration of the lubricating used oils was created. It is financed by contributions from oil companies. · A public system (Eco- Filtre) for the collection, the treatment and the recovery of the used oil filters was created. The system is financed from contributions from involved private companies. · Experimental operation of a pilot unit for the treatment of used oil filters (500 tons/year). Industries involved in this project are the Tunisian Company of Lubricating Oils which takes care of recovery and regeneration of the oil fraction; a cement plant which collects the synthetic fraction and assures recovery of its energy content; and a foundry which handles the metal fraction; and · 21 old industrial zones have been rehabilitated and renovated. In response to the aspirations of industrialists, the Tunis International Centre for Environmental Technologies (CITET) has granted priority order to capacity building in matter of environmental management, either based on ISO 14001, or on adopting efficient environmental management. In addition, CITET has initiated a study on the prospects of establishing a Tunisian environmental label. With support by the German international cooperation (GTZ), CITET pursued in 2004 its assistance to 9 companies, distributed among the following sectors: - 5 companies in the chemical sector, - 3 companies in agribusiness sector, and - 1 company in the construction materials sector (cement plant).

### Uganda:

*Policies:* Uganda has a national environment policy and an environment sector 5 year plan/programme that is reviewed every 5 years.

*Legislation:* The National Environment Act, Cap. 153 established the National Environment Management Authority (NEMA) as the principal agency in Uganda for the coordination, monitoring, overseeing enforcement of environmental laws and standards and supervision of all environmental matters in the country. Under Section 53 of this Act, NEMA is mandated to make regulations and guidelines for the classification and management of hazardous wastes. NEMA released the following regulations and guidelines: - The National Environment (Waste Management) Regulations 1999. These regulations apply to all categories of hazardous and non-hazardous waste; the storage and disposal of hazardous waste and their movement into and out of Uganda; and all waste disposal facilities, landfills, sanitary fills and incinerators; - The National Environment (Standards for Discharge of Effluent into Water or on Land) Regulations, 1999; - Environmental Audit Guidelines for Uganda, 1999; - Environmental Impact Assessment Regulations, 1998; - Environmental Impact Assessment Guidelines; - Draft Environmental Oil Spillers Liability Regulations; - Draft Environmental Oil Spillers Liability Guidelines; and - Draft Solid Waste Management Guidelines.

*Economy:* Uganda currently has incentives and/or import duty /sales tax exemptions for "Appropriate – technology" as outlined in the investment code. Other economic incentives/disincentives are currently being discussed.

*Industry:* - Adoption of cleaner production techniques; - A national cleaner production centre has been established with assistance from UNIDO (2000-2001); - Voluntary adoption of environment Management systems (ISO 14000); and - Adoption of environmentally sustainable industrial development thinking/approach.

*Others:* - Undertaking of environmental audits and in particular, waste audits; - NEMA is involved in compliance assistance programmes with industry; - Awareness creation and increased information disseminations; and - Harmonisation of other sectoral policies and laws.

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**Question 5. Reduction/Elimination of generation of hazardous/other wastes**
**2004. Asia and Pacific. (Parties which did not report are not listed).**


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**Bahrain:**

*Policies:* A new incineration system for treating the generated healthcare wastes ( i.e. clinical, pharmaceutical, infectious anatomical and chemical wastes) has been commissioned and is operating since April 2002 ,which is considered as a major milestone in environmental protection and part of national strategy to reduce and treat the hazardous wastes in the country; and Environmental Affairs (EA) is approaching international agencies and organizations to assist in minimizing the quantity of industrial / hazardous of wastes generated in the country. Many meetings have been held with the major industries to chalk out practical and achievable plans and programs for waste minimization utilizing efficient and environmental friendly processes, methodologies and equipment.

*Legislation:* Healthcare Waste Management Standards: Ministerial Order No.1 of 2001 has been issued highlighting the collection, transportation, storage, transfer, treatment and disposal of hazardous healthcare waste generated in Kingdom of Bahrain. The emissions from healthcare treatment facilities are also streamlined as well as the management and disposal of effluent and solid waste residues; Article 5 states: The waste producer shall seek to reduce the generation levels of such waste in quantity and quality through developing the appliances and equipment used, adopt and use a clean technology, select the alternatives and raw materials that cause less damage to the environment and public health; Hazardous Waste Management Standard: The draft standards for collection, storage, handling, transportation, transfer, treatment, disposal, recycling and reuse have been prepared and discussed with the industries. The standards will soon be finalized and enforced in the country; and Used Oil Management Standards: Ministerial Order No.4 of 2005 has been issued highlighting the collection, storage, handling, treatment, disposal, recycling and reuse of oil and related products.

*Economy:* None.

*Industry:* Several industrial companies (ALBA and GPIC) adopted ISO 14000 standards and were certified by ISO, in addition to the implementation of environment management systems.

*Others:* Ongoing projects on cleaner production, recycling, reduction of hazardous waste and elimination of hazardous waste.

**Bangladesh:**

*Policies:* Environment Policy 1992 encourages reuse of various substances in the industrial sector in order to reduce the amount of waste/hazardous waste generated inside the country.

*Legislation:* Bangladesh Environment Conservation Act, 1995 and Environment Conservation Rules 1997 are being enforced to reduce and eliminate generation of the hazardous waste.

*Industry:* Installation of effluent treatment plant in the polluting industries.

**Brunei Darussalam:**

*Policies:* This subject matter will be covered in the Draft Environmental Order of Negara Brunei Darussalam.

*Legislation:* This subject matter will be covered in the Draft Environmental Order of Negara Brunei Darussalam.

*Economy:* None.

**Cambodia:**

*Policies:* Application of the environmental assessment system and environmental license to new and ongoing industrial activities with regard to the hazardous waste management.

*Legislation:* Solid Waste Management Sub-Decree, 1999; Water Quality Management Sub-Decree, 1999; and Air Pollution Control and Noise Disturber Management Sub-Decree, 2001.

*Economy:* Polluter pays principle have been applied for some individuals and industrial sectors. Licensed charges for some industries.

*Industry:* Industries and waste generator have been complied with Cambodian Regulation and Provision of Basel Convention. Some industries have been awarded with the ISO 14000 series certification.

*Others:* None.

**China:**

*Policies:* China The State encourages and supports cleaner production and minimization of the generation of solid wastes. Hong Kong Special Administrative Region, China A Waste Reduction Framework Plan was launched in November 1998 to minimize the amount of waste produced that requires disposal and to promote recycling of different types of wastes. One initiative being undertaken is to study waste management tools and technologies that can reduce the amount of waste requiring final disposal. The Government has reserved land to set up a Recovery Park and encourage

development of waste minimization and recycling technologies. In addition, Hong Kong Productivity Council (HKPC), a statutory organization of the HKSAR, has since 1979 been developing and promoting cleaner production practices and technologies to assist local industries and business sectors in minimization/elimination of their generation of hazardous wastes and other wastes. Relevant examples include development of water-saving techniques for food processing industry, and development of effective rinsing system and rinse water recovery system for electroplating operations and printed circuit board manufacturing to reduce the discharge of hazardous wastes.

*Legislation:* China In August 1996, the State Council enacted "Decisions of State Council on Several Issues of Environmental Protection" which demands to ban, close and stop 15 kinds of enterprises which cause serious pollution to the environment. In January 1999, the State Commission of Economy and Trade issued "List of the backward technology and products for elimination". In June 2002, the 28th session of the Ninth National People's Congress Standing Committee of the People's Republic of China, enacted the Law of Cleaner Production Promotion.

### Cook Islands:

*Policies:* There are measures to remove all asbestos roofing from schools and hospitals but we are faced with the challenges of disposing them appropriately because of limited land areas to do especially in remote coral atoll islands of the Northern Cook Islands.

*Legislation:* Environment Act 2003, Public Health Act 2004, Cook Islands National Waste Strategy (Draft).

*Economy:* We are preparing to place some tax incentives on certain items to encourage recycling and recovery ie. Vehicle batteries, rubber tyres etc.

*Industry:* The private sector (importers) have taken initiative to encourage recovery of certain products from consumers, but is dependent on economic incentives to make it viable, hence the need to regulate in certain areas.

### Indonesia:

*Policies:* 1. Encourage generators to implement hazardous waste minimization and avoidance strategies in their activities; 2. Promote waste exchanges; 3. Encourage establishment recycling facilities for hazardous wastes; and 4. Implement environmental compliance program for industries.

*Legislation:* Article 9 (1), Article 27 (1), and Article 33 (1) of Government Regulation No. 18/1999 Jo 85/1999.

*Economy:* Existence of commercial treatment facilities for hazardous wastes give generators opportunity to calculate the costs to manage their hazardous waste properly. High costs faced by generators, in turn, could be the reason for industries to reduce generation of hazardous waste. On the other hand, they have to pay more for treatment of more waste their produce. Articles 9, 27, 33 and 18-22 of the GR No. 18/1999 encourage activities to utilization/minimization and 3R of waste. As the specification of the waste is conform with the need of other industries for raw material, generators would gain benefits from it. To discourage improper management of waste, Chapter IX of the Law of Republic of Indonesia No 23/1997 states that any recklessness and or intentional mismanagement of (hazardous) wastes that violate applicable environmental and other rules might be liable for imprisonment and fine. Range of fine is at minimum IDR100,000,000 Rupiah to IDR450,000,000, depend on the crimes committed, and so the the length of imprisonment.

*Industry:* An Environmental compliance program, called PROPER, has launched by the Ministry of Environment in cooperation with local governments to encourage industries to comply with Indonesian environmental regulations. Inspectors conduct compliance audits to industries, ranked them into five categories (black, red, blue, green, and gold) and the results then announced publicly every year. Black and Red represent insufficient compliance, Blue indicates fully compliance, while Green and Gold represent beyond compliance. Announcement creates incentives and disincentives reputation for industry. Industries ranked Black and Red usually are under pressure since they might face problem with their financial resources such as banks. In this case, they will increase their efforts to comply with applicable regulations such as water and air pollution control and hazardous waste management.

### Japan:

*Policies:* Government of Japan established the Basic Environment Plan in 1994, and it was amended in 2000. At the same time, the Basic Law for Establishing a Sound Material-Cycle Society was enacted. The Basic Law aims to promote sound cyclical use and disposal of waste and the like, and prioritize the following actions in order of number: (1) restricting generation, (2) reuse, (3) recycling, (4) heat recovery, and (5) the correct disposal of waste and the like. A new socioeconomic system needs to be created where responsibilities and costs on waste treatment and recycling are shared among industries, consumers, local governments and the national government as necessary. In such system, there should be incentives to reduce waste generation and recycle at each stage of product development, manufacturing, import, distribution, consumption, collection and recovery.

*Legislation:* "Waste Management and Public Cleansing Law", "Law for Promotion of Effective Utilization of Resources", "Container and Packaging Recycling Law", "Electric Household Appliance Recycling Law" etc.

*Economy:* Policy financing for establishment of treatment facilities; and preferential tax treatment.

*Industry:* Under the Voluntary Action Plan on the Environment adopted by the Keidanren (Japan Federation

of Economic Organization), measures are taken on promoting recycling and limiting the discharge of wastes.

### Kazakhstan:

*Policies:* In January, 2003 on the Security Council under the chairman of Head of state the issues of environmental safety were considered and the main problems were called "historical pollutions" and progressive industrial and domestic waste generation. In Strategic development plan of the Republic of Kazakhstan till 2030 ( Decree of the President of the Republic of Kazakhstan on August 15, 2003 # 1165) one of the objectives in sphere of environment protection is defined the use of wastes: "For the purpose of strengthening state control on disposal and utilization of wastes and also reduction of their harmful impact on environment are required: to develop unified state approaches to solving of production and domestic waste problem; to develop waste management system on different levels; to introduce system of collection, storage and supervised utilization of domestic wastes on the whole of the territory of the republic; to elaborate measures on development of waste storage monitoring system." Decrease in volumes of generation, liquidation and processing of industrial and domestic wastes is intended in Action plan for 2004-2006 years on realization of Conception of environmental safety of the Republic of Kazakhstan for 2004-2015, in the Program "Environment protection of the Republic of Kazakhstan for 2005-2007years". In the Conception of environment safety of the Republic of Kazakhstan for 2004-2015 years, approved by the President of the Republic of Kazakhstan (Decree of the President of the Republic of Kazakhstan on December 3, 2003 #1241) these issues are considered in detail and the means of their solving are set. Currently the Program on liquidation of radioactive dumps of uranium extractive industry and the Program on liquidation of derelict oil and self pouring out hydro geological wells are implementing.

*Legislation:* By the Law of the Republic of Kazakhstan on June 26, 1998 #233-1 "On national safety of the Republic of Kazakhstan" (with changes and additions on conditions on 14.10.2005) for the purpose of providing of environmental safety, prevention radioactive, chemical pollution, bacteriological contamination of the territory of the country the unsupervised import of environmentally hazardous technologies, matters and materials to Kazakhstan is prohibited. The main legislative acts of the Republic of Kazakhstan regulating relations in sphere of industrial and domestic wastes are laws "On environment protection" and "On bowels and bowels use" and "On atomic energy use" concerning radioactive waste. Law of the Republic of Kazakhstan on June 24, 1999 "On ratification of the Convention on the prohibition of the development, production, stockpiling and use of chemical weapon and on their Destruction", (Paris on January 13, 1993) is adopted. By the resolution of the Government of the Republic of Kazakhstan on April 15, 1996 #439 the Regulations "On prohibition of use in the Republic of Kazakhstan of environmentally harmful pesticides and on order of their burial" were adopted. Regulations prohibit use of highly toxic pesticides possessing evident accumulative, carcinogenic, mutagenic, teratogenic, emrio and gonado toxic properties and possessing ability of accumulation in plants, soil and water in the Republic of Kazakhstan. The Agreement on control on the transboundary movement of hazardous wastes and other wastes signed by states-participants of Commonwealth of Independent States (CIS) on April 12, 1996 in Moscow was adopted by the resolution of the Republic of Kazakhstan on April 28, 1997 #670. Lists of main groups of hazardous wastes and their properties are attached to this Agreement based on the regulations of Basel convention. By the resolution of the Government of the Republic of Kazakhstan on June 9, 2000 #878 the National Action Plan on hygiene of environment of the Republic of Kazakhstan (with changes adopted by the resolution of the Government of RK on 12.09.03 #922) that provides for sanitary- epidemiological safety of soils and cleansing of territory from domestic and industrial wastes was adopted. By the Law of the Republic of Kazakhstan on July 15, 1997 (with changes and additions) "On environment protection" the environmental requirements to economical and other activity including during production and domestic wastes treatment, to military and defense objects of military activity are introduced. By "Sanitary epidemiological requirements to collection, use, sterilization, transportation, storage and burial of wastes of medical organizations"(adopted by the order of Deputy Minister of Health of the Republic of Kazakhstan on January 13, 2004 #19) different demends on collection, temporary storage and transportation are made to waste according to their class of danger. Mixture of wastes of different classes on all stages of their collection, storage and transportation is prohibited. "Regulations of safety transportation of radioactive materials" (adopted by order of the Chairman of Committee on atomic energy of the Ministry of energy and mineral resources of the Republic of Kazakhstan on September 3, 2002 #65). Point 2. Regulations are implementing on the territory of the Republic of Kazakhstan as basic regulatory document on transportation of any kinds of radioactive materials by any kinds of transport (overland, waster, air). Requirement of the regulations on safety are obligatory for implementation by all legal entities, carrying out activity in the sphere of radioactive materials transportation in Kazakhstan and are basis for revision of all acting normative documents in this sphere. In accordance with Register of normative legal documents of the Ministry of environment protection of the Republic of Kazakhstan currently following normative-methodical documents on wastes are in force: 1. Instruction on state control on environment protection from industrial waste pollution; 2. Automatic system of calculation of permitted volumes of industrial waste disposal RND 03.1.3.02-96; 3. Instruction on control on technical condition of hydraulic structures of waste reservoirs (products) of industrial enterprises of the Republic of Kazakhstan; 4. Temporary methodical directions on calculation of environmental damage from unauthorized wastes (products) disposal in excess of norms; RND 03.7.0.6.02-94 on 09.12.1995; 5. Standardization procedure of waste generation and disposal" in part of soil impact assessment taking into account

background concentrations RND 03.1.0.3.01- 96; 6. Rules of development by natural persons and legal entities the projects on standards of wastes treatment and its submission for approval to the authorized body in sphere of environment protection of the Republic of Kazakhstan"; 7. Methodical directions on standardization of volumes of generation and disposal of mining processing enterprises enrichment wastes RND 03.1.4.3.01-96; and 8. Methodical directions on identification of level of pollution of environment components by toxic substances of industrial and domestic wastes. RND 03.3.0.0.4.01-96. In 2005 following normative-methodical documents are developed: - Rules of conducting State waste cadastres (MEP RK; - Rules of conducting the reporting in sphere of waste treatment accounting and submission (MEP RK); - Methodical directions on projects development by natural persons and legal entities of waste treatment standards and its submission for approval to the authorized body in sphere of environment protection of the Republic of Kazakhstan" MEP RK); - Methodical directions on of waste danger class passport form completion (MEP RK; - Methodical directions on classification on particular danger class of hazardous wastes, generated in process of activity of natural persons and legal entities (MEP RK); - Rules of international transportation of wastes (Ministry of transport and communications of RK; - Rules of hazardous waste transportation including handling operations (Ministry of transport and communications of RK). In the Republic of Kazakhstan international standards ISO 9000 and ISO 14000 are introducing. On 01.12.2005 this system is introduced by 36 enterprises - nature users.

*Economy:* One of the causes of significant annual increase of industrial solid wastes, small volumes of their use in economy is imperfection of legal base in RK. Practically incentive measures for activity on waste reduction, their processing, non-waste production are not developed. In the article 32 of the Law of the RK "On environment protection" the issue on economical incentive of environment protection is defined declaratively. In other laws this issue is not mentioned. Actually any measures of incentive are not undertaken. By legislation on bowels the waste of mining processing industry or technogenous mineral formations are equal to non explored deposits of minerals and agreeably, cumbersome and long by time procedure of licensing and contracting for waste processing, previous geological explore of minerals. By tax legislation all kinds of payments and taxes collection are stipulated by analogy with mineral deposits, whose mining cost efficiency is much higher.

*Industry:* Currently in regions only statistical account of industrial and solid domestic wastes is carried out. Exact squares polluted by target grounds and unauthorized dumps and volume of cumulative waste are not determined. For their determination it is necessary to fulfill inventory of cumulative solid domestic and industrial wastes. International organizations were get to take part to realization of programs in sphere of waste treatment in 1998-2002. A number of meetings, round tables and donor conferences on attracting of potential donors to realization of environmental projects were conducted. World bank, US, Japan, Germany, France governments, TACIS, UNDP, USAID, private companies announced in donor conferences their participation in financing of priority projects. For example project "Research on solid waste management in Almaty city" based on Agreement between JICA and Republic of Kazakhstan. As a result of institutional reforming and increase in level of financial management of collection, utilization and burial of solid domestic waste on Karasai target ground was carried out, more than 50 illegal dumps were liquidated. Similar projects were implemented also in Pavlodar and Shymkent cities. Project at the support of Spain on modernization of solid domestic wastes disposal in Astana city is planned to realization. Nature protection measures directed on decrease of negative impact of industrial and domestic wastes on environment are included in Ambrella project conception on component "Industrial wastes reduction in Ust-Kamenogorsk, Pavlodar and Karagandy cities". In 2000- 2002 years activity on utilization and burial of mercury containing and radioactive wastes, pesticides, toxic chemicals were fulfilled within the project on mercury utilization, burial of radioactive sources in Baikal complex of Semipalatinsk nuclear test range.

*Others:* Within budget program of scientific- research works by the Ministry of environment protection the Environmental- geochemical Atlas of towns and industrial centers of Kazakhstan was developed in 2001; in 2005 the projects "Scientific researches on assessment of environmental situation in Kazakhstan, on degree of natural resources use, on economical activity impact on environment, measures undertaken to reduce negative influence on environment", "On organization and ensuring of environment impact monitoring of production, storage and utilization of sulfur produced from hydrocarbon raw materials refinement"; and other projects are developed. In these projects the issues of industrial and domestic waste generated in result of economical activity of the Republic of Kazakhstan nature users.

### **Kiribati:**

*Policies:* The Environment and Conservation Division focuses on waste management, e.g. there is an ongoing programme to eliminate Persistent organic pollutants from Kiribati and development of a recycling facility which provides a collection point for wastes such as old lead/acid and Ni/Cad batteries prior to export for recycling or disposal.

*Legislation:* The Environment Act (1999) lays framework for environment protection in Kiribati. No provisions for management of hazardous wastes. The current legislative review is likely to address some of the requirements with respect to hazardous wastes.

*Economy:* There is now a container deposit system which includes a deposit on imported lead/acid batteries and so encourages the return of these batteries for exportation and recycling.

*Industry:* Industry in Kiribati is limited and work on improving practices is ongoing. However, no formal processes are as yet in place. Currently local and relevant stakeholders steering committees look

after waste issues usually coordinated by the relevant ministry in many cases for waste control MELAD is the coordinating ministry for example: 1. Hospital wastes issues are now attended to by the Health Care Waste Committee coordinated by the Ministry of Health and Medical Services; 2. Waste oil committee looks after waste oil issues coordinated by MELAD; 3. Acid lead batteries are being dealt with by the Kaokimaange facility coordinated by the Ministry of Commerce Industries and Cooperatives and run by the One Stop Shop private sector; and 4. In addition some hazardous wastes have been removed by the POPs PICs team (South Tarawa and the Kanton mission).

*Others:* The Government of Kiribati has implemented the National Marine Contingency Plan for the prevention of hazardous waste disposal in the marine environment.

### Kyrgyzstan:

*Policies:* The construction of waste management facility within the borders of Bishkek is planned.

*Legislation:* Law of the Kyrgyz Republic #89 "Wastes of production and consumption" was put into force on 21 November 2001; State Programme on Use of Wastes of Production and Consumption (? 389 19/08/2005); and a set of guiding instructions.

*Economy:* Tax advantages.

*Industry:* At present, all hazardous wastes are stored by industries/waste generators in tailing storages. Future transition to low-level waste generation technologies.

### Malaysia:

*Policies:* Malaysian Agenda for Waste Reduction; and promotion cleaner production.

*Legislation:* In preparation to enhance existing provision in the Environmental Quality (Scheduled Wastes) Regulations to reduce wastes using best practicable means.

*Industry:* Cleaner production, waste minimization and ISO 14001 certification.

*Others:* Special capital allowance incentive to companies which generate wastes and intend to set up facilities to treat their own wastes covering all capital expenditure incurred.

### Marshall Islands:

*Policies:* Policies are being established pursuant to laws listed (3d{1}) to minimize and control wastes generation.

*Legislation:* National Waste Management Policy is yet to be implemented.

*Economy:* Recycling of cans and copper metals.

*Industry:* Plans are being set up to bring alternatives for plastic bags by various wholesalers on island.

### Pakistan:

*Policies:* Formulation and implementation of National Conservation Strategy and National Environmental Action Plan, National Cleaner Production Centres in various sectors.

*Legislation:* Pakistan Environmental Protection Act-1997; Self Monitoring and Reporting Rules-1998; Industrial Pollution charge (Calculations and Collection Rules)-1998; Draft Hazardous Substances Rules-2003; Revised National Environmental Quality Standards-2000; Import Trade and Procedure Order – 2000; and Draft Hospital Waste Management Rules-2003.

*Economy:* The Government has reduced import duty on pollution abatement equipment from 30% to 10%.

*Industry:* Federation of Pakistan Chambers and Commerce has included environment services as one of its principal function and also established its Standing Committee on Environment; A number of Industrial Sectors/units have established environment cells; Pakistan Tanners Association contributed about 28% of the total cost of construction of Korangi Combined Effluent Treatment Plant in Karachi; - Local Tanneries Associations in Lahore have contributed about 4% of the total cost of construction of Kasur Tanneries Pollution Control Project; Other industry-supported initiatives include Environmental Technology Program for Industry, National cleaner Production Center for fuels and Clean Production Program; and A number of hospitals have installed incinerators for disposal of infectious waste.

### Papua New Guinea:

*Policies:* In preparation.

*Legislation:* Industry specific environmental codes of practice.

*Economy:* Not in place.

### Philippines:

*Policies:* a. Implementation of programs/ projects assisting industrial facilities in coming up with an Environment Management System; b. Philippines developed a Business Agenda 21, promoting the use of cleaner production or cleaner technologies using waste minimization concepts; and c. promotion of the Philippine Environmental Partnership program (PEPP).

*Legislation:* a. Presidential Decree 984: Pollution Control law of 1976; b. Presidential Decree 1586:

Environmental Impact Statement (EIS) System; c. Republic Act 6969; Toxic Substances and Hazardous and Nuclear Wastes Control Act of 1990; d. Republic Act 8749: Clean Air Act of 1999; e. Republic Act 9003: Solid Waste Management Act of 2000; and f. Republic Act 9275: Philippine Clean Water Act of 2004.

*Industry:* Compliance to Republic Act 6969 specifically on the registration and reporting requirements for hazardous waste generators.

#### Qatar:

*Policies:* Industries have been suggested to recycle and re-use wastes wherever possible. Any new industry on operation is required to take a consent to establish as part of EIA procedure.

*Legislation:* The generator would make continuous effort towards minimization of hazardous waste and other wastes and make annual assessment of the efforts for submission to the Supreme Council For The Environment in Qatar.

*Industry:* Spent catalysts are sold or given to recycling companies; and Waste oils are collected and taken offsite by contractor for recycling.

#### Republic of Korea:

*Policies:* The Korean government has prepared the 2nd Comprehensive National Waste Management Plan (2002~2011) in which the firm establishment of a sustainable and resource circulating socioeconomic foundation is outlined as a major policy objective. Based on this Plan efforts are being systematically undertaken to minimize waste generation, reuse waste as a resource, and establish infrastructure for safe waste management.

*Legislation:* Many laws, regulations and guidelines are being enforced with the objective of reducing and discouraging the generation of hazardous waste, of which some of the major examples are the following: - The Waste Management Act; - Act on the Promotion of Saving and Recycling of Resources; and - Guidelines on the Reduction of Industrial Wastes (Public Notice by MOE and the Ministry of Commerce, Industry and Energy, 2001).

*Economy:* The Extended Producer Responsibility (EPR) system and the Waste Charge System have been in effect for recyclable and non-recyclable products, respectively. The Volume-Based Waste Fee System has been in place since 1995 to facilitate the reduction of household waste and the separate collection of recyclable wastes from non-recyclable wastes.

*Industry:* Industries and waste generators are making efforts to minimize the generation of wastes, both to cut down the financial burden in their disposal and to comply with the Public Notice by MOE and the Ministry of Commerce, Industry and Energy, announced on 21 December 2001. Some retailers, such as department stores, have signed a voluntary agreement with the MOE that they will steadily reduce the use of disposable goods, and some fast food restaurants have decided not to use them at all.

#### Singapore:

*Policies:* Avoid/reduce generation of hazardous wastes; Use less hazardous chemicals; and Use clean technology and recycle/re-use toxic industrial wastes where appropriate. National Recycling Programme (NRP) for households was launched in April 2001 to increase recycling rate for household wastes. An interagency task force led by the Economic Development Board was formed in May 2001 to draw up the framework and action plans to develop Singapore into a Centre of Excellence for waste recycling in the region in 10 years' time. The task force recommended a framework comprising the following four strategic thrusts: To create a pro-environment culture both in the corporate world and in the community; To develop an effective supporting infrastructure to help nurture the waste recycling industry; To build a strong foundation for technology development and innovative application of technologies; and To create a vibrant waste management industry. (<http://www.nea.gov.sg/cms/pcd/EPDAnnualReport.pdf>)

*Legislation:* Prior to Singapore's notification to the Basel Convention, the Pollution Control Department applied the Environmental Public Health (Toxic Industrial Waste) Regulations to regulate the export, import and transit of hazardous wastes. In November 1997, Singapore enacted the Hazardous Waste (Control of Export, Import and Transit) Act (HWA) and its regulations that came into operation on 16 March 1998. The Act and its regulations enable Singapore to fulfill the obligations of the Basel Convention. Under the Act and its regulations, a permit is required for the export, import and transit of hazardous wastes scheduled under the Basel Convention.

*Economy:* Private companies can apply to Agency for Science, Technology and Research (A\*STAR) for research funding on reduction of hazardous waste generation or recycling of hazardous wastes. The National Environment Agency (NEA) has continued to provide a \$20 million Innovation for Environmental Sustainability (IES) Fund in 2002. Through this fund, NEA will provide seed funding for innovative projects undertaken by the industry and in the community that will help Singapore attain its goals of environmental sustainability. Companies could seek assistance in the development and test bedding of promising and innovative technologies on waste recycling. ([http://app.nea.gov.sg/cms/htdocs/category\\_sub.asp?cid=42](http://app.nea.gov.sg/cms/htdocs/category_sub.asp?cid=42))

*Industry:* Cleaner production; and waste minimization/reduction/recycling/recovery programs. The Waste Management and Recycling Association of Singapore (WMRAS) was established on 8 August 2001.

Members of the association include companies in the waste management and recycling industry. WMRAS serves as a platform for the waste recycling companies to pool their resources, to collaborate and to work together to upgrade and raise the professionalism of the waste management and recycling industry. (<http://www.nea.gov.sg/cms/pcd/EPDAnnualReport.pdf>)

### Sri Lanka:

- Policies:** A National Strategy for Solid Waste Management has been formulated, where waste avoidance is prioritized over other forms of treatment and disposal. The National Cleaner Production Policy & Strategy and the sectoral Cleaner Production Policies which cover major economic sectors ( health, agriculture, Fisheries, tourism) of the country. A National Industrial Pollution Management Policy is in place. The National Environmental Action Plan has advocated the establishment of a Cleaner Production Center as the first priority for waste reduction, and accordingly, a National Cleaner Production Center has been established under the Ministry of Industries. A National Plan for Hazardous waste management has been prepared. Approval for importation of pesticides are granted on consignment basis. At the time of granting approval, attention is paid to the amount of the product available with the consignee in order to avoid the accumulation of unwanted or obsolete stocks within the country. Further consignments which are older than three months at the time of export from the country of origin are not allowed to import into the country.
- Legislation:** Internal Management of Hazardous waste regulations are in place. These regulations have been revised to incorporate List A & List B Wastes. Guidelines for the implementation of hazardous waste management regulations are in place. A guidance manual for safe and effective detection and investigation of illegal traffic and transboundary movement of hazardous wastes and other wastes in Sri Lanka is being prepared. Environmental Protection License scheme and the Environmental Impact Assessment scheme under the National Environmental Act are in place. Guidelines for siting of industries have been formulated.
- Economy:** The Ministry of Industries facilitates ISO 14,000 certification for industries. The environmental licensing scheme(EPL) and the EIA process has been introduced for the polluting industries under National Environment Act. Arrangements are being made for implementation of the load based licensing scheme to minimize the discharge of hazardous and other wastes under the EPL System. The National Cleaner Production Center is functioning to reduce the generation of wastes from industries.
- Industry:** The industrialists make an effort to obtain ISO 14000 Certification and adopt cleaner production approaches. The government as well as the private hospitals are in the process of obtaining the ISO 14000 certification. Industrialists plan to cluster their industries at industrial parks and common waste treatment plants are established in industrial estates.

### Thailand:

- Policies:** On 23 March 2005, the Prime Minister of Thailand has presented the government policies delivered to the National Assembly. As to the Natural Resources and Environmental Policy regarding the waste aspect, the Government will implement an environment-friendly waste disposal system and enhance waste disposal capacity of local administrative authorities. The Government will also promote the private sector's role in research and development for recycling of raw materials and clean technology. In addition, the Government will not allow Thailand to become an end receiver of waste, which has to bear the costs of waste and pollution. Recently, Thailand has drafted the national integrated waste management plan, which has been focused on the sustainable consumption of the natural resources and the application of the 'cradle to cradle' concept, including control of waste generation at sources, increase on waste segregation and enhancement of waste utilization efficiency prior to the final disposal. The targets of waste minimization in this plan are to have the waste reduction scheme, to have the waste segregation system for reuse and recycling in every community over the country, and to minimize 30% of total waste generated within 2009. In addition, based on the integrated waste management and life cycle approach, Thailand has also developed the strategic plan on special wastes, such as packaging wastes and waste from electrical and electronic equipments, which has introduced the Polluter Pays Principle by taking into account the responsibility of producer, importer and consumer and the promotion of 3Rs as a vital tools for the environmentally sound management.
- Legislation:** According to the Notification of the Ministry of Industry No. 6. [B.E. 2540 (1997)] issued pursuant to the Factory Act B.E. 2535(1992) on Disposal of Wastes or Unusable Materials, Factory operators having hazardous wastes which have such characteristics and properties as defined in Annex 1 of the notification (as described in waste stream) must carry out the disposal of the wastes or unusable materials as defined as follows: Such hazardous wastes shall not be taken out of the factory except with prior approval from the Director-General of Industrial Works Department or the person assigned by Director-General of Industrial Works Department to take them out to detoxify, dispose, discard or landfill by method and at the place according to the criterion and the method defined in Annex 2 of the Notification; and Details on type, quantity, characteristics, properties and storing place of such hazardous wastes or unusable materials concerned as well as method of storage, detoxification, disposal, discarding, landfilling and transport according to "Form Ror. Ngor. 6", attached to the notification must be notified to the Department of Industrial Works within the limit of 90 days from the effective date hereof, except that factory operators who operate a factory after the effective date hereof shall notify within the limit of 90 days from the commencing date of factory operation. Additionally, the separation, collection, transportation, treatment and disposal of infectious wastes

generated from hospitals, clinics and health care service centers have been complied with the Regulation of the Ministry of Health on the Disposal of Infectious Waste B.E. 2545 (2002).

*Economy:* Tax differentiate, e.g. the different excise tax rate for recyclable batteries production which is rebated 5% of the excise tax, unleaded gasoline (ULG); Tax exemption, e.g. equipment for the control, treatment or eliminate pollutants; Deposit-refund system, e.g. bring-back program, this system will be used as a tool for subsidizing the consumer to return the remains of products containing hazardous substances such as dry cell batteries for final disposal or recovery; The environmental fund is established for the environmental sound management activities in accordance with item 2 "Environmental Fund" of the Enhancement and Conservation of the National Environment Quality Act B.E. 2535 (1992); and The Thai green label scheme project is established for developing the criteria on the clean or waste minimized products (e.g. no mercury added dry cell batteries, recyclable plastic products, etc.).

*Industry:* In cooperation and support from relevant authorized agencies, 6 categories including plastics, agro, pulp and paper, electroplating, dyeing and tannery industries have been in the process of developing clean technologies and waste minimization methods. The co-incineration of wastes in cement kilns as one optional waste disposal other than landfilling, since 2001. The benefits of this program are both energy and material recovery. The program also included the energy replacement for coal/coke and the material replacement for raw material used in the cement kiln process. There are currently seven cement manufacturers expanded their capability in co-incinerators of hazardous wastes. Currently, pilot project on waste exchange programs are being conducted in Thailand to encourage recycling in industries. This program is based on the premise that one industry's waste is another industry's raw material. Companies match their waste disposal and their raw material needs through a computerized database, and subsequently exchange waste. For the supplier of the waste, these types of transactions avoid disposal costs, while the user; the purchase of used raw materials can be done at lower prices than that of new materials and can be reduced the energy needed during the manufacturing processes. As of 2004, over 400 industries had registered on the waste exchange database established by Ministry of Industry. Additionally, at the local level many successful programs have been implementing, for example. Some local communities have conducted their own waste management program based on the 3Rs, such as source separation program, waste recycling in school. Such programs can reduce more than 30% of total waste generated in the community.

*Others:* The following methods have been used as support tools to reduce and/or eliminate generation of wastes: ISO 14000s, ISO 18000, Life cycle Assessment and Greening of Supply Chain etc.; Research on clean technologies and waste minimization e.g. research on cleaner production in the dyeing and synthetic rubber industries; and Technical guidelines on the environmental sound management of hazardous wastes generated from communities e.g. laboratory waste, commercial waste, infectious waste, vessel and port waste.

### **Viet Nam:**

*Policies:* National Strategy on Environmental Protection until 2010 and Vision toward 2020: The first specific objective is pollution reduction and the first main task is pollution prevention and control. Waste recycling is encouraged. Resolution 41-NQ/TW dated 15 November 2004 of the Politburo on enhancement of environmental protection in the industrialization and modernization of the country: aims at pollution reduction, including pollution control at source and waste recycling.

*Legislation:* Law on Environmental Protection - amended in 2005 (enter into force since 1 July 2006) encourages waste reduction and recycling as well as stipulates responsibility of generators for waste minimization. Regulations on Hazardous Wastes Management issued by Decision No. 155/1999/QD-TTg dated July 16, 1999 of the Prime Minister (under amendment process) stipulates that generators are responsible for reducing and separating hazardous waste at source.

*Economy:* Law on Environmental Protection in 1993 stipulates that individuals and/or organizations have the obligation to pay compensation fees (damages) according to relevant legislation if their activities or operations are causing harm to the environment. Law on Environmental Protection - amended in 2005 (enter into force since 1 July 2006): - Organizations, households and/or individuals that have production or business of products related to long term adverse impact on environment and human health have to pay environmental tax. - Individuals and/or organizations that discharge into environment or cause harm to environment have to pay environmental fee. Decree No 67/2003/ND-CP dated June 13, 2003 on environmental fees for waste water.

*Industry:* In carrying out production, business and other activities, all organizations and individuals must implement measures for environmental sanitation and have appropriate waste treatment equipment to ensure compliance with environment standards and to prevent and combat environmental degradation, environmental pollution and environmental incidents (Law on Environmental Protection in 1993). Application of Cleaner Production and ISO 140000 is increasing.

### **Yemen:**

*Policies:* Measures which has been taken for the reduction and/or elimination of the amount of hazardous wastes and other wastes generated are stated in The National Strategy of Integrated Management of Hazardous Waste for the Implementation of Basel Convention Republic of in Yemen.

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**Question 5. Reduction/Elimination of generation of hazardous/other wastes**
**2004. Central and Eastern Europe. (Parties which did not report are not listed).**


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**Albania:**

**Policies:** The National Environmental Action Plan was approved since 2001; Solid Waste Management Plan; The Law for the Management of Hazardous Chemical Substances will be completed in 2001; and The approval in July 2001 of the "Strategic Action Plan for healthcare waste management in Tirana city". This document is prepared from ECAT-Tirana (Environmental Center for Administration and Technology), and it is approved from Minister of Health. A few municipalities have prepared the Local Plans on Waste Management. Regarding the national policies and strategies should explain: 1- The National Plan on waste Management is an old plan, approved since 1996. Actually, Albania is working to prepare the National Strategy on Waste Management, and local plans, as well as New National Waste Management Plan. Albania is expecting to have these important documents in the end of 2006. 3- During the year 2005 was prepared the draft-National Strategy on Hazardous Waste Management and draft-law on Hazardous Waste Management. They may will be approved soon.

**Legislation:** Environmental Protection Law No. 7664 1/21/1993; New Environmental Protection Law No.8934 date 05/09/2002; Law no. 9010 date 13/02/2003 "On environmental management of solid waste"; Law no.8990 date 23/01/03 "On environmental impact assessment"; Decision of Council of Ministers No 26 1/31/1994 on Hazardous Waste and Residues; Decision No. 541 of Council of Ministers dated 25 September 1995 "On Duties that Ministers, Institutions and Physical and Juridical Persons have in Environmental Monitoring and Control Process"; Law no.9108, date 17/07/2003 "On the Chemical Substances and their compounds" ·Decision of Council of Ministers 'On classification, packaging, labeling and storage of hazardous chemicals". The Albanian Waste Catalogue was prepared in 2004 according the European Waste Catalogue and was approved from Council of Ministers on 18/2/2005. The list define the hazardous waste with \*, and it has annexes which define hazardous characteristics and hazardous components( in compliance with Council Directive 91/689/EEC on hazardous waste).

**Economy:** According the Law no.9010 date 13/02/2003 "On environmental management of solid waste", the activities that recycle waste, will be excluded from the tariff of Environmental Permit , and will be supported from MoE.

**Industry:** 1- The several projects financed from EU started in 2004 for remediation of environmental hot-spots, which was defined from UNEP Report in 2001 in Albania. 2- According to the Law no.8990 date 23/01/03 "On environmental impact assessment", the activities and industries should apply for Environmental Permit before they start work, and they have obligation to prepare a plan-measures for management and limit waste generation (which should be present in Environmental Impact Assessment Report). 3- According the Law no.9010 date 13/02/2003 "On environmental management of solid waste",-article 10- the activities that generate waste should ensure separate collection of hazardous waste and temporary storage them in special conditions until their final disposal. 4-There are a few enterprises which are collecting and recycling paper and plastic. 5- There are a number of small enterprises that recover the used tyres.

**Others:** 1. There is a project financed from CARDS 2002 "Design and construction of a landfill for hazardous waste in Albania". The project started in August 2004. 2. Another project finished the feasibility study for management of hazardous waste and construction of a landfill for waste generated from Oil Refinery in Ballsh. 3. Project "Management of solid waste in Albania with pilot zone Korca region", financed from Swedish International Development Agency – Sida, and was approved from Council of Minister in 22.12.2004. The project aim to support the MoE to fulfill the legislation for waste, as well as the establishment of national waste database and to support the Korca region on waste management (on separate collection, recycling, composting center, remediation of old dumpsites ect.).

**Armenia:**

**Policies:** National policy is aimed to minimize wastes generation and their utilization. The National "Law on Wastes" adopted on November 24, 2004 (AL-159-N) presupposes economic incentive measures for the enterprise carrying-out activity for the wastes recycling and utilization.

**Legislation:** The National "Law on Wastes" was prepared, taking into account the incentive measures for the elimination and/or reduction of hazardous wastes generation and other types of wastes. The national legislation presupposes penalty for the violation in the sphere of wastes management according to the Administrative Codex (article 201, paragraph 1; article 201, paragraph 2) and Crime Codex (article 237, paragraph 6) of the Republic of Armenia.The Crime Codex was amended on June 9, 2004 and issues on chemicals and hazardous wastes management are set out in Chapter 27 «Crimes against Environment safety», articles 281-298, where the types and scopes of criminal penalties are determined in case of environmental pollution by chemicals and hazardous wastes as well as chemicals and hazardous wastes illegal management.

**Economy:** According to the Chapter V "Provision of economic incentives on measures on wastes utilization and minimization of their generating volumes" article 23 "Stimulation of measures aimed at wastes utilization and minimization of their generating volumes" of the National "Law on Wastes", there are

economic incentive measures, providing privileges to those enterprises, at which activities for the wastes recycling and utilization are implemented. According to system on license issuing ("Order of licensing for recycling, treatment, storage, transport and disposal actions on hazardous wastes in the Republic of Armenia" approved by the No 121-N Governmental Decision of January 30, 2003), legal and natural persons engaged in recycling, treatment, storage, transport and disposal of hazardous wastes are obliged to apply for obtaining the license.

**Industry:** In accordance with the Chapter V "Provision of economic incentives on measures on wastes utilization and minimization of their generating volumes", article 23 "Stimulation of measures/actions aimed at wastes utilization and minimizing the volumes of their generation" of the National "Law on Wastes" there are privileges for wastes recycling, reusing, recuperating enterprises.

**Others:** In order to regulate the issues on hazardous wastes management and in accordance with the Basel Convention requirements the following documents were approved: The Governmental Decision of the Republic of Armenia No. 874-? "Approval of the List of hazardous wastes of the Republic of Armenia" signed on May 8, 2004. The Governmental Decision of the Republic of Armenia No. 1093-N on "Amendment to the Governmental Decision of the Republic of Armenia No97 on December 8, 1995 and approval of the List of Banned Hazardous Wastes of the Republic of Armenia" signed on July 8, 2004. Protocol Decision of the Government of the Republic of Armenia No. 26 "Endorsement of the National Profile on Chemicals and Waste Management" signed on July 8, 2004. Decision of the Government of the Republic of Armenia "On the order of licensing for activity on processing, treatment, storage, transportation, and placement of hazardous wastes in the Republic of Armenia" (No.121-N of January 30, 2003); Decision of the Prime Minister of the Republic of Armenia "On approval of the membership and order of activity of inter-departmental commission on licensing of activity on recycling, treatment, storage, transportation and placement of hazardous wastes in the Republic of Armenia" (No. 46-N of February 5, 2004); Decision of the Prime Minister of the Republic of Armenia "On setting-up the working group on regulation of the issues dealing with destruction of obsolete, inappropriate-for-use chemical plant protection substances and working-out action plan for destruction thereof" (No. 452-A of September 22, 2003); Decision of the Government of the Republic of Armenia "On approval of measures ensuring security of obsolete pesticides burial and on assigning funds from Republic of Armenia state budget for FY 2004" (No. 526-A dated April 22, 2004); Decision of Prime-Minister of the Republic of Armenia "Establishment of inter-agency committee" (No645-? dated December 12, 2003) to deal with issues on inventory and actions on disposal of existing stockpiles of expired medicine in the Republic of Armenia. Decision of the Government of the Republic of Armenia "On approval of the List of actions to implement Republic of Armenia obligations under a number of International Environmental Conventions (No. 1840-N of December 2, 2004); Decision of the Government of the Republic of Armenia "On establishment of the State non-commercial organization "Waste Research Center" (No. 670-N of May 19, 2005). The Ministry of Nature Protection of the Republic of Armenia in cooperation with UNITAR fulfills the "Developing and Sustaining an Integrated National Programme for Sound Chemicals and Waste Management in the Republic of Armenia" (2004-2005). The Programme aim is to provide the sustainable basis for efficient and coordinated actions on key issues, to establish the system of harmonized chemicals and wastes management, capacity building and to strengthen the legislative in this area at national level.

### **Belarus:**

**Policies:** National Action Plan on Rational Use of Natural Resources and Environmental Protection in the Republic of Belarus for 2001-2005 years, adopted 21.06.2001.

**Legislation:** The Waste Law, which entered into force on 1 January, 2001, introduces the general obligation to prevent waste generation and to reduce its quantity and harmfulness. In order to implement the general obligation of the Law a number of normative legal documents have been accepted: - Decision of the Government on State Register of Technologies for Waste Recycling and on State Register of Facilities for Waste Neutralization and Disposal; - Decision of the Government on Adoption of Regulation on Order in Approval of Limits for Waste Disposal; - Decision of the Ministry of Natural Resources and Environmental Protection on Adoption of Rules for Development, Agreement and Approval of Instruction for management of Industrial Waste; - Decision of the Ministry of Natural Resources and Environmental Protection on Adoption of Instructions on Procedure for Registration of Transactions for Alienation and Assignment (except transportation) of Waste to Another Person for a Certain Period of Time; - Decision of the Ministry of Natural Resources and Environmental Protection on Adoption of Rules for Issuing, Cancellation of Permits for Disposal of Industrial Waste; - Decision of the Ministry of Natural Resources and Environmental Protection on Adoption of Classifier Waste Generated in the Republic of Belarus; - Decision of the Ministry of Natural Resources and Environmental Protection on Adoption of Rules for Accounting of Waste; - Decision of the Ministry of Natural Resources and Environmental Protection on Adoption of Form of Special Document for Accompanying of Transportation of Waste; - Decision of the Ministry of Natural Resources and Environmental Protection on Adoption of Rules for Norm-Setting Generation of Industrial Waste; - Decision of the Ministry of Natural Resources and Environmental Protection on Adoption of List of Waste that shall have Passports; - Decision of the Ministry of Natural Resources and Environmental Protection on Adoption of Order on Determination of Level of Hazard of Waste and Establishing the Class of Hazard; - Decision of the Ministry of Health of the Republic of Belarus on Approval of Instruction about Rules and Methods of Neutralization of Waste Pharmaceuticals, Drugs and Medicines, of Products of Medical Purpose and Clinical Equipment; - Decision of the Government on Establishment of the Payment for delivery of sanctions to disposal of

waste and special water use; - Decision of the Government on Adoption of Some Questions of the Management with plastic waste; - Decision of the Government on Perfection of the System of Collection and Processing of Some Kinds of Secondary Raw Material; - Decision of the Ministry of Natural Resources and Environmental Protection on Adoption of Norm of Decrease in Harmful Environmental Impact of Waste of Plastic and the List of Plastic Container Waste Concerning which this Specification is Established; - Decision of the Ministry of Natural Resources and Environmental Protection on Adoption of Instruction of Collection (Preparation) and Processing of Plastic Waste; - Decision of the Ministry of Housing and Communal Services from 30.07.2003 ? 26 on Adoption of Instruction on the Organization of Separate Collection, Storage and Transportation of Municipal Waste; - Decision of the Government on Adoption of Regulations about Licensing of the Activity Connected to Use of Natural Resources and Influence on the Environment; - Decision of the Trade Ministry on Adoption of Procedure for Payments for Organization of the Glass, Paper and Cardboard Packing Waste Collecting and Recycling; - Decision of the Government On Adoption of Increase of Payment for Natural Recourses Use and of Application of Measures for Stimulation of Natural Protection Activity; - Decision of the Ministry of Housing and Communal Services On Adoption of the Program of Municipal Solid Waste Management for 2004-2006; and - Decision of the Ministry of Natural Resources and Environmental Protection and the Ministry of Housing and Communal Services On Adoption of Environmental Requests for Seating and Operation of the Municipal Waste Sorting and Processing Facilities.

*Economy:* The economic mechanism in the field of waste management is defined by the Law "About Environmental Protection" of the Republic of Belarus, the Law " About Waste " and other legislative documents of the Republic of Belarus. Article 38. Provision of economic incentives in the field of waste management: - Exemption from taxes according to the legislation of the Republic of Belarus to persons during which economic activities the waste management is carried out through application of cleaner technologies and realization of other innovative activity in the field of waste management; - Allocation according to the legislation of the Republic of Belarus of means from republican and local budgets, budgetary environmental funds for performance of actions for neutralization of hazardous waste; - Applications of the accelerated amortization of the basic production assets of the persons who are carrying out during economic activities use or neutralization of waste products; - Other kinds of provision of economic incentives according to the legislation of the Republic of Belarus. The procedure of the measures connected to provision of economic incentives for introduction of cleaner-production technologies in manufacture, is defined by the legislation of the Republic of Belarus. Provision of economic incentives provides tax privileges, for example, clearing of the tax to the added cost received from sell of secondary raw material. Waste disposal is chargeable. The rate of payment is established on differential basis depending on the toxicity level of waste. Besides the rate of the payment for disposal of waste over the limits established by local executive and administrative authorities, is five times increased. Crediting is carried out by giving grants from budget environmental funds. The grants are given for introduction of cleaner technologies, scientific research and development works on creating new types of environment oriented technique. With the purposes of improving a system of collecting and processing of some kinds of secondary raw material by the Government of the Republic of Belarus number of the documents on expansion of the manufacturers responsibility for organization of the collecting and processing of plastic waste and glass container waste and paper and cardboard packing waste which are formed after consumption of the goods packed into it.

*Industry:* The generators of waste shall develop the norms for waste generation and get agreement on them from territorial bodies of the Ministry of Natural Resources and Environmental Protection. The waste generation norms help with operational quantitative control on waste generation and are used for development of waste disposal limits. In the recent years, one of the essential lines of work for ensuring environmentally safe economic activities in the country has been environmental certification. The Sub-System of Environmental Certification of Production and Products in the Republic of Belarus was created within the National System of Certification by the joint Order of the Ministry Environment Protection and the State Standard Agency. Ten international standards ISO 14000 adopted by the country have been used to develop the package of guidance and methodological documents of the Sub-System of Environmental Certification. Majority of the largest enterprises of the country have already introduced ISO 14001-2000. This work is being continued now.

### **Bosnia & Herzegovina:**

*Policies:* National strategies for hazardous waste is not prepared.

*Legislation:* None

*Economy:* None

*Industry:* None

*Others:* None

### **Bulgaria:**

*Policies:* National Waste Management Program (2003-2007).

*Legislation:* -Regulation on the order and procedure for import, export and transit of waste, and for the cases when a bank guarantee or insurance is required (promulgated, SG, ? 102/19.11.2004); -Regulation on the requirements for marketing of batteries and accumulators and for treatment and

transportation of spent batteries and accumulators (promulgated, SG, ? 58/15.07.2005); - Regulation on the requirements for treatment and transportation of spent oils and waste oil products (promulgated, SG, ? 90/11.11.2005)-Regulation ? 6 on the conditions and requirements for the construction and operation of waste incineration and co-incineration plants (promulgated, SG, ? 78/07.09.2004);-Regulation ? 7 on the requirements, which must be met by the waste treatment facility sites (promulgated, SG, ? 81/17.09.2004); -Regulation ? 8 on the conditions and requirements towards the construction and operation of waste landfills and other facilities and installations for waste recovery and disposal (promulgated, SG, ? 83/24.09.2004);-Regulation on the requirements for treatment and transportation of waste from production of titanium dioxide (promulgated, SG, ? 39/12.05.2004);-Regulation on the requirements for soil protection when using sludge originating from waste water treatment plants for the purposes of agriculture (promulgated, SG, ? 112/23.12.2004);-Regulation on the way of collection and treatment of end-of-life vehicles (promulgated, SG, ? 104/26.11.2004);-Regulation on the treatment and transportation of industrial and hazardous waste (promulgated, SG, ? 29/19.03.1999);-Regulation on Packaging and Packaging Waste (promulgated, SG, ? 19/09.03.2004), transposes the requirements of Directive 94/62/?? on packaging and packaging waste;-Regulation on the requirements for making an inventory of PCB containing equipment, marking and cleaning as well as for treatment and transportation of PCB containing waste; and-Ordinance on the conditions and procedure for issuing of permits for construction and operation of new establishments or installations and for operation of existing establishments and installations implementing a system for the prevention of major accidents involving dangerous substances or the limitation of their consequences.

*Economy:* Product charge for putting on the market of batteries and accumulators, tires and vehicles.

### Croatia:

*Policies:* The National Waste Management Strategy adopted on 14th October 2005. by the Croatian Parliament, contains directives for: - avoiding and reducing the generation of waste and reducing the hazardous properties of waste at source (cleaner production), - developing and establishing programmes of systematic education on waste, recovering the valuable properties of waste for material or energy purposesThe National Waste Management Plan will be prepared on the basis of the National Waste Management Strategy.

*Legislation:* Law on Waste, Official Gazette, No. 151/03: Article 5 The primary objectives of the handling of waste are: – to avoid and to reduce the generation of waste and to reduce the hazardous properties of waste whose generation cannot be prevented, – to prevent the uncontrolled handling of waste, to recover the valuable properties of waste for material or energy purposes, and to have it treated before landfilling, to control the landfilling of waste, to provide for the remediation of the soil polluted by waste, to develop and establish programmes of systematic education on waste. Article 18 (1) The producer of waste shall draw up a waste management plan if it is certain that he or she shall produce within the calendar year more than 150 tons of non-hazardous waste, or more than 200 kilos of hazardous waste.

*Economy:* 1. Croatian Environmental Protection and Energy Efficiency Fund (CEPEEF) established by a decision of the Government of the Republic of Croatia is State Non-Budget Fund in charge for financing and co-financing projects, programmers and investments related to improvement environment and energy efficiency. 2. The Croatian Environmental Protection and Energy Efficiency Fund in 2004 started to collect the charges on burdening the environment with hazardous waste from companies producing hazardous waste. This charges are defined according to the Article 15 of the Environmental Protection and Energy Efficiency Fund Act (Official Gazette, No.107/03). This Article sets the obligation to companies to pay the charge on the basis of quantities of hazardous waste produced but untreated and not exported, and on the basis of hazardous waste characteristics.

*Industry:* Certain facilities have established ISO 14001 Environmental Management System. Some of the companies have taken part in cleaner production programmes initiated by the Croatian center for cleaner production. Companies are preparing waste management plans in accordance to the Waste Law, Article 18.

### Czech Republic:

*Policies:* State Environmental Policy (2004-2010); National Environmental Management Programme; National Eco-labelling Programme; and National Programme of Cleaner Production. The Czech Republic Strategy for Sustainable Development, Operation Programme "The Environment".

*Legislation:* Act on Waste No. 185/2001 Coll., as last amended by Act No. 314/2006 Coll.; Waste Management Plan of the Czech Republic (Government Decree No. 197/2003 Coll.) - evaluated for the year 2004; Regional Waste Management Plans for all 14 regions of the Czech Republic; Implementation programmes for selected waste streams (hazardous wastes, biomedical and healthcare wastes, sewage sludge, end-of life vehicles, biodegradable wastes, waste electrical and electronic equipment, plastic wastes, decontamination and disposal of PCB-containing equipments, economical instruments for the support of material recovery of wastes). National Implementation Plan of the Stockholm Convention on Persistent Organic Pollutants.

*Economy:* The following programmes of the State Environmental Fund: - Programme for Promotion of Best Available Techniques (BAT); - Programme for Promotion of Environmental Management; - Programme for Decontamination and Reclamation of Old Landfills; - Programme for Promotion of

Recovery and Final Disposal of Waste; and - Programme for Elaboration of Waste Management Conceptions. Programme of the Czech Moravian Guarantee and Development Bank: - Promotion of EMAS in Small and Medium Enterprises.. Fee for landfill of waste (basic component of fee – for depositing of waste, risk component – for depositing of hazardous waste). Financial reserve for reclamation of landfills.

*Industry:* Implementation of cleaner production projects. Implementation of environmental management systems (EMS/EMAS).

*Others:* Voluntary agreements between Ministry of Environment of the Czech Republic and the following partners: Czech Association of Producers and Importers of Portable Batteries (regarding waste batteries) Builder Association and Environmental Building Association (regarding construction waste) Czech Chamber of Dentists (regarding amalgam waste from dental care).

### Estonia:

*Policies:* The environmental policy of the Estonian government has been provided by the National Environmental Strategy (1997) and the National Environmental Action Plan (NEAP: 1998), which also set guidelines for legal development. National Waste Management Plan (2002).

*Legislation:* Waste act, Packaging Act, etc.

### Georgia:

*Policies:* None.

*Legislation:* None.

*Economy:* None.

*Industry:* None.

*Others:* None.

### Hungary:

*Policies:* The National Environmental Program contains 19 measures for waste reduction and recycling/reuse measures, including hazardous wastes. The National Waste Management Plan was accepted by the Hungarian Parliament on November 2002. This Plan contains the financial and technical measures for implementation till 2008. Based on the NWMP the regional environmental authorities have created the regional waste management plans for the seven statistical regions. These plans were issued due to the prescriptions, given in the Decree of Ministry of Environment and Water 15/2003 (XI. 7.)KvVM. Local authorities and companies have also obligation for preparing similar waste management plans. Regional environmental authorities have to control the plans of local municipalities and these plans have to be published in the form of municipal decrees. In order to keep the plans of different levels harmonised, the structure and content requirements of these plans are laid down in Decree 126/2003.(VIII. 15.)Korm.

*Legislation:* Unless a legal rule provides otherwise, the producer shall prepare a three-year waste management plan for the prevention of the generation of its hazardous wastes, for the reduction of the hazard level and the quantity of its hazardous wastes, and for the recuperation and disposal thereof. Unless a legal rule provides otherwise, the producer of hazardous waste shall draw up a material balance in respect of each of its activities resulting in hazardous waste. On application, the National Inspectorate for Environment and Nature may authorize the drawing up of the material balance in a simplified form.

*Economy:* The Ministry of Environment administers the financial fund that contributes to the development of municipalities waste management tasks, supports the investments that lead to reduce, eliminate, recycling or final disposal of hazardous wastes. In 2004 the subsidy system changed, the seven regional centres determine the aims of support and award the main part of the subsidy. From this year on, the regional development councils will do the tendering of the national environmental fund and the special subsidies.

*Industry:* Companies having considerable influence on waste management also have to create individual waste management plans and forward them to the regional environmental authorities.

*Others:* None.

### Latvia:

*Policies:* National Waste Management Plan, 2003-2012.

*Legislation:* Waste Management Law, Law on Natural Resource tax.

*Economy:* Natural resource tax for disposal of hazardous waste, subsidies for recovery of hazardous wastes.

### Lithuania:

*Policies:* Government Resolution No 519 On National Strategic Waste Management Plan adopted on 12 April 2002, with amendments and last one in 2004 adopted on 10 October 2004 by the Government Resolution No 1252. The National Hazardous Waste Management Programme, approved on 22 February 1993 by Government Resolution No 98 (as amended on 9 June 1999 by the

Governmental Resolution No 761).

*Legislation:* Law No VIII-787 on Waste Management adopted on 16 June 1998. Order No 217 on Rules of Waste Management adopted on 14 July 1999 by the Minister of Environment (as amended on 30 December 2003 by the Order No 722 of the Minister of Environment). The Order No 80 on Rules of issuance, renovation and cancellation of Integrated Pollution Prevention and Control permits adopted on February 2002 by the Minister of Environment. Law No IX-720 On the Amendment of the Law On Environmental Pollution Charges, adopted on 22 January 2002.

*Economy:* Product Charges.

#### Poland:

*Policies:* The reduction of hazards posed by hazardous waste is one of the priorities of the "II National Ecological Policy". The National Plan on Waste Management is based on the intents of "II National Ecological Policy". The National Plan on Waste Management was established as the result of the provision contained in the Article 14 3 par. 4 of the Act on Waste of 27 April 2001. Resolution of 29 October 2002 No 219 of the Council of Ministers on the National Plan on Waste Management came into force in October 2002 (Journal of Law and Provision of 2003, No 11, Item 159). Currently the National Plan on Waste Management is been updated, and will include the data on waste management since 2004.

*Legislation:* The new Act on Waste regulates the issues related to hazardous waste management. Compared with the previous Act, the new Act imposes more demanding standards for landfill and incineration of waste (in line with the EU requirements). The system of permits for the generation and further handling of hazardous waste will be maintained. The obligations of economic operators and the administration in the scope of information are expanded.

*Economy:* The Act of 11 May 2001 on Economic Operators' Obligations in the Scope of Managing Certain Types of Waste and on the Product and Deposit Charges (O.J. of 2001, No.63, Item 639, as amended), came into force on 1 January 2002. It contains legal and economic instruments (the obligation to recover waste - or pay product charges) promoting the establishment of a system for collection and recovery of certain types of hazardous waste (waste oils, discharge lamps, batteries and accumulators).

#### Republic of Moldova:

*Policies:* National Program for Waste Utilization, the principles of which are: To prevent the generation of waste and reduce its harmfulness; Waste materials should be reused, recycled or recovered, or used as a source of energy; and Waste should be disposed of safely (by incineration or in landfill sites).

*Legislation:* The Law nr. 1515-XII of 16.06.93 on Environmental Protection; The Law nr. 1236-XIII of 3.07.97 on Regime of Harmful Substances and Products; The Law nr. 1347-XIII of 9.10.97 on Waste of Production and Consumption; and Guidelines "ABC of waste".

*Economy:* Payments for Environmental Pollution, including waste disposal, Law No. 1540-XIII of 25.02.1998 on payment for environmental pollution, based on the principle "polluter pays."

*Industry:* In accordance to the national legislation, the industry/waste generator are obliged to use cleaner technologies; take in evidence all waste; use waste without any risk; and ensure waste disposal and recovery on the basis of the contract between economical agents and respective license owner etc.

#### Romania:

*Policies:* The Emergency Ordinance no. 78 / 2000 on Waste regime was approved by the law 426/2001. In accordance with art. 8 of this Emergency Ordinance the national competent authority was elaborated Plans for management of wastes. The National Strategy for Waste Management and the National Plan were elaborated in 2002 and approved by Governmental Decision no. 1470/2004. In accordance with art. 19 lit a) of the Emergency Ordinance no. 78/2000 approved by the law 426/2001, producers of wastes shall adopt technologies and solutions for reduction and elimination of generation of wastes.

*Legislation:* In accordance with art. 54 of the Emergency Ordinance no. 78 / 2000 approved by the law 426/2001, the drafts of Governmental Decisions for regulation of management of used oils, management of used batteries, incineration of wastes, landfills, and packaging and waste packaging are in preparation. The Governmental Decision no. 173 / 2000 on regulation of PCB and similar compounds was adopted on 13 March 2000. The Governmental Decision 662/2001 on waste oils was adopted on 12 July 2001. The Governmental Decision 1057 on used batteries and accumulators was adopted on 18th October 2001. The Governmental Decision 128/2002 on waste incineration was adopted. The Governmental Decision 162/2002 on landfilling of waste was adopted. The Governmental Decision 856/2002 regarding waste lists and inventory of waste (transposition of the New European Waste Catalogue).

*Economy:* Economic instruments for reduction and elimination of generation of wastes are in preparation. These economic instruments shall be in relationships with provisions of the Law on Environmental Found no. 73 / 2000 as amended by Emergency Governmental Ordinance 86 / 2003.

#### Russian Federation:

- Policies:* Principles and priorities of the National strategy: · Waste prevention, · Introduction of low-waste technologies, · Stimulation of minimization of waste generation, · Maximal use of generated wastes as secondary raw materials, · Waste processing by incineration (use of wastes as energy sources).
- Legislation:* · Order of the President of the Russian Federation No. 440 of 01.04.96 "On Concept of transition of the Russian Federation to sustainable development" · Order of the President of the Russian Federation No. 1300 of 10.12.97 and No.24 of 10.01.2000 "On Concept of National Security of the Russian Federation" · Environmental Doctrine of the Russian Federation approved by Resolution No. 225-p of 31.08.02 of the Government of the Russian Federation · Federal Law No.7-FZ of 10.01.02 "On environment Protection" · Federal Law No. 89 of 24.06.98 "On Wastes of Production and Consumption" (revision of 22.08.2004) · Resolution of the Government of the Russian Federation No. 818 of 26.10.2000 "On rules of order of State Waste Cadastre and implementation of passportisation of hazardous wastes" · Order of the MNR of Russia No. 115 of March 11, 2002 "On approval of the Guidelines on development of project normatives of waste generation and limits for their disposal" registered ? 3553 in the Ministry of Justice on June 9, 2002 · Resolution of the State Committee on Statistics of Russia No. 180 of 19.09.2002 "On approval of instruction on completing of the form of the Federal State Statistical Observation ? 2-TP (wastes) "Data on Generation, Use, Processing, Transportation and Disposal of Wastes of Production and Consumption" · Resolution of the State Committee on Statistics of Russia No. 157 of 25.07.02 "On approval of the form of the Federal State Statistical Observation ? 2-TP (wastes) "Data on Generation, Use, Processing, Transportation and Disposal of Wastes of Production and Consumption" · Order of MNR of Russia No. 785 of December 2, 2002 "On approval of passport of hazardous waste" · Order of MNR of Russia No.1025 of 19.11.2003 "On implementation of activity on Federal State Statistical Observation in due form ? 2-TP (wastes) "Data on Generation, Use, Processing, Transportation and Disposal of Wastes of Production and Consumption" · Order of MNR of Russia No. 868 of 18.12.2002 "On implementation of professional training on right of work with hazardous wastes" · Order of MNR of Russia No.786 of 02.12.2002 "On approval of Federal Classificatory List of Wastes" · Order of MNR of Russia No. 663 of 30.07.2003 "On updating of the Federal Classificatory List of Wastes approved by the Order of the MNR of Russia ? 786 of 02.12.2002 "On approval of Federal Classificatory List of Wastes".
- Economy:* Stimulation of minimization of waste generation Resolution of the Government of the Russian Federation ? 344 of 12.06.2003 "On normatives of payment for emissions of pollutants into the atmospheric air from stationary and mobile sources, discharges of pollutants to surface and ground water subjects, disposal of wastes of production and consumption"
- Industry:* Compliance of the Federal legislation in the area of management of wastes of production and consumption: · Determination and confirmation of waste hazard class for environment · Passportisation of hazardous wastes; · Determination of normatives of waste generation and approval of limits for their disposal; · Accounting and reporting in the area of waste management; · Participation in keeping and use of information of the State Waste Cadastre; · Establishment of production environmental control at the enterprise; · Licensing of the activity on management of hazardous wastes.
- Others:* Keeping of the State Waste Cadastre including Federal classificatory list of wastes, state register of subjects for waste disposal, waste data bank, data bank of technologies for utilization and processing of wastes. Professional training of persons admitted to management of hazardous wastes.

### Serbia and Montenegro:

- Policies:* National Strategy for Hazardous Waste Management was formulated within Environmental Policy Act (1993). The Resolution on the Policy of the Environmental Protection in the Federal Republic of Yugoslavia ("Off.Gazette FRY", No.31/93) has been designed as a specific, unified and long-term programme and as a component of the integral economic system of the FRY. The principal goals of the policy in the field of the cleaner production and waste minimization are as follows: - to reduce waste generation; - use of wastes in technological processes and other natural processes; - use of wastes for generation of energy; - to introduce low waste materials technology and recycling of wastes in interconnected industrial production; - to introduce programmes for the enhancement of production along with the reduction of energy consumption; - to give importance to preventive approach by reducing quantities for final disposal either through prevention of waste (by "clean technologies and lengthening the life time of products and deviance treatments of waste) or by the re-use (recycling); and - to implement the principle "polluter pays". Under the Programme of Integral Environmental Protection and Promotion (Programme 1) the FRY shall ensure conditions for the implementation of the policy through the measures and activities which make it necessary to promote technological measures and interdisciplinary scientific research; introduce economic instruments in the field of the environment; provide an integral system of environmental protection; build an institutional framework; and establish an integrated information system at the national level. The Programme of management of wastes, hazardous materials and chemicals (Programme, 10) will implement the policy. To ensure the necessary conditions for the implementation of this policy a series of measures and activities will be undertaken in the following areas: - adoption of long-term programmes for reducing specific and hazardous waste per unit of product, energy and service; - adoption of long-term programmes for reduction of solid wastes generation and its utilization; and - introduction of technologies generating small quantities of waste and the recycling of industrial wastes. Hazardous waste management in FRY, as the consequence of war, is to be treated as a

humanitarian issue and hazardous waste issue is one of the priorities. For complete reintegration of the country in international bodies and activities there is an urgent need to redesign/update National Hazardous Waste Action Plan and System (as recommended by Federal Government Conclusion from April 2000 and UNEP/Balkan Unit Technical Hazardous Waste Mission to country in November 2000). On the basis of preliminary inventory of hazardous wastes (data from 1994) National Strategy for Wastes on Republic of Serbia level is adopted in 2003. National Strategy is basic document providing conditions for the rational and sustainable republic waste management. In the following phase, the Strategy has to be supported by several implementation plans for collecting, transport, treatment and disposal of controlled waste. The strategy covers waste management legal framework, policy analyses, waste management options, strategies, priority activities and instruments. Republic of Montenegro has on the 26th of February 2004 adopted National Waste Management Policy which supplements the vision, principles and goals set out in the Environmental Programme as well as in already existing national regulations and standards. This policy of integrated and sustainable waste management in Montenegro sets out a vision for the future waste management and defines objectives and strategies facilitating its achievement. The purpose of this policy is: - promote the prevention and minimization of waste generation and hence pollution at source; - promote the management and minimization of the impact of unavoidable waste from its generation to its final disposal; - ensure the integrity and sustained "fitness for use" of all environment media i.e. air, water and land; - ensure the remediation of any pollution of the environment by holding the responsible parties accountable.

*Legislation:* Federal Level - The Law on Confirmation of Basel Convention, adopted by Federal Parliament at 24th December 1999 - "Off.Gazette FRY", International Agreements, No.2/990; - The Law on the Basis of the Environmental Protection ("Off.Gazette FRY", No.24/98) is the framework for waste management in compliance with UN and EU. Federal ministry prescribes the conditions of transboundary movement of hazardous and other wastes and control movement of wastes through the territory of FR Yugoslavia (Article 26); - The Rules on Import, Export and Transit of Wastes in the FR of Yugoslavia ("Off.Gazette FRY", No.69/99), based on the Law on the Basis of the Environmental Protection, regulate the transboundary movements of hazardous and other wastes (import, export and transit and obligations of the performer of this activity, lists of hazardous and other wastes, harmonized with BC annexes and EU/OECD lists, control system through the notification procedure and movement document); - The Law on Foreign Trade ("Off. Gazette FRY", No. 46/92, 16/93, 29/97, 59/98, 44/99, 53/99, 73/2000) stipulates that goods may be imported or temporarily imported if they meet the conditions stipulated with reference to the trade of goods namely for use at the domestic market (Article 10, paragraph 1); that the goods are subject to obligatory health, veterinarian, ecological and phytopathologic control or quality control and may be imported or temporarily imported only if satisfying the indicated conditions (Article 10, paragraph 2); that goods cannot be imported or in the state where they are produced (Article 10, paragraph 3); the import of hazardous waste is prohibited (Article 12, paragraph 6); - The Law on Standardization ("Off. Gazette FRY, No. 30/96) stipulates a need to enact standards and technical regulations for the protection of human life and health and environment (Article 4 and 9). The degree of compliance of processes, products and services with technical regulations and standards will be checked by enterprises and other legal persons authorized to certify processes, products and services, the environment protection system and by assessors of quality and environmental protection systems, testing products, checking of compliance's (Article 12). The processes, products and services that must be accompanied with certificates on compliance are stipulated in the technical or other standards. For products and services, the producer, provider of services or importer shall obtain a certificate on compliance before the product is put on sale, namely before a service is performed (Article 120, paragraphs 4 and 5). Products are tested solely by authorized laboratories. The Yugoslav standards relating to the environment are adopted and applied based on the Standardization Law. Law on Standardization (1996) stipulates a need to enact standards and technical regulations for the protection of human life and health and environment (Art.e 4 and 9). These standards are published in the Serbian language, marked JUS ISO and are identical with the respective international ISO standards. To date, the FRY has publicized 5 of the 7 ISO standards relating to the environmental management (ISO 14000). This activity is performed by the Federal Standardization Bureau, which is the national organization for standardization and represents FR Yugoslavia in ISO; and - In the Customs Act ("Off. Gazette FRY", No. 45/92, 16/93, 50/93, 24/94, 28/96, 29/97, 59/98) and related regulations, the provisions on customs supervision and procedures concerning goods harmful or dangerous for the environment are covered. Pursuant to this legal base, revised standards for industrial air emissions were approved and revised standards for wastewater discharges and discharges to soil are still being drafted. Republican Level - Law on Environmental Protection ("Off. Herald RS", No.66/91) stipulates that no domestic or imported technology may be applied in the territory of Serbia nor any products put to sale unless they meet the stipulated norms for the environmental protection and norms of quality, namely if the product is prohibited in the country of export (Article 17). The wastes are collected, classified, prepared for use as secondary raw materials, treated, utilized or temporarily and permanently disposed of in a controlled manner and if necessary destroyed (Article 82, paragraph 1). In the territory of the Republic any treatment, storage, disposal of radioactive and other wastes that have the property of hazardous substances of foreign origin is prohibited (Article 82, paragraph 2). Handling of hazardous substances in manufacture, use, transport, trade, storage and disposal shall be done so as not to endanger human life and health, nor contaminate the environment (Article 83, paragraph 1); - The Rules on the Treatment of Wastes having Hazardous Characteristics ("Off.Herald RS", No.12/95) prescribe the treatment of certain categories of wastes having properties of hazardous

substances and established the mandatory accounting of the types and quantities of such substances in production, use, transportation, movement, storage, and disposal processes. Waste generators have obligation to report the quantity of each reportable waste streams/categories generated and transferred, to competent authorities. The frequency of reporting is in most cases one month. Under development is system of information of transboundary waste streams movement, as well as upgraded of existing systems; - The Regulation on Criteria for Determining Location and Disposition of Waste Materials Deposit Sites ("Off.Herald RS", No. 54/92), which sets out criteria for selecting disposal sites for hazardous waste materials. - The Law on Waste Management of the Republic of Serbia ("Off.Herald RS", No.25/96) stipulates handling of waste substances that may be used as secondary raw materials, the way of collection, treatment and storage (Article 1). Monitoring and controlling the use of secondary raw materials, keeping respective records, undertaking protection measures will be carried out by special republican organization-Recycling agency (Article 6 and 22-24). The Law also governs handling of wastes – secondary raw materials (Article 11.17). - Customs Act ("Off. Herald RS", No.73/2003) is enter into force on 1. January 2004. From 1. January 2004. The federal Custom Act is not into force. - The Law on the Environment ("Off. Gazette RCG", No.16/96) prohibits the application and use of technology, products, semi-products or raw material that are forbidden in the country of export or in the country in which they are produced; disposal of all types of waste, except at the places selected for the purpose (Article 9, paragraph 2 and 6). It restricts import of waste substances except upon the permit issued by the Ministry in charge of environment protection, for disposal of the wastes having the properties of deleterious and hazardous substances at the designated sites and upon the preliminary consent of the Ministry (Article 10, paragraph 1 and 2). - The Regulation on Criteria for Selection of Localities, Methods and Procedures for Depositing Waste Materials ("Official Journal of RM", No.56/00) sets out the conditions for selecting both temporary and permanent storage sites of waste containing hazardous material.

*Economy:* Economic instruments were initiated in Environmental Policy Act (1993), as well as in republics (Serbia and Montenegro) laws on environmental protection. According Law on Environmental Protection (2004) the Environmental Fund is established.

*Industry:* Our country produces relatively large quantities of different types of waste, which, in view of their quantity or properties, are a threat to the environment. Major generators of hazardous wastes are the chemical, oil, petrochemical, metal, paper, leather and textile and transport industries. Minor generators include car, repair shops, surface metal working shops, dry cleaners, etc. Many wastes have a high content of non-degradable products and chemicals that pollute the environment. Processing technologies are inadequately developed or elaborated. Pressure of staying on international market has forced the raise of the environmental and service standards within industries and municipalities, as well as has increased waste management through promotion of transfers of environmental technologies and cleaner production. However, currently most of the industries/waste generators are dealing with after war clean-up activities, rather than with measures leading to pollution prevention.

*Others:* Environmental security, in particular, characterization, safe removal and permanent storing of all categories wastes resulting from war activities is a difficult and expensive process.

### **Slovakia:**

*Policies:* Taking into account new waste management legislation valid since 1 July, 2001, after Act No. 223/2001 on wastes and amendment of certain acts has entered into force and taking into account deep changes in waste management a new Waste Management Programme of the Slovak Republic (WMP of the SR) until 2005 was prepared instead of WMP until 2000. According to the new Act of waste the purpose of waste management is: - to prevent and reduce waste generation by: 1) development of technologies saving natural resources; 2) production of products which, as well as final products, increases the amount of waste in a minimal possible way and reduces environment pollution in a maximal possible way; and 3) development of suitable methods of disposal of hazardous substances found in waste dedicated to disposal. - to recover waste by recycling, reusing or by other processes allowing to gain secondary raw materials if prevention of waste generation is not feasible to achieve; - to use waste as a source of energy if material recovery is not feasible to achieve; and - to dispose of waste in environmentally sound manner and not endangering human health.

*Legislation:* Current legal status is covered by following regulations: - Act of the National Council of SR No 223/2001 Coll. of Laws on Waste and on Amendment of Certain Acts as amended by subsequent regulations; - Decree of MoE SR No 283/2001 on Implementing Certain Provisions of the Act on Wastes as amended by subsequent regulations; - Decree of MoE SR No 284/2001 Coll. of Laws on Waste Catalogue as amended by subsequent regulations; - Decree of MoE SR No. 234/2001 Coll. of Laws on Waste Classification according to Green, Amber and Red Lists of Wastes and on Standard Documents for Waste Transport as amended by subsequent regulations (valid by April 30 2004); - Decree of MoE SR No 273/2001 Coll. of Laws on Authorisation, Providing the Expertise in Waste Management, the Appointment of Persons Authorised to Issue the Expertise and Examinations of Professional Skills of those Persons as amended by subsequent regulations; - Act of the National Council of SR No 17/2004 Coll. of Laws on fees for waste landfilling; - Waste Management Programme (WMP) of the Slovak Republic until 2005; - Act of the National Council of SR No. 529/2002 Coll. of Laws on Packages and on Change and Amendment of Certain Acts as amended by subsequent regulations; - Decree of MoE SR No 25/2003 Coll. of Laws on

specifications of processing of end-of life vehicles; - Notification of the MoE SR No 75/2002 Coll. of Laws on issuing the Decree No. 1/2002 which establishes the unified methods for analytical control of wastes; - Communication of MoE SR No 3/2001 – 6.3 on specification of goods with respect to charges to Recycling fund; - Directive of MoE SR No 8/1996-2.3., on the List of Sludge Deposits with Respect to Charges Stipulated by the Act of National Council of SR No 327/1996 Col. on Charges for Waste Disposal; - Communication of Ministry of Foreign Affairs No 60/1995 Col. on Acceding of Slovak Republic in Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal; - Decree of MoE SR No 732/2002 Coll. of Laws on list of returnable packaging that are not re-used with regard to a financial deposit for them and for returnable re-used packaging; - Communication of Ministry of Foreign Affairs No 132/2000 Coll. of Laws on a change in Annex 1 and on adoption of two new Annexes No. VIII and IX to the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal was issued; - Council Regulation (EEC) No 259/1993 on the supervision and control of shipments of waste within, into and out of the European Community; - Treaty of Accession of the SR to the EU (Annex XIV, 9(B) (1)); - Act of the National Council of SR No 443/2004 Coll. of Laws, whereby changes and amends the Act No 223/2001 Coll. of Laws on wastes and on amendment of certain acts as amended by subsequent regulations in force since 1st August 2004. - Decree of MoE SR No 125/2004 Coll of Laws establishing details on processing of old cars and some requirements to car manufacture.

*Economy:* - A fee for landfilling of wastes; - An EU programmes (Transition Facility, Structural Funds) and bilateral cooperation (Belgium, Netherlands – Matra-flex and PSO short programmes, Norway) focused on improvement of waste management in Slovakia - Fees paid to Recycling Fund will be used for recovery of waste; - Local fees paid to the municipalities for collection, transport and disposal of municipal waste and construction waste (generators of municipal waste pay local fees); - Financial guarantee covering the costs of re-import and disposal, in case when transboundary movement cannot be completed.

*Industry:* According to the WMP of the SR until 2005 the most important technological and production measures allowing to achieve the prevention of waste generation are: - implementation of BATNEEC in production; - implementation of BATNEEC in infrastructure of the waste management; - implementation of EMS/EMAS; - introduction of gas fuel into both the municipal and production spheres; - reduction of the fossil fuels use; and - exploitation of alternative energy sources (e.g. geothermal water). Implementation of BATNEEC in waste management belongs to basic principles of the waste management strategy that can significantly prevent waste generation in production as well as in waste processing in the future. Besides the quantitative indicators, also the positive influence on waste characteristics is the goal of the implementation of BATNEEC in order to minimize the risk of negative impacts on the environment and human health.

*Others:* Promotion activities organized at state, local, non-governmental levels, as follows: trainings, advisory services, information campaigns aimed at elimination of non-hazardous and hazardous waste generation.

### Slovenia:

*Policies:* - National Environmental Action Program (2006); - Environmental Performance Reviews (1997); - Strategic Plan for Slovenia in the Area of Waste Management (1996); - Operational plan concerning the management of spent batteries and accumulators for period 2003 – 2006 (2004); - Operational plan concerning the management of PCB and PCT for period 2003 – 2006 (2003); - Operational plan concerning the management of waste oils for the period from 2003 – 2006 (2003); - Operational plan concerning the management of packaging and packaging waste for period 2003 – 2006 (2002); - Operational plan concerning the reduction and prevention of pollution caused by waste from TiO<sub>2</sub> production for the period 2004 -2007 (2004), - Operational plan concerning management of reconstruction and demolition waste for the period 2004 -2008 (2004), - Operational plan concerning disposal of waste with the purpose of decreasing quantities of biodegradable waste till the end of 2008 (2004), - Operational plan concerning management of waste electrical and electronic equipment for the period 2006-2008 (2006). See also: [http://www.gov.si/mop/podrocja/uradzaokolje\\_sektorokolje/programi.htm](http://www.gov.si/mop/podrocja/uradzaokolje_sektorokolje/programi.htm) Measures taken for the reduction and/or elimination of the amount of hazardous wastes and other wastes generated are in accordance with EU waste management policies.

*Legislation:* Environmental Protection Act (2004) and from it deriving legislation on the field of waste management.

*Economy:* Waste disposal tax (Decree on waste disposal tax, 2000); Oil tax; and Tax on vehicle and also other eco-dues and financial instruments (e.g. advantageous credits for environmental investments, joint investments into project for reduction of environmental burdens).

*Industry:* ISO; EMAS registration system (ECO- Management and Audit Scheme); ECO-LABELING; - European flower; and awards for achievements on the field of protection of the environment and introduction of cleaner technologies.

### Ukraine:

*Policies:* - Verkhovna Rada (Parliament) of Ukraine 05.04.1998 adopted the national strategy of wastes generation minimization. This strategy was included into the legislative document "The main directions of the state policy in the field of environment protection, natural resources use and

ecological safety ensuring”; and - Verkhovna Rada of Ukraine 14.01.2000 passed the law “On the withdrawal from circulation, treatment, utilization, elimination or further use of unsound and hazardous products”.

*Legislation:* - Verkhovna Rada of Ukraine 14.09.2000 passed the law “On the National program of toxic waste management”; - The Cabinet of Ministers of Ukraine issued a resolution of 24.01.01 No 50 “General requirements on the treatment, utilization, elimination or further use of withdrawn from circulation unsound and hazardous products”; and - The Cabinet of Ministers of Ukraine issued a resolution of 26.07.01 No 915 (amended 26.07.02 No 1084) “On the introduction of the system for wastes collection, sorting, transportation, treatment and utilization as secondary raw materials”.

*Economy:* - The Cabinet of Ministers of Ukraine adopted the Resolution on the levies for waste disposal on the landfills (1999); and - The Ministry of Environment and Natural Resources issued an Order No 181 of 15.05.2001 “On the adoption of the provisional method for the determination of expected losses from the environment pollution during the transportation of hazardous substances and wastes”.

*Industry:* Preparatory activity for inventory and certification concerning waste generation is continuing by industries. The results of it will be used for the development of wastes generation decrease plans.

*Others:* - On the basis of (iv) the Oblast (Regional) Administrations will identify the whole quantity of waste generated in the region and develop the regional plan on the waste generation decrease measures. This plan must be adopted by the Regional Council; and - Beginning from the 1994 a number of educational measures was held in Ukraine (seminars, training courses) under the sponsorship of Lund University (Sweden), IDRC-AGRA (Canada), The World Bank, TACIS (Tebodin, ERM), etc. This activity is continuing.

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**Question 5. Reduction/Elimination of generation of hazardous/other wastes**
**2004. Latin America and The Caribbean. (Parties which did not report are not listed).**


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**Antigua and Barbuda:**

- Policies:* Development of Waste Education and Training Management Plans.
- Legislation:* Legislation – Waste Management Act; Draft Environmental Bill; and Draft Environmental Health Act.
- Economy:* None.
- Industry:* Training and Public Education.

**Argentina:**

- Policies:* Hazardous Waste generators have to present a plan to reduce the generation of hazardous wastes by means of change of technology; segregation of streams; and recycling, when it is possible, in an environmentally sound manner. The Environmental Authority (Competent Authority), has designed a National Plan of Reduction and Elimination of PCBs, which is under appliance. Additional Plans of Elimination (other POPs and PTS, such as mercury compounds and articles such as batteries) are under preparation.
- Legislation:* National Law 24.051 - Decree 831/93.
- Economy:* Environmental tax for generators, transporters of hazardous wastes and hazardous waste treatment plants. This tax is decreased in accordance with reduction of the generation of hazardous waste.
- Industry:* Industries are making efforts to replace the electrical devices with PCB and to eliminate them.
- Others:* Establishment of a Sub-Regional Centre for Training and Technology Transfer in Buenos Aires.

**Barbados:**

- Policies:* The Policy Paper for Chemical Management was recently reviewed and updated. The paper is now entitled "Policy Paper: Management of Toxic Chemicals and Hazardous Waste". The policy paper now provides a policy statement and policy objectives for the management of hazardous waste. The overall aim would be to achieve life cycle management of chemicals and hazardous waste generated locally. The paper mainly makes provisions for shipment of hazardous waste off shore to certified facilities.
- Legislation:* The "Policy Paper: Management of Toxic Chemicals and Hazardous Waste" identifies four broad areas for legislative development. These areas are Import/Export/Re-Export; Handling and Transport; Business Operation; and Disposal.

**Brazil:**

- Policies:* - The National Environment Council is discussing policy projects dealing with civil construction wastes, incinerators, landfilling procedures and mercury fluorescent lamp wastes; - The National Environment Council is discussing a national waste policy project that will be submitted to the National Congress; and - The State Industrial Wastes Inventory is being implemented in 12 of the major waste generator States in Brazil.
- Legislation:* There is a legislation about biomedical wastes – Resolution CONAMA nr. 358/2005.
- Industry:* Several industries, amounting almost 200 now, have been awarded with the ISO 14000 series certification.

**Chile:**

- Policies:* Chile has implemented a policy of clean production in some production sectors.
- Legislation:* Guidelines have been developed for each sector included in the clean production programmes. Guidelines for recycling of used oils are under preparation.
- Economy:* None.
- Industry:* Sound environmental management for pesticide containers; and Hazardous waste components segregation in some waste streams.
- Others:* None.

**Colombia:**

- Policies:* 1) Policies and Strategies: National Policy of Clean Production, 1997: its main purpose is to prevent and reduce in an efficient way the impacts and risks to human health and to the environment, by guaranteeing the protection of the environment, economic growth, social welfare and industry competitiveness. It also seeks to introduce the environmental perspective into production sectors, as a long term challenge. Among the specific objectives of this policy are the "prevention and reduction of the generation of pollutants" and the "minimization and the advantage of residues". Some of the main results of the Clean Production Policy, include: a) The incorporation of

environmental variables to the productive chain of large, medium and small industries of the country, through the signature of 23 regional cleaner production agreements. b) 68 environmental guidelines for sub-sectors within the farming, transport, mining, electrical, and hydrocarbons sectors have been prepared and consulted with stakeholders. c) Dissemination of concepts and experiences in Cleaner Production (CP) from the National Cleaner Production and Environmental Technologies Center (CNPMLTA) by means of the design and consolidation of the strategy of regionalization of CP, and the creation of a Network of Regional Nodes of Clean Production and Environmental Windows in Barranquilla, Bogotá, Bucaramanga, Cali, Cúcuta and Pereira. Policy for the Integral Management of the Residues, 1998: this policy aims at preventing or reducing in the most efficient way, the risks posed by solid and hazardous wastes to human health and the environment. It specially seeks to minimize the volume of the wastes that arrive to the points of final disposal and the risks posed by them. This will contribute to the protection of the environment and to economic growth. One of the specific objectives of this policy is the minimization of waste generation, assuming that minimization of the wastes for final disposal will occur only if less wastes are produced at the source of generation. This is the best way to reduce the volume and toxicity of such wastes, as well as its management costs and the environmental impacts that may occur. The main target of this policy is to implement the minimization programs to the generation source, along with clean production programs, where reduction goals will be established for the volume and danger of the wastes generated. As a specific objective related to hazardous wastes, the policy includes the need to "identify and quantify the problem of hazardous wastes in the country, and to create management systems for such wastes, from separation at the source". In addition to that, the policy sets the goal of developing preliminary inventories for the industrial corridors Cali-Yumbo and Bogota-Soacha. Planned strategies and actions include: - The achievement of inventories of generation and localization of hazardous wastes; and - The definition of management systems of hazardous wastes by industrial corridors. 2) Strategies for Integral Management of Hazardous Wastes: Pilot project to obtain a model of integral management of hazardous wastes In the framework of the Policy for the Integral Management of Residues, the quantification, qualification and definition of strategies for the differentiated management of residue types has been considered a priority. For this reason, the Ministry of the Environment, together with the Regional Autonomous Corporation of the Valle del Cauca district (CVC) and based on the pilot project in the industrial corridor comprising the cities of Cali and Yumbo (Valle del Cauca), has elaborated "Technical guidelines for the integral management of hazardous wastes". The objective is to generate the technical, conceptual and methodological bases, necessary for structuring the planning and management instruments regarding hazardous wastes that, once validated and consolidated, will have national application. This process will enhance Colombia's compliance with its commitments under the Basel Convention, which has already established clear procedures for the control and monitoring of the transboundary movements of this type of wastes. Such exercise resulted in a model for the integral management of hazardous wastes that includes strategies for institutional strengthening, development of regulation proposals, technical and environmental strategies and financial viability assessments, being developed into the indicated instruments with direct participation of the private sector. The aim is to establish free market and supply and demand conditions with the providers and generators of services, in a way as to guarantee the sustainability of the project. A guide for the model's implementation was also designed in order to facilitate its replication in other regions of the country, which will be disseminated in the future by the Ministry and the Regional Autonomous Corporations (CARs). Pesticide Management and Use Policy Guidelines: The main objective of this Policy Guidelines is the articulation of the efforts of the environmental organizations with farming sector development policies. In this Policy Guidelines, programs for the suitable handling and packaging of pesticides were developed jointly with the private sector. Centers for Storage and Reception of Discarded Pesticide Packages: Twelve (12) storing centers were started up for the reception of packages contaminated with pesticides in sectors and high-priority regions, within the framework of the Agreement of Cleaner Production with the sector of pesticides. Model of Integral Management of Hospital Residues (2002): Decree 2676 of 2000 established that generators of hospital residues, and providers of special services of decontamination and cleanup of this type of residues, have the legal obligation to prepare an internal Institutional Plan for the handling this kind of wastes. The Plan should incorporate principles of continuous improvement. Since the promulgation of the decree, 10 projects were implemented in the cities of Santa Marta, Barranquilla and Cartagena. With the purpose of improving enforcement of existing regulations, sanitary and environmental authorities were trained in 10 cities of the country and a Handbook on Procedures for Integral Management of Hospital Residues was published (2002). National Workshop For The Implementation of The Basel Convention The Ministry of Environment and the Ministry of Foreign Affairs of Colombia, with the support of the Secretariat of the Basel Convention, organized a National Workshop for the implementation of the Convention, that took place in Bogotá between the 26 of February and the 2 of March of 2001. Representatives from different institutions and from the national private sector participated in the workshop, and delegates from five countries of the region participated as well: Ecuador, Peru, Panama, Venezuela and Uruguay (from the Regional Center for Training and Technology Transfer). Some of the objectives accomplished during the workshop were: the publication of the main obligations of the Convention among the assistants, the exchange of the national and international experiences in relation to its implementation, the recognition of the limitations and needs in relation to the implementation of the Convention in Colombia, and the definition of the joint actions to be carried at a national and sub regional levels. The following task is to create an Action Plan for the implementation of the Convention in Colombia, with the identification of priorities by experts of

different national and private institutions, in order to determine the responsibilities and competitions of the institutions involved in the process, in the framework of the Basel Convention.

*Legislation:* Regulations: -Resolution 2309 of 1986, issued by the Ministry of Health, that establishes rules for the storage, treatment and disposal of "special wastes", which are pathological, toxic, flammable, explosive, radioactive or volatile; -Resolution 1096 of 2000, issued by the Ministry of Industry and Development, that establishes the technical requirements for the management and final disposal of the hazardous wastes, among others. -Decree No. 2676 of 2000, issued by the Ministry of Environment and the Ministry of Health, "regulates the integral management of hospital and similar residues". The Decree includes the principles of biosafety, integral management, minimization, the non-garbage culture, prevention and clean technologies, as well as the precautionary principle. - Resolution 1164 of 2002, adopted a handbook on procedures for integral management of hospital and similar residues in Colombia. Decree 1609 de 2002, issued by the Ministry Of Transport, which regulates the transport of hazardous goods. Decreto 1443 of 2004 by which the prevention and control of the environmental contamination by the handling of pesticides and residues or hazardous residues is regulated. Resolution 1446 of 2005 establishes cases and conditions which the combustion of used oils is authorized. Guidelines: Environmental Guideline for Battery Producers and Recoveries (1998) The objective of this Guideline, elaborated by the Regional Environmental Authority of Cundinamarca (CAR), is to promote and facilitate the adoption of environmental management systems in small and medium sized industries. It also seeks to supply the small entrepreneurs with the technical and operative tools to design an Environmental Management Plan oriented at minimizing the environmental impacts of the wastes generated during their productive activities and promoting the rational use of natural resources. The Guideline contains information on: the sanitary, environmental and health effects of the activities involved in battery recuperation; the valuation of impacts; and the conceptual, methodological and procedural parameters for the elaboration of an Environmental Management Plan. Handbook on PCB Handling for Colombia (1999) The purpose of the manual is to help the proprietors of PCBs (e.g., companies, governmental entities, individuals, etc., that own PCB equipment, oil contaminated with PCB or any other substance or PCB waste) and those who may have responsibility in the handling of PCBs in view of protecting the environment and the human health. Handbook on procedures for the Integral Management of Hospital Residues (2002). In its internal and external component, with emphasis in strategies of automatic control, clean technologies and rational use of resources, concerted with the different stakeholders. Environmental guides of Storage and Transport by Highway of Dangerous Chemical Substances and Residues (2003). These guides arise as an initiative to create awareness for those who are involved in the activities of storage and transport of this type of materials, with the aim of highlighting environmental aspects to be considered in their execution. Guides for Safe Handling and Environmental Management of 25 Chemical Substances (2003). 25 high-priority chemical substances for the country were selected and for each one a guide for safe handling and environmental management was prepared, with an informative network that serves as a base to acquire the general knowledge of each one of these substances, with respect to its properties, characteristics of danger, effects on the health, measures of prevention and response to emergencies. Other elaborated guidelines are: Guidelines of Best Environmental Practices for the sector of Graphical Arts; Guidelines of Best Environmental Practices for the sector of Galvanoplasty; Guidelines of Best Environmental Practices for the Textile sector; Guide of Cleaner Production for the Sector of Electrolytic Coverings in Colombia; Environmental guides for the Sub sector of Pesticides (storage, transport, aerial and terrestrial application, handling of packages and remainders); and Guide of Cleaner Production for the Health Sector.

*Economy:* Law 141 of 1994: it establishes the National Fund of Royalties financed by resources from the exploitation of hydrocarbons, in which part of the resources are used for environmental local projects, focused on the development integral solid residues and residual waters management; Law 142 of 1994, on utilities (water, electricity etc.), establishes tariffs based on the weight and volume of the consumed resources, which therefore constitutes an economic incentive to minimize the generation of wastes; Law 223 of 1995, exempts the national and imported equipments from the payment of the sales tax, when they are intended to be used and in general for pollution control; and Law 511 of 1999, establishes the national day of the recycling people and the activity of recycling, and the Decree 2395 of 2000 sets an award for the persons who are involved in recycling in the categories of industry, investigation, Organizations covering people who are active in recycling, and workers in the public cleaning service. Decree 2532 of 2001: Exempts from VAT sales of equipment or machinery used for the development of actions oriented to obtain measurable results of the diminution of the demand of renewable natural resources and of prevention and/or reduction of the volume and/or the improvement of the quality of the liquid residues, emissions or solid residues. Law 788 of 2003, establishes an income tax exemption of up to a 20% to the natural or legal person investing in environmental improvement and control.

*Industry:* Conventions for Cleaner Production: These are voluntary agreements that support concrete actions for the improvement of public and private sectors management, they are directed to the prevention and control of pollution. This objective is to be reached by the adoption of cleaner production and environmentally safer and healthier processes. It aims at the reduction of pollution levels and risks to the environment in industrial activities, by the optimization of the use of natural resources and the improvement of internal and external industrial competitiveness. The cleaner production agreements have established inter-institutional working teams with the participation of the Ministry of the Environment, other Ministries, the regional and local environmental authorities, the private sector and, in some cases, the civil society. The conventions have created new spaces for dialogue and coordination amongst the actors involved in the analysis of environmental issues, that contributes to

the establishment of rules and policies for a more transparent environmental management, and to the definition and accomplishment of the goals related to environmental improvement. In addition to it above mentioned, these conventions anticipate action related to environmental rules and accelerate the reduction of the pollutant emissions, and to the definition of environmental management priorities, sectorial policies and goals. To the present date, 20 of these national conventions have been signed, 14 of which are sectorial and 6 are regional. Instruments for the adoption of Voluntary Codes of Environmental Management: The Cleaner Production Policy considered, as instruments for the promotion of such cleaner production, the adoption of voluntary codes of environmental management as initiatives of producers, oriented to the continuous improvement of environmental management, based on schemes of self-regulation and self-management. At the moment three regional environmental authorities have implemented programs of recognition to the improvement in management and environmental performance. In Colombia several enterprises are adopting voluntary codes, such as I Responsible Care, and other corporate codes. The Ministry of Environment, Housing and Territorial Development, has also set up the "National Program of Recognition of Excellence and Leadership in Environmental Management and Performance". Specifically the program aims to: Improve compliance beyond levels established in the environmental legislation; To improve management and environmental performance indicators; To publicly recognize and to encourage the continuous improvement in management and environmental performance; To publicly recognize and to encourage commitment, leadership and environmental excellence; To recognize and to encourage the adoption of cleaner production; and To recognize and to encourage the improvement of competitiveness. One of the mechanisms through which the MAVDT has set out to encourage the companies for the inclusion of environmental criteria within their production, is by environmental certification schemes. The Ministry has been working in the structuring of a national eco-labeling system with the purpose of encouraging supply and demand of environmentally friendly products and services by differentiating these products, to facilitate their access to the market and to promote the use of clean or sustainable processes, techniques and technologies. The environmental criteria for the certification will have to be additional to the requirements established by the legislation.

*Others:* Preliminary Inventory of obsolete pesticides and burials of pesticides: With the purpose of designing viable solutions to the serious problems associated to the inadequate historical handling of pesticides, a preliminary inventory of obsolete pesticides and burials of pesticides was completed in regions with agricultural tradition, with the support of the FAO. In the same way and under schemes that the Basel Convention provides, an action plan for the elimination of one of the most serious storage of obsolete pesticides in the country, located in the Copey - Cesar, was designed, which will allow its definitive management. Pilot Project on the Environmentally Sound Management of Spent Lead-acid Batteries in Central America and the Caribbean. This project has been completed and the second phase is expected to begin soon in which specific actions to address the problem of informal recycling of lead-acid batteries will be implemented.

### Costa Rica:

*Policies:* Policy: Risk to control any factor related with contamination, insecurity and dangers to the environment, the human health and the life of the population; Prevention, mitigation and response to the population needs in disaster situations; Assure the quality of potable water at national scale; and Technical and sanitary management of solid, organic, chemical, biological, radioactive and toxic wastes, among others, in the health, industry and commerce facilities, and houses.

*Legislation:* General Health Law of Costa Rica. Strategies: Strengthening of the sanitary regulation based on main standards and technical recommendations; Sanitary monitoring on achieving sanitary regulations; and Development of scientific research towards the protection and the improvement of the human environment.

*Economy:* None.

*Industry:* Application of some environmental principles (sustainable development, precautionary principle, preventive principle); and Development of some mechanisms to reduce the generation of wastes in the starting point.

*Others:* Efforts have been made to obtain a significant reduction in the quantity of hazardous wastes in industry and agriculture; these initiatives have received support from the National Cleaner Production Centre (CNP+L), which is seeking to implant alternative technologies in industry, which might be less polluting and more environmentally-friendly and better for human health.

### Cuba:

*Policies:* Promoting the use of cleaner productions.

*Legislation:* National Guidelines for Y8, Y9, Y1, Y2, and Y3 wastes. Resolutions 47/2004 and 32/2005.

*Industry:* Recovering and recycling. Using of existing national facilities.

*Others:* New industries are using technologies which are reducing pollution and some technological changes in older industries are being made in order to reduce waste generation.

### Dominica:

*Policies:* Introduction of organic farming. Restriction on the importation of pesticides and other chemicals through a licensing regime. Substitution of more hazardous chemicals with less hazardous ones.

*Legislation:* Solid Waste Management Act (2000), Environmental Health Services Act (1998), Litter Act (1990), Pesticides Control Act (1974), Water and Sewerage Act (1989), Marine Pollution Management Act (2002).

*Economy:* Environmental Levy.

*Industry:* Bulk storage of used oil by electric power generating company and other large generators for shipment to refining facility.

### **Dominican Republic:**

*Policies:* The Sub secretariat of Environmental Management is the institution responsible for imposing penalties on companies that generate wastes and do not manage them in an environmentally sound manner. Administrative Sanctions like: a) Fines b) Activities Restrictions c) Objects Appropriation d) Temporal Suspections or provisional prohibits of activities that generated environment damaged or risk.

*Legislation:* Application of the law 64-00, Articed 97-105 concerning to Substances and Hazardous Products Manner. Title V / Reference to "Judgmental and sanctions in administrative Material" Chapter II / Reference to "Administrative Sanctions". National Norm for the Environmental Management of remainders non dangerous that was edited in Santo Domingo, Dominican republic on June 2003 by thee Secretary of State of Environment and Naturals Resources.

*Industry:* Some industries manage their own wastes (they have treatment plants), others send their wastes to another country for disposal, and others engage in publicity campaigns for the conservation of the environment.

### **Ecuador:**

*Policies:* Action Plan for the implementation of the National Regimen for Hazardous Chemical Products; Application of regulations about clinical wastes; Development of policies for cleaner production; and · National Policy of solid wast.

*Legislation:* National Regimen for Hazardous Chemical Products; Regulation on clinical wastes; Regulations about storage, transport and handling of dangerous chemical products; Regulations about hazardous industrial chemicals, precautionary labeling, specifications; Regulation for prevention and control of contamination of dangerous hazardous wastes; National list of chemical products controlled & severely restricted by Environmental Ministry and National List of chemical products banned in Ecuador; Interinstitutional Cooperation and Coordination Committee for residue management; Ordinance management oil wastes .

*Industry:* Chemical industry is implementing the Responsible Care Program; Implementation of the Cleaner Production Center in Ecuador; and Some enterprises have adopted the ISO 14000.

### **Guyana:**

*Policies:* - Collection of data (relating to mercury and other substances).

*Legislation:* - Implement Environmental Protection Hazardous Waste Regulations 2000 under the Environmental Protection Act.; - Implement Mining Environmental Regulations which address hazardous waste from mining activities e.g mercury and cyanide; - Implement Pesticides and Toxic Chemicals Act; and - Develop guidelines and codes of practice for certain wastes such as Asbestos, Mercury, etc.

*Industry:* - Industries (distributors) collect certain waste such as used batteries and return to suppliers; and - Storage of some hazardous materials is practiced until proper disposal can be done.

*Others:* - EPA funded by IDB conducted a Needs Assessment for the hazardous waste sector and developed an Implementation Plan at the Agency level; and - Possibility of having a hazardous waste component in a new landfill site is being explored.

### **Jamaica:**

*Policies:* Policies: National Policy and Strategy for Environmental Management Systems (draft); National Hazardous Substances and Hazardous Wastes Management Policy (draft); and National Solid Waste Management Policy.

*Legislation:* National Solid Waste Management Act.

*Economy:* Work is ongoing on the development of an environmental levy to govern the management of wastes, including hazardous wastes.

### **Mexico:**

*Policies:* Development and support of capacity building for the management of hazardous wastes at national level to minimize the transboundary movements; Deregulation of wastes catalogued as hazardous through the procedure named Constancy of no hazard (example: drilling cut muds); Implementing at national level the Convention amendments relating to transboundary movements of hazardous wastes among signatory countries; Adequacy of the Legal Framework on wastes (General Law for Prevention and Integral Management of Wastes) and; Prohibition for importing hazardous wastes which objective is the final disposal.

- Legislation:** Ley General de Prevención y gestión Integral de Residuos, publicada en el Diario Oficial de la federación el 8 de octubre de 2003. General Law of Ecological Equilibrium and Environmental protection (LGEEPA); LGEEPA regulations on hazardous wastes; General Law for Prevention and Integral Management of Wastes (It will operate as of January 2004) and; Development of technical guides for hazardous wastes sound management within the Basel Convention framework (BPC'S, Leads Batteries, Electronic trash, etc).
- Economy:** Promoting with the Secretary of Economy (that regulates industries and commerce) the deregulation of the Maquila Industry (Mexican assembly plants located near the USA-Mexican boarder where most production is exported to the United States) to avoid the wastes return to the country of origin (Exemption PITEX)\*. \* PITEX is the importing Temporary Program to produce Articles for Exportation, which is implemented in the Mexico's boarder with the United States of America.
- Industry:** Technology development to treat the hazardous wastes in situ; Demonstrate to authorities the no hazard of wastes, in order to reuse or recycle them; and Request management plans to demonstrate environmentally sound management.
- Others:** None.

### Peru:

- Policies:** Implementation of regulations under an Act based on the principle of minimization of solid wastes. In this regard it promotes: Development and use of production and marketing technologies, methods, practices and processes which encourage the minimization or reuse of solid wastes and their proper handling; and Encouragement of the Reuse of solid wastes and the additional adoption of processing practices and proper final disposal, etc. Surveillance of enterprises which handle imported wastes for preventive purposes, identifying risks, proposing proper monitoring which does not endanger occupational and public health and the environment. Promotion of recycling oriented towards the use of industrial waste exchanges and validation of clean technologies which market wastes presented as products subject to quality control.
- Legislation:** Act 27314 - General Solid Wastes Act, entered into force on 22 July 2000; Art. 24 y 45; Decreto Supremo N° 057- 2004-PCM, Reglamento de la Ley General de Residuos Sólidos; Development towards Guide for the Management of Solid Hospital Wastes.Resolución Ministerial N° 217-2004/MINSA, que aprueba la Norma Técnica N° 008-MINSA/DGSP-V.01- Manejo de Residuos Sólidos Hospitalarios.
- Economy:** Certification of enterprises which handle solid wastes as solid waste service providers will be duly registered. Implementation of a set of charges on the basis of technical criteria which ensure fairness in investment in obtaining the service.
- Industry:** Organization of the industry through industry unions for the purpose of dissemination of the regulations under the General Wastes Act so that all businessmen enjoy the benefits of being familiar with them, ensuring their certification and compliance with obligations and enjoyment of their rights. Cleaning up of activities related to Solid Wastes in their sphere of activity.
- Others:** Establishment of audit machinery which will guarantee the proper development of solid waste management. Introduction of information systems which will allow monitoring of achievements and shortcomings in the area of solid waste management.

### Saint Lucia:

- Policies:** National strategies/policies Continued collaboration with private sector on measures to reduce quantity and toxicity of hazardous waste generated; project proposal for the management of used lead acid batteries approved with St. Lucia chosen as one of the pilot countries; some training and capacity building in the areas of hazardous waste management (PCBs) conducted; consultant report on Hazardous Wastes conducted to inform training needs and further policy development for reduction and/or elimination of hazardous wastes generated at the national level; and management plans have been developed for the following categories of hazardous waste: Waste oil, Spent agricultural chemicals, Biomedical waste, Asbestos Equipment for the treatment of biomedical waste have been procured.
- Legislation:** Waste Management Act #8 of 2004 Draft standards for Management of Biomedical Waste, Material Recovery Facility
- Economy:** Provision of tax incentives and waivers of import duties on equipment and materials required for recycling and reuse of used oil and also on the used oil received from ships.
- Industry:** Efforts by private industry to conform to ISO, HACCP and other relevant international trade standards to reduce the quantity and toxicity of hazardous waste generated. Management plans instituted by large generators to reduce negative environmental impact.

### Trinidad and Tobago:

- Policies:** Only for domestic solid waste.
- Legislation:** Legislation in preparation.
- Economy:** Economic instruments in preparation.
- Industry:** Individual companies have used their own in house practices to reduce/minimize the waste.

**Venezuela:**

*Policies:* Adaptation policies under Title IV of the Adaptation Regime for Generators of Hazardous Materials and Hazardous Wastes (Decree 2635).

*Legislation:* Decree 2635 containing the "Norms for the Control and Recovery of Hazardous Materials and the Management of Hazardous Wastes", Law on Substances, Dangerous Materials and Reminders published in the Official Gazette Extraordinary No. 5245 of 3 August 1998. Ratificación de la agenda 21 en el capítulo 21: Gestión ecológicamente racional de los desechos sólidos y cuestiones relacionadas con las aguas cloacales. La gestión ecológicamente racional de los desechos debe ir más allá de la simple eliminación o el aprovechamiento por métodos seguros de los desechos producidos y procurar resolver la causa fundamental del problema intentando cambiar las pautas no sostenibles de producción y consumo. Ello entraña la aplicación del concepto de gestión integrada del ciclo vital que representa una oportunidad única de conciliar el desarrollo con la protección del medio ambiente. Ratificación de dos convenios uno de Róterdam y plan nacional de implementación del convenio de Estocolmo.

*Economy:* For the specific case of lead-acid batteries, this is a small economic incentive to return used batteries and there are collection centres nationally (private initiative).

*Industry:* Some companies are modifying their process or bringing in new processes aimed at cleaner production.

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**Question 5. Reduction/Elimination of generation of hazardous/other wastes**
**2004. Western Europe and Others. (Parties which did not report are not listed).**


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**Andorra:**

**Policies:** During 2001 and 2002, the Department of Environment started a campaign at the end waste producer, which began with the skiing resorts, toxic waste producers enterprises like vehicle repair shops, printing houses, photo laboratories etc. National Waste Plan (2000), which came into force in 2001, defines the government policy in the field of solid wastes. A very precise diagnostic has been done, and on that basis, recovery objectives have been fixed. The plan also foresees all the basic and essential facilities that must exist in the country. The National Waste Plan must be reviewed every 5 years. During 2004 a campaign was carried out to reduce waste to a minimum among the population at large and large supermarkets. Specific action has also been taken directed at school children.

**Legislation:** In 2004 a "Manual for best practice for managing building waste in Andorra" was produced.

**Economy:** See article 48

**Australia:**

**Policies:** The eight Australian States and Territories are working towards having measures/initiatives in place to reduce and/or eliminate the generation of hazardous wastes and other wastes. Sector specific Product Stewardship arrangements: Through the Environment Protection and Heritage Council (EPHC), Australian governments are working with the relevant industry associations to negotiate voluntary product stewardship agreements for the tyres, televisions, computers and mobile phone sectors. In parallel with these negotiations, officials are also developing a national co-regulatory framework for product stewardship. Importantly, the national framework recognises these products are part of national markets and delivers a nationally coordinated solution for the improved management of the various products at end-of-life. In addition the framework provides for regulation of those parties within a sector that chose not to participate in the voluntary agreement to ensure those parties doing the right thing are not competitively disadvantaged in the market place. Further, and again through the EPHC, governments are considering how Australia might harmonise with current international efforts to restrict the use of certain hazardous materials in electronic products that include TVs, computers and mobile phones. Australia's EnviroNET is a directory of Australia's environment industries including databases of environment management expertise, industry applications for environmental technologies, environmental education; plus a range of other resources to support development and uptake of Australian solutions to industry's environmental issues.

**Austria:**

**Policies:** Waste avoidance was already a basic principle of the Austrian Waste Management Act 1990. New legislation was including the principles of sustainable development was prepared in 2001 and enforced in 2002 (Act on sustainable Waste Management; Fed. Law Gaz. I 2002/102).

**Legislation:** Branch specific concepts for hazardous waste management (including waste avoidance) were drafted by the Federal Ministry. Detailed information is available via the home page [www.lebensministerium.at](http://www.lebensministerium.at) A specific Ordinance on Waste Treatment Obligations was published (Fed. Law. Gaz. II 2004/459) and enacted 13th August 2005. The Ordinance on Waste Treatment Obligations defines minimum requirements for the collection, storage and treatment of the following waste streams: • batteries and accumulators • solvents and wastes containing solvents, waste paints and varnishes • medical wastes involving the risk of injury • residual amalgam • PCB-containing electrical equipment and other PCB-containing wastes The party obligated is the waste holder (original waste producer, waste collector or waste treatment operator). If the waste holder is not authorised or able to treat the waste appropriately, he shall according to § 15 Par. 5 Waste Management Act 2002 hand over the waste to a party authorised to collect or treat the waste within due time to prevent impairments of the public interest (§ 1 Par. 3 Waste Management Act 2002). The text of the Ordinance is available via Internet:  
<http://www.lebensministerium.at/filemanager/download/10707/> (German)  
<http://www.lebensministerium.at/filemanager/download/12255/> (English)

**Economy:** No new measures taken in 2001 and onwards.

**Industry:** No data available.

**Others:** A data base on projects on sustainable development (including waste management projects) is available via the internet; <http://taten.municipia.at/>

**Belgium:**

**Policies:** Prevention of waste is very important in the European and the Belgian waste policy. Also the use of certain dangerous products is forbidden by European legislation.

**Legislation:** Flanders: It is an aim of the Flemish policy to protect public and environmental health against

damaging influences of wastes and to prevent dissipation of raw materials and energy by (in the following order of priority): - Preventing and reducing waste production and preventing or reducing the damaging features of wastes; - Promotion of waste recycling; and - Organising the disposal of all the wastes which cannot be prevented or recycled. (article 5 of the Waste Management Decree of 20.04.94). On prevention: In 1994, Flemish government started a PRESTI-programm (PREvention STImulation) to support professional associations who wanted to inform their members about environmentally sound management systems. The first step was the realization of studies per professional sector, the second step was dissemination of obtained knowledge to the members. The sectors which have been studied are: Food industry, textile companies, hospitals, builders, woodindustry, companies in graphical sectors,... Presti 1 was very successful, distribution of knowledge still goes on, some studies will be updated soon. In the meanwhile also, pilot companies have introduced prevention measures (Presti 2 and Presti 3) and these experiences were spread. A following project, Presti 4 started in 1998 and is still going on. The Presti 4-programm is addressed to intermediary organizations that set up projects to stimulate companies to produce in an ecological way. Companies who want to participate in these projects have to sign an environmental commitment and work out some environmental actions during one year. These actions include reduction of waste, emissions, rational use of water and energy etc. If the companies complete this 'action year' successfully they are rewarded with a certificate. Based on the experiences of the former programs, the Flemish Government started with PRESTI 5 in 2003. This program is linked with the original Presti program, but in this program the prevention of waste and emissions by SMEs and the further spreading of these experiences is the central objective. Also new targets groups like education, research bureaus, environmental organisations etc were involved. Already two year programs have been started up. Projects of all kinds of sectors were subsidised: wood industry, textile, social sector, meat industry, recreation sector,... On recycling / recovery and final disposal: For waste management the Flemish Region disposes of a large variety of policy instruments to succeed in the objectives – namely to prevent as much waste as possible, and to recycle the waste that is still produced as materials or as energy and to use dumping only as the last resort. -Since 1995 OVAM constructed a network of 35 reuse centres with 100 shops. Local authorities were financially stimulated to cooperate with these centres. They collect reusable furniture, electrical and electronical equipment, toys and leisure items, clothing for free and resell those goods at a low price. In 2004 they've collected more than 34.000 tons reusable goods whose end-of-life has been postponed for a certain time. -Awareness-raising for local authorities: publication of CD-rom with helpfull ideas to prevent waste. - Factor 10: Due to the increasing pressure of the actual world economy on the global ecosystem, action is needed for the future. Present pressure should be halved. In 2040 this pressure will be increased to five times the actual pressure. Our products should only need a factor 10 then of what they need now on materials, energy... This is possible by designing the products of tomorrow using ecodesign. The objective of Factor10 is to provide information and support on ecodesign to designers and companies in Flanders. - Awareness-raising in schools: MOS-schools try to integrate environmental care in school life. They help to raise the demand for environmental friendly school supplies and learn the kids another attitude towards environment. The project was started in 2002 and is renewed annually. For its waste management, the Flemish Region does not only dispose of agreements on environment management, but also of environmental levies on waste elimination, of landfilling and incineration bans, of duties of acceptance, return collection duties, environment licenses, subsidies, etc. Wallonia: The Walloon Government's action plan reflects the wish to reduce the quantity of hazardous waste and the degree of hazard represented by waste that are produced. In order to reduce the quantity of waste, the Government is introducing a new waste reduction target: - The "polluter pays" principle and the principle of producer responsibility in accordance with waste management plan; - Lowest priority to landfilling and introduction of landfill tax; - Highest priority to the waste treatment in the form of recycling encouraged by regional authority investments and increase in the private undertaking; - Adoption of cleaner process techniques by industries, using of resources more effectively and re-using or sale of by-products; - Adoption of more suitable consumption patterns by consumers, for example, buying products with minimal packaging or/and re-use; and - Use of agreements as management tools to promote the overall principle of answerability of waste generators and market orientation in the field of waste and recycling. In order to reduce the degree of hazard represented by waste to be landfilled, following suitable treatment are used: physical treatment (solidification/stabilization and deshydration); biological treatment (biological activity); and physico-chemical treatment (dechlorination; dechromatisation; and decyanurisation). These objectives were translated into Government Action Plan and into a decree on waste on 27 June 1996. Brussels: The implementation of the waste strategy and prevention plan 1998-2002, has given the IBGE-BIM a lot of information and project ideas to raise awareness with the general public. The cadre directive of the Brussels Government on waste prevention and management of 1991 allows the Government to take measures to prevent or reduce production of waste and their harmfulness: - by encouraging development of cleaner technologies and technologies needing less natural resources, - by encouraging development of products conceived in a way that their production, their use or elimination provokes the minimum on waste, - by developing appropriate techniques for elimination of hazardous substances in waste. The third waste prevention and management plan 2003-2007 was adopted in November 2003. This plan confirms the waste management hierarchy, it gives priority to prevention and re-use, followed by recycling and energy recuperation, and disposal coming as a last resort. It introduces the concept of dematerialisation of waste. The aim of dematerialisation is to maintain current levels of economic development and well-being while consuming fewer material and energy resources. By focusing on a policy of dematerialisation, the

Region will create an important link between waste policy and product and resource policies and will help to uncouple increased waste production and economic growth. The principle of producer's liability is reiterated. Its extension to hazardous waste flows is planned, including hazardous waste produced in scattered amounts, such as neon tubes, waste from do-it-yourself products, etc. For the management of non-household waste, the new plan provides for public awareness measures to favor the elimination of hazardous waste from small and medium-sized enterprises and a study of incentives to promote proper disposal of hazardous waste (private financing, positive economic return and "return" brand). The Region likes to set up a network of voluntary return of waste (hazardous or not) by self-employed persons and SMEs, better control on the disposal of hazardous waste. Sector-based prevention plans will be promoted and debated with the public. On prevention, some actions aiming at the reduction of the waste generation are carried out in three phases: providing information and research on sustainable consumption, putting in place pilot projects to demonstrate results, informing and creating awareness among the public. 90% of SMEs are active in the administrative or service sectors, in the Region. Therefore three preferential targets have been selected: households, schools and businesses. For the households, several aspects are under scrutiny at the moment: - interior pollution, - alternatives for hazardous domestic products, - well considered purchasing, - well considered uses. Several programs are implemented: - the eco-construction strategy takes into account the interior pollution and the use of ecological alternatives for construction materials, - the awareness raising campaigns aim at certain products as generator of hazardous waste (i.e. batteries), hazardous products used at home, health and environment with his green ambulance "Regional cell for intervention concerning interior pollution." Awareness raising in businesses: Training is organized for companies applying for the "Eco-dynamic Business" label. This training focuses on subjects such as waste take back obligations or purchases of environmentally friendly products or services for office maintenance. Awareness raising campaigns are organized per activity sector for the prevention and management of the waste streams (dry cleaning, coach work, garage, construction sector....). Information is distributed by 'The Business and Environment Bulletin', sector publications, 'good practices' publications,

*Economy:* - Ecotax: Since July 1993 a national law introduced taxes on certain consuming products that are considered to be harmful to the environment (soda packaging, batteries, pesticides, paper etc.). - MAMBO: MAMBO is the Dutch abbreviation of "Less Waste, More Profit". By means of a software package developed by the Flemish Waste Agency, companies are able to calculate the exact cost of their waste production. The objective is to bring about awareness about this topic and to focus on waste prevention. - Flanders applies the 'polluter pays' principle. Simultaneously, a price-differentiation distinguishes between the fraction for incineration or landfilling (the 'rest-fraction' or residual waste stream) and the fractions collected separately for recycling. The Flemish Government has also imposed additional environmental taxes on the residual waste stream. The purpose of these taxes is to stimulate prevention and recycling, and also to finance regional environmental policy. - Implementation of tax legislation on waste: In Flanders, environmental taxes are put on final disposal of waste materials, i.e. on incineration and landfilling, with exemptions on recycling. It constitutes a good instrument for discouraging production of waste materials at source and accordingly promote prevention. - The producer liability system is a key element of the Third Waste Prevention and Management Plan (2003-2007) of Brussels. The plan provides that manufacturers must bear the real and full cost of waste created by their products. - Brussels has one incinerator. Fees for collecting and treating non-household waste are variable so as to encourage the sorting and recycling of waste. - Brussels will study different economic instruments to improve the management of hazardous waste: positive economic return, private financing, introduction of a "return brand", and so on.

*Industry:* Packaging prevention plans by packaging companies.

*Others:* Flanders: The environmental management plan MINA 2003-2007 which indicates the environmental policy of Flanders, describes some actions to reduce and/or eliminate generation of hazardous and other wastes: - action 9: Determine goals for the prevention, reuse and recycling of industrial waste that has to be tackled first - action 10: Reduce the disposal of high calory waste to a minimum- force up the energy recovery of non-recycable waste to a maximum, with respect for the environment - action 11: Develop a source oriented waste policy approach - action 12: Obtain the objective of 13% prevention in 2007 of household waste compared with 2000. The aim is to uncouple the growth of the amount of waste from the economic growth. Wallonia: - Development of production technology to minimize the production of hazardous waste; and - Development of technology to neutralize hazardous waste.

### Canada:

*Policies:* In Canada, both mandatory and voluntary plans and programs exist. They are set up by the federal and provincial governments and by municipalities. In general, provincial and municipal plans tend to be mandatory, whereas federal plans are voluntary. Some examples are as follows: Section 188 of the CEPA 1999 creates a new authority for the Minister of the Environment. The Minister may require an exporter or class of exporters of hazardous waste or non-hazardous waste for final disposal to submit and implement a plan "for the purpose of reducing or phasing out" those exports. Once such a requirement is imposed, the Minister may refuse to issue an export permit if the plan is not submitted or implemented. Section 191(g) authorizes the Government to develop regulations respecting these plans referred to subsection 188(1), "taking into account: i) the benefit of using the nearest appropriate facility, and ii) changes in the quantity of goods the production of which generates hazardous waste to be disposed of by an exporter or class of exporters." The Toxic

Substances Management Policy will continue to work for the health of Canadians and for the environment. This policy provides a two track approach to managing toxic substances. The first track is the "virtual elimination from the environment of toxics substances that result predominantly from human activity and that are persistent and bioaccumulative" and the second track encourages "management of other toxic substances and substances of concern, throughout their entire life cycles, to prevent or minimize their release into the environment". In 2003, the National Pollutant Release Inventory (NPRI) reported 211 specified substances and these were submitted by 8173 facilities. This represent an increase from 2002 and can primarily be attributed to changes in the reporting requirements for the oil and gaz sector. For an overview of changes to year 2003 reporting criteria go to: [http://www.ec.gc.ca/pdb/npri/2003Guidance/2003\\_NPRI\\_Changes\\_e.cfm](http://www.ec.gc.ca/pdb/npri/2003Guidance/2003_NPRI_Changes_e.cfm)

*Economy:*

A variety of economic instruments are used in Canada to promote waste reduction. Some examples include: Tipping fees are levied on waste disposal at landfill sites, incinerators and waste processing facilities by both municipalities and private sector facility operators. These fees are subject to provincial and federal value added tax (Goods and Services Tax, Provincial Sales Tax, Harmonized Sales Tax). Many municipalities use a partial or full user-pay system for residential solid waste management above a basic collection service of one or two bags per week with additional charges for every extra container. Deposit return systems are also widely used for beverage containers and have proven to be very efficient ways to divert material from landfills. Extended Producer Responsibility (EPR) programs are commonly funded by advance disposal fees commonly applied at the point of purchase. These monies are managed by not for profit industry producer responsibility programs to pay for the recovery, recycling and environmentally sound management of the designated wastes. In some cases, these fees are not visible to the consumer but are applied at some other point in the supply chain. EPR programs operating at both a national and provincial level exist for pesticide containers, tires, paint, crankcase oil, packaging, refrigerants, and electronics. <http://www.ec.gc.ca/epr/>. As an example, Stewardship Ontario was formed in response to the Province of Ontario's Waste Diversion Act that requires all companies that introduce packaging and printed paper into Ontario's consumer marketplace ("Stewards") to share in paying 50% of the funding of Ontario's municipal Blue Box waste (recyclable materials) diversion programs. Stewardship Ontario was established to manage the funds collected from Stewards. <http://www.stewardshipontario.ca/> Municipal solid waste and hazardous waste minimization projects are eligible for funding under various programs. Some examples include: The Federation of Canadian Municipalities Green Municipal Fund offers grants for feasibility studies and low-interest loans for innovative environmental infrastructure initiatives. <http://www.fcm.ca/> The EcoAction Community Funding Program, a federal government initiative led by Environment Canada, provides financial support to community groups for projects that have measurable, positive impacts on the environment. Funding support can be requested for projects that have an action focus, a community capacity building focus, or a combination of both objectives. <http://www.ec.gc.ca/ecoaction/> Technology Partnerships Canada - Environmental Technologies is a federal investment support program for business in the form of interest-free loans. Support is given to the development of new technologies, processes and products. <http://tpc-ptc.ic.gc.ca/> Sustainable Development Technology Canada is a federal foundation that acts as a catalyst for demonstration technologies. Waste management is included as one of the program's sectors for funding. <http://www.sdte.ca/> The New Deal for Cities and Communities includes a targeted tax, known as the Gas Tax, to support sustainable infrastructure in cities and communities. <http://www.infrastructure.gc.ca/>

*Industry:*

Economic and consumer pressures have moved industry to advocate waste reduction on a voluntary basis. Some of the initiatives include: Environment Canada's Environmental Choice Program has developed environmental criteria against which over 150 categories of products and services are assessed for leading environmental performance. The program meets the requirements of ISO 14024 Type 1 eco-labels. Companies whose product or service passes the independent third party verification process are licensed to use the EcoLogo. <http://www.environmentalchoice.com/> Corporations Sharing Responsibility (CSR) is a national organization representing the stewardship interests of their Canada-wide members. CSR monitors extended producer responsibility (EPR) policies that are currently in place, and the developments in emerging policies that will face companies operating in the Canadian marketplace in the future. <http://www.csr.org/> The Composting Council of Canada (CCC) is a national non-profit, member-driven organization with a charter to advocate and advance composting and compost usage. It serves as the central resource and network for the composting industry in Canada and, through its members, contributes to the environmental sustainability of the communities in which they operate. <http://www.compost.org/> The Environment and Plastics Industry Council (EPIC) is an industry initiative dedicated to sustainable plastics recycling and to minimizing plastic waste sent to landfill. EPIC facilitates the development of sustainable programs to effectively manage plastics waste and acts as a resource to individuals, groups, companies and the educational community. EPIC is a council of the Canadian Plastics Industry Association (CPIA). <http://www.plastics.ca/epic/> The Rechargeable Battery Recycling Corporation (RBRC) is dedicated to recycling small rechargeable batteries found in portable electronic products such as cellule and cordless phone, power tools, laptop computers, camcorders, two-way radios and remote control toys. <http://www.rbrc.org/>

*Others:*

In Canada, waste minimization is promoted by various organizations such as: The Waste As a Resource Guide was developed by the Federation of Canadian Municipalities with support from Environment Canada. The Guide is designed to help municipalities implement sustainable municipal solid waste management practices and its use is being promoted through a series of workshops held across the country. <http://kn.fcm.ca/> Provinces and Territories mandate a certain level of diversion for municipal governments through legislation. Municipalities provide information on waste

reduction and recycling programs in their local community including household hazardous waste management. Waste Diversion Ontario (WDO) is a provincial initiative that was created in 2002 under the Province of Ontario's Waste Diversion Act (WDA). WDO is a non-crown corporation that was established to develop, implement and operate waste diversion programs for a wide range of materials. Blue Box Waste (household recyclables), used tires, used oil material and waste electronic and electrical equipment (e-waste) have been designated under the WDA by the Ontario Minister of the Environment. Possible future designated materials include household special (hazardous) waste, organic materials, pharmaceuticals and fluorescent tubes. WDO has been authorized by the Act to work co-operatively with those industries that produce and distribute products that result in designated materials to establish diversion programs. <http://www.wdo.ca/> Waste Reduction Week (WRW) in Canada is a national program that focuses on the 3Es of the 3Rs - Education, Engagement, and Empowerment. WRW brings together many partners including not-for-profit organizations, municipalities, businesses, schools, and individuals. The program's educational resources and "take action" messaging empowers Canadians to adopt more environmentally conscious choices, and in turn, reduce waste. <http://www.wrwcanda.com> Not-for-Profit Organizations such as recycling councils promote and facilitate waste reduction, recycling, and resource conservation in their provinces and territories. <http://www.wrwcanda.com/links.htm>

## Finland:

- Policies:** The National Waste Plan Until 2005, which came into force on 1 August 1998, sets targets, among other things, for the reduction of the amounts and harmful properties of waste. The Plan presents the administrative and legal, economic and informative instruments to be used in implementation. The targets are set for and the measures geared to the years 2000 and 2005. The plan has been updated in 2002. Regional waste management plans have been drawn out for 13 regions. The plans specify measures to be taken in the regions in order to carry out and develop the tasks provided for or regulated in or under the Waste Act. They present data on wastes and the current state of waste management, the developing targets set and measures necessary to achieve them. One of the developing targets dealt with in the plans is the minimization of generation of wastes. A proposal for the new National Waste Plan will be drafted during the year 2006.
- Legislation:** The Waste Act (1072/1993), which entered into force on 1 January 1994, introduces the general obligation to prevent waste generation and to reduce its quantity and harmfulness. In order to implement the general obligation, the Government may issue general regulations concerning the production and marketing of products. Such regulations have so far been issued for example on batteries and accumulators, ozone depleting substances, asbestos and impregnated wood. The Environment Protection Act (86/2000) sets general regulations on the licensing of industrial facilities including waste disposal and recovery plants and major waste-generating industries. The Act aims at the reduction of the burden to the environment caused by various industrial operations as well as at the prevention of waste generation and reduction of their harmful effects. The Act replaced several previous regulations on facility licensing. According to the Act, the environment permit shall contain necessary regulations, among other things, in order to minimize the waste generated and diminish the harmful properties of wastes. The Act came into force on 1 March 2000.
- Economy:** The Waste Tax Act (495/1996) came into force on September 1, 1996. The Act was amended in December 2002. According to the Act, from 1 January 2003 a State tax of 23 euros per tonne shall be paid on waste deposited at landfills operated by municipality or a body appointed by the municipality or a landfill which is operated primarily for the purpose of receiving waste by another party. The tax was raised to 30 euros per tonne on 1 January 2005. Some waste types are exempt from waste tax. Some subsidies are awarded by the government to projects aiming at environmental protection. Among waste management projects, in general, the priority is given to those projects which aim at the prevention of waste generation and the reduction of hazardousness of wastes.
- Industry:** Various industrial establishments and waste generators continuously develop their process technologies e.g. in order to eliminate generation of hazardous and other wastes. In recent years a number of industrial establishments have also created their own environmental management systems on voluntary basis, for example, in accordance with the European Community Eco-management and Audit Scheme (EMAS), ISO 14001 or branch-specific programmes such as "Responsible Care" by the chemical industry. In December 2004, there were 50 EMAS-registered sites in Finland, and the number is continuously growing.
- Others:** Waste and hazardous waste minimisation are also promoted by: education and advisory services: it is a legal obligation for the Finnish Environmental administration (especially the Finnish Environment Institute and regional environment centres) and local authorities to provide advisory services on wastes to all interested parties (industry, commerce, households etc.). Advisory services include preparation and dissemination of information material (brochures, guidebooks, websites etc.), information campaigns, on-line advise, and training courses. Advise is given on all necessary issues related to wastes and their management but the main focus nowadays is on preventive measures. Advisory services are also provided by regional waste management organisations, private companies, producer corporations and environmental NGOs; and ecolabelling, such as Nordic Swan Label and European Union Ecolabel, research programmes and R & D projects, such as the Environmental Cluster Research Programme co-financed by several ministries and academies which aim at seeking new ways of saving the environment and natural resources and at developing them into environmentally friendly products, production technologies and infrastructure, and various R & D projects financed by the National Technology Agency TEKES

([www.tekes.fi/eng/](http://www.tekes.fi/eng/)).

### France:

- Policies:* Policies on packaging waste, used tyres, batteries, vehicles and electronic waste.
- Legislation:* Decree No. 98-638 from July 20th 1998 about how to take into account the environment requirements in the design and the manufacturing of packaging; · Decree No. 99-374 from May 12th 1999 about introducing batteries in the market and their disposal; · Decree No. 2002-1563 from December 24th 2002 about the disposal of used tyres; · Decree No. 2003-727 from August 1st 2003 about the treatment of end-of-life vehicles; and · Decree 2005-829 from July 2005 relating to the composition of electrical and electronic equipment and to the disposal of waste from this equipment.
- Economy:* Taxes (General tax on polluting activities) on the disposal of hazardous wastes and other wastes.
- Industry:* Agreement on the treatment of end-of-life vehicles, from March 10th 1993.
- Others:* None.

### Germany:

- Legislation:* Recycling Management and Waste Act (1994, amended in 2002) with supplementary regulations, in particular: Sewage Sludge Ordinance (1992, amended in 2002); Battery Ordinance (1998, amended in 2001); Waste Oil Ordinance (1987, amended in 2002); CFC-Ordinance (1991, amended in 2001); Ordinance on Bio-wastes (1998); Packaging Ordinance (1998, amended in 2006); Ordinance on the management of waste wood (2003); PCB-waste Ordinance (2000); Ordinance on Underground Waste Stowage (2002, amended in 2004); Technical Instruction on the Management of Hazardous Waste (1991); Commercial Wastes Ordinance (2002); Waste Management Plans issued by the Federal States; Landfill Ordinance (2002, amended in 2004); Ordinance on Environmentally Compatible Storage of Waste from Human Settlements (2001, amended in 2002); and Ordinance pertaining to the recovery of waste at surface landfills (2005). Federal Immission Control Act (1974, amended in 2005) with supplementary regulations; in particular: Ordinance on Waste Incineration Plants (1990, amended in 2003). End-of-Life-Vehicle Act (2002) and End-of-Life-Vehicle Ordinance (1997, amended in 2006). Waste Electrical and Electronic Equipment Act (2005). Regulation of the European Parliament and the Council (EEC) No 761/2001 of 19 March 2001 allowing voluntary participation by organisations in a Community eco-management and audit scheme (EMAS).
- Industry:* Environmental aspects are implemented in many German Industrial Standards (DIN). There is a "Manual on the Consideration of Environmental Aspects in Standardization and Development of New Products" (2001; DIN-Fachbericht 108). Many enterprises from different branches of industry and administration participate in the eco-management and audit scheme (EMAS) or have achieved an ISO 14001 certification. More information is available from the Focal Point or <http://www.emas-register.de> and <http://www.iso14001-register.de/index.html>. The German Environmental Label comprises more than 100 different product criteria (e.g. tires, copiers, paper) and several thousand labeled products. For further information see <http://www.blauer-engel.de>.
- Others:* Program of the Federal Government "Research for the environment" from 1997 with emphasis on environmentally sound products, reduction of littering, ecological and social causes of waste generation, waste avoidance, precautionary waste management and closed loop recycling management. Expenditures for research oriented to environmentally compatible, sustainable development were 690 Million Euros in the year 2004. Research projects by the Federal Ministry of Research and Education on sustainable business and integrated environmental protection in several industrial branches (e.g. plastics and rubber industry, metallurgical processes, agriculture, packaging industry, foundries, food processing, textile industry, wood processing). For further information <http://www.bmbf.de> or <http://www.fona.de>.

### Greece:

- Policies:* Based on EU legislation. Care is taken for the prevention and reduction of production of hazardous wastes by use of clean technologies and minimization of hazardous characteristics involved in the wastes.
- Legislation:* EEC Decree 91/156, EU Decree 94/904, and EC Decree 96/350.
- Economy:* Financial support for the use of clean technologies is given to all parties involved.

### Ireland:

- Policies:* Local Authority Waste Management Plans (since 1998) Responsible: Local authorities Under the Waste Management Act, 1996, all local authorities are required to prepare and implement a Waste Management Plan. These plans include objectives in relation to prevention and minimization of wastes. They also include objectives in relation to the recovery of waste. National Hazardous Waste Management Plan Responsible: Environmental Protection Agency (EPA) Under the Waste Management Act 1996, as amended, the EPA is required to prepare a Hazardous Waste Management Plan for the country. This plan, which was published on 5 July 2001, has regard to the prevention and minimization of hazardous waste and sets objectives and, where appropriate, targets in relation to the prevention and the minimization of hazardous waste, the minimization of the harmful nature of such waste and the recovery of hazardous waste. National Waste Prevention Programme Responsible: Environmental Protection Agency The National Waste Prevention

Programme aims to deliver substantive results on waste prevention and minimisation and will integrate a range of initiatives addressing awareness-raising, technical and financial assistance, training and incentive mechanisms. An Outline Work Plan 2004-2008 has been prepared. The programme will build on initiatives such as Cleaner Greener Production Programme. A certified training programme in Waste Prevention and Minimisation has been developed in consultation with IBEC and the Clean Technology Centre. "Preventing and Recycling Waste: Delivering Change" The policy statement on the prevention and recycling of waste, Preventing and Recycling Waste: Delivering Change, published in March 2002, addresses in detail the factors and practical considerations that are relevant to the achievement of Government policy objectives for the prevention of waste and for the re-use and recycling of the waste that is produced. The policy statement specifically - highlights the necessary disciplines that must be imposed within waste management systems to secure real progress on waste prevention, re-use and recovery; - outlines a range of measures that will be undertaken in the interests of minimising waste generation and ensuring a sustained expansion in re-use and recycling performance; and - identifies issues and possible actions which require further systematic consideration.

*Legislation:* Waste Management Act 1996, as amended Responsible: Department of Environment, Heritage & Local Government Part III of the Waste Management Act 1996 provides for wide-ranging regulatory measure to promote waste prevention and recovery which may involve obligations upon producers, distributors, retailers and consumers. There is a basic obligation on persons involved in industrial, commercial and agricultural activities to have due regard to the need to prevent or minimize the production of waste from that activity and to take reasonable steps for that purpose, including steps relating to product design. Integrated Pollution Control Licensing (since 1994) Responsible: Environmental Protection Agency (EPA) Under the Environmental Protection Agency Act, 1992, the EPA is responsible for Integrated Pollution Control licensing of scheduled activities. These include all major manufacturing activities in the country. Each license contains a specific condition relating to the establishment of an Environmental Management System (EMS). Through the EMS the license must assess all operations and review all practicable options for the use of cleaner technology, cleaner production and the reduction and minimization of the waste at the facility. Waste Licensing (since 1997) Responsible: Environmental Protection Agency (EPA) Under the Waste Management Act, 1996, the EPA is responsible for licensing scheduled waste recovery and disposal activities. Each license requires that the licensee establish an Environmental Management System (EMS). The EMS provides a mechanism for ongoing improvement in environmental performance by the licensee. For instance, transfer stations are required to introduce or extend recycling of wastes handled by the facility. Landfill site operators are required to provide for recycling of wastes such as construction and demolition waste, to assess and introduce, if possible, the utilization of landfill gas, and to introduce methods for the recovery of sewage sludge. Packaging Regulations (Since 1997) Responsible: Local authorities The Waste Management (Packaging) Regulations 1997, as amended, impose obligations on persons and businesses which supply packaging (i.e. packaging materials, packaging or packaged goods) to the Irish market, whether as retailers, packers, fillers or manufacturers. The Regulations require suppliers to either participate in an approved packaging waste recovery scheme or to implement steps themselves to assist the recovery of packaging waste. The regulations provide that a person may not supply packaging or packaged products to the Irish market unless the packaging concerned complies with essential requirements as to its nature and composition. Plastic Bag Regulations (Since 2001) Responsible: Local authorities The Waste Management (Environmental Levy) (Plastic Bag) Regulations, 2001 provide for the imposition of an environmental Levy of 15 cent on plastic bags from 4 March 2002. The purpose of the levy is to reduce consumption of plastic shopping bags dispensed at retail outlets. Revenues raised from the plastic shopping bag levy will be assigned to the new Environment Fund – which will also receive funding from the proposed landfill levy. This fund will be used for supporting appropriate waste management, litter and other environmental initiatives.

*Economy:* Cleaner Production Pilot Demonstration Programme (June 1997) Responsible: Environmental Protection Agency (EPA) This programme, administered on behalf of the Department of the Environment, Heritage and Local Government by the EPA, was established to promote a more environmentally friendly approach to production in the manufacturing and services industries in Ireland. Cleaner Greener Production Programme (2000-2006) Responsible: Environmental Protection Agency (EPA) The Environmental Protection Agency implemented the Cleaner Greener Production Programme (CGPP) in 2001 under the ERDTI programme which is funded by the National Development Plan (2000-2006). This programme focuses on the prevention and reduction of environmental impact arising from industrial activities. Further details are available on [www.clearerproduction.ie](http://www.clearerproduction.ie). Demonstration Scheme for the Development of Environmentally Superior Products (1999) Responsible: Enterprise Ireland A grant-assisted pilot demonstration scheme which was operated by Enterprise Ireland and directed towards indigenous small to medium sized enterprises engaged in manufacturing. Environmentally Superior Products Initiative (1999 – To date) Responsible: Enterprise Ireland Continuing on from the Demonstration scheme for the development of Environmentally Superior Products (ESP), this initiative is aimed at improving the environmental and hence business performance of Irish SME manufacturing industry. It also aims to improve the strategic capability of SME's through the exploitation of the market for ESP's. European Union Eco-Labeling Scheme Responsibility: National Standards Authority of Ireland The objectives of the scheme are to promote the design, production, marketing and use of products which have a reduced environmental impact during their life-cycle; and to provide consumers with better information on the environmental impact of products and to encourage preferential consideration of eco-labelled products in purchasing decisions. Environmental Management System

Grant Scheme (1998 – to date) Responsible: Enterprise Ireland This grant scheme provides financial assistance to small and medium sized indigenous Irish manufacturing industries to enable them to engage independent consultants to support and train the company's management in the installation and running of an Environmental Management System to either EMAS or ISO 14001. The aim of the scheme is to improve the environmental performance of Irish industry while at the same time maintaining business competitiveness. ISO 14001 Environmental Management Standards Responsible: National Standards Authority of Ireland (NSAI) Third party registration of environmental management systems (EMS) provides confidence that environmental issues are being managed in accordance with internationally recognized standards and procedures. ISO 14001 requires organisations to define their environmental policy and review their activities, products, processes and services, in order to identify the environmental issues and associated impacts, which can be controlled. NSAI is accredited to assess and certify organizations to ISO 14001. NSAI offers training workshops that outline the requirement of the standard, the interpretation of those requirements and their application in an EMS. Enterprise Ireland-NSAI EMS Initiative NSAI conducts technical environmental assessments, in line with Enterprise Ireland scheme requirements for SME's engaging in environmental performance improvement. Environmental Research, Technological Development and Innovation Programme (2000-2006) Responsible: Environmental Protection Agency (EPA) The Environmental Research Technological Development and Innovation Programme was allocated €32 million by the Irish Government under the National Development Plan 2000-2006. The funding is being invested in the following research areas: - Environmentally Sustainable Resource Management - Sustainable Development - Cleaner Production - National Environmental Research Centre

*Industry:* Individual measures taken by industries and waste generators in accordance with Environmental Management Systems established under IPC and waste licenses issued by the EPA.

*Others:* Environmental Awareness Programme Responsible: Department of the Environment, Heritage and Local Government A new phase of the environmental awareness campaign was launched in 2003 to build upon the general awareness of environmental issues raised during 1999-2002, and to refocus the campaign exclusively on waste management and awareness of waste issues generally. Entitled the "Race Against Waste" the campaign comprises two separate but related elements, a media campaign and a communications strategy. The media campaign is designed to complement the issues raised in the waste communications strategy, i.e. the need for people to prevent, reduce, re-use, and, recycle or compost their waste ultimately to reduce quantities for final disposal. The Communications Strategy addresses general public misunderstandings/ misconceptions on waste issues and the measures required to deal with waste. Information, Advice, Awareness Raising, Guidance & Tools Responsible: Enterprise Ireland (EI) EI provides a range of environmental supports designed to improve the environmental performance of indigenous Irish industry, with a particular focus on SMEs, such as: Information and advice on industry environmental issues including waste provide via phone, email or site visits and site environmental audits and eco-efficiency assessments on waste and other environmental issues. Online waste information and tools are available on [www.envirocentre.ie](http://www.envirocentre.ie). Environmental training and awareness on waste prevention/minimization and management through events and Regional Environmental Industrial Fora.

### Israel:

*Policies:* A policy for waste reduction was adopted. More permits were issued for recycling and reuse of hazardous waste. The Ministry of the Environment encourages reduction, recycling and reuse of hazardous waste.

*Legislation:* In process.

*Economy:* The Ministry of the Environment funded up to 40% of the cost for industry (facilities) that invested in hazardous waste reduction.

*Industry:* A facility for the recovery of used automobile oil filters by the encouragement of our ministry.

### Italy:

*Legislation:* Legislative Decree No. 22/97, Art. 3

### Liechtenstein:

*Policies:* Different measures: For information: see Official Web site: [www.aus.llv.li](http://www.aus.llv.li) / or contact the competent authority.

*Legislation:* Different measures: For information: see Official Web site: [www.aus.llv.li](http://www.aus.llv.li) / or contact the competent authority.

*Economy:* Different measures: For information: see Official Web site: [www.aus.llv.li](http://www.aus.llv.li) / or contact the competent authority.

*Industry:* Different measures: For information: see Official Web site: [www.aus.llv.li](http://www.aus.llv.li) / or contact the competent authority.

### Luxembourg:

*Policies:* National Waste Management Plan adopted by Government on 15th December 2000; and Obligation

for industries and Small and Medium Enterprises (SME) to establish internal waste management plans with the view of reduction and recycling of waste.

*Legislation:* Modified Waste Management Law of 17th June 1994.

*Economy:* "SuperDrecksKëscht fir Betriiber" initiative taken since 1992 by the Ministry of Environment and the Chamber of Handicraft with the aims of: advising industries and Small and Medium Enterprises (SME) in good ecological practice of internal waste management; and giving a quality label to the companies with a good waste management practice.

*Industry:* Internal waste management according to internal Waste Management Plan and/or waste management practice according to "SuperDrecksKëscht fir Betriiber"-concept.

*Others:* None.

### Monaco:

*Policies:* No measures

*Legislation:* No measures

*Economy:* No measures

*Industry:* No measures

*Others:* No measures

### Spain:

*Policies:* A National Plan on Hazardous Wastes is currently being drafted. The national strategy on municipal wastes in Spain is set on the National Plan on Municipal Wastes (2000-2006), published in the Official Gazette of 2 February 2000. Its objectives are, inter alia: to maintain in the year 2002, the quantity of municipal wastes generated, at the 1996 level, thereby reducing by 6 per cent the quantity of waste per inhabitant per year; to reduce, prior to 30 June 2001, by 10 per cent, the annual generation of packaging wastes in relation to the quantity generated in 1996; to ensure other levels of reuse, recycling and recovery for specific wastes selectively collected (glass, paper/carton, packaging of various origins, etc.) set out in the Plan; to eliminate the uncontrolled spillage of wastes by the end of 2006 and in the same year, eliminate in controlled landfill sites 33 per cent of the municipal wastes generated, and in landfill sites which comply with directive 1999/31/EC of the European Community; and to build bring points" for the selective collection of domestic hazardous wastes (paint, solvents, oils, etc.). The Plan foresees a total investment of 3.000 million Euros. In addition to the National Plan on Municipal Wastes, several plans on specific waste streams have been issued through 2001, namely: used tires (Official Gazette of 30/10/2001); end of life vehicles (16/10/2001); construction and demolition wastes (12/07/2001); and sludge from sewage treatment plants (12/07/2001).

*Legislation:* (Note: most part of applicable Spanish legislation, whether EU legislation, national or regional legislation, can be accessed or downloaded through the webpage of the Ministry of Environment of Spain: [www.mma.es](http://www.mma.es)) Act 10/98 on Wastes is aimed, inter alia, at preventing the production of wastes and encouraging, in this order, its minimization, reuse, recycling and other forms of recovery, with the view to protecting the environment and human health. To that end, the Government will be able to establish norms for the various types of wastes, including specific provisions on the production and management of wastes. Industries and activities generating hazardous wastes are subject to administrative authorization. The permit must determine the maximum quantity per unit of production as well as the characteristics of the wastes which can be generated, on the basis of certain criteria, including, the use of less contaminating technologies under economic and technically viable conditions, as well as technical characteristics of the installation in question. When applying the criteria for deciding on the less contaminating technologies, priority will be given to the principle of prevention of wastes. To that end, the Act foresees the use of various instruments as voluntary agreements on the management of wastes by those responsible for launching on the market products which after use become waste. Voluntary agreements should be approved or authorized by the relevant competent authorities, which in some cases may themselves participate in the agreements. The Act expressly requires that any potentially recyclable or recoverable waste should be destined for that purpose and its elimination avoided as far as possible (in the case of hazardous wastes, this requirement will be applicable from 1 January 2000). The regional authorities of the Spanish State should have to draw up regional plans on waste. The national government, by integrating these regional plans, should draw up national plans on waste which should establish the goals relating to reduction, reuse, recycling, other forms of recover and elimination, the measures to adopt in order to attain these goals, the financial means and the procedure for reviewing the plans. Act 11/97 on packaging and packaging wastes lays down goals for reducing the generation of packaging and recovering those produced, as well as requirements for reducing the content of certain hazardous substances in the packages (lead, cadmium, mercury and hexavalent chromium). Royal Decree 782/1998, which develops and implements the above mentioned Act 11/97 on packaging and packaging wastes requires packaging industries to prepare triennial forecasts indicating the goals for reducing the generation of packaging waste and their content of hazardous substances. The attainment of previous goals will be ensured through voluntary sectoral agreements (between packers, dealers in packaging products, those involved in recycling activities, etc.) reached by establishing integrated management systems for packaging wastes and used packages. Royal Decree 1378/1999 provides for measures

for eliminating and managing PCB/PCTs as well as apparatus containing them. It sets the year 2010 as the deadline for the gradual elimination of PCBs, either directly, including apparatus that contain them, or indirectly through decontamination. Further rules are being prepared including sectoral agreements on other specific wastes streams such as out-of-use vehicles or used batteries and accumulators, which incorporate measures on the minimization of the generation of hazardous wastes. In 27th December the 2001, Decree 1481/2001 regulating the landfilling of wastes has been passed in Spain (it is the transposition of directive 1999/31/EEC) The costs supported today by users of landfills are, in general terms, far from reflecting the real cost of final disposal of wastes through landfilling, which in fact means a transfer of environmental costs to the society as a whole and to future generations. The new regulation will mean that the price the user of a landfill will pay for the elimination of his wastes will be the real price, including the cost of controlling the landfill for a minimum period of 30 years after it has been closed. This measure will apply to all new landfills and gradually (before the year 2009) to all existing ones. The rise in the cost of the landfilling of wastes will have a positive effect on more appropriate alternative methods of waste management from an environmental point of view (reuse, recycling, energy recovery), as well as on the prevention of the generation of wastes. There are also other regulations which apply to specific waste flows and/or waste treatments, i.e.: · Management of Used Industrial Oils: Royal Decree 679/2006 (Official Gazette num 132 of 03/06/06); · Used Batteries and Accumulators: Royal Decree 45/1996 (Official Gazette num. 48 of 24/02/96) as modified by Ministerial Order of 25/10/2000 (Official Gazette num. 258 of 27/10/2000); · Management of End of Life Vehicles: Royal Decree 1383/2002 (Official Gazette num. 3 of 03/01/2003) Transposition into Spanish legislation of EU Directive 2000/53/CE on End of Life Vehicles; · Incineration of Wastes: Royal Decree 653/2003 (Official Gazette num. 142 of 14/06/2003 and num. 224 of 18/09/2003). · Electrical and Electronic Equipment and the Management of their Wastes: Royal Decree 208/2005 (Official Gazette num. 49 of 26/02/2005 and num. 76 of 30/03/2005). Transposition of EU Directive 2002/96/CE on Wastes from Electrical and Electronic Equipment; · Management of Used Tires: Royal Decree 1619/2006 (Official Gazette num 2 of 03/01/06); and · Contaminated soils: Royal Decree 9/2005 (Official Gazette num 15 of 18/01/2005).

*Economy:* Besides the above mentioned legal or planning instruments, there are other specific economic instruments already in place, as: · deduction in taxes for companies, by 10%, of their investments in environmental assets (in place since 2001); · landfill taxes in some regions (i.e. Madrid, Cataluña, Murcia, Andalucía) for non hazardous and hazardous wastes; · voluntary agreements with stakeholders; and · promotion of Environmental Management Systems and Schemes (ISO-14000 /EMAS). Every year the State grants subsidies for the environmentally sound collection and management of used industrial oils, on a quantity which typically averages 6 million Euros. These subsidies will be ending in 2007 with the Producer responsibility instrument put in place through Royal Decree 679/2006 on the management of used industrial oils.

*Industry:* Voluntary sectoral agreements on the management of wastes (mentioned above); and Certification of Environmental Management Systems according to ISO 14000, more than 600 firms (as of 30.11.2000); and according to the Community Environmental Management Audit System (EMAS), 70 firms (as of 14.09.2000).

### Sweden:

*Policies:* EU Waste management strategy: Prevention of generation of waste; Reduce content of hazardous material in the waste; Reuse or recovery of material or energy; and Safe and adequate disposal of the waste.

*Legislation:* Producer responsibility of different kinds of waste; Ban on landfill of sorted combustible waste from 1 January 2002; Ban on landfill of organic waste from 1 January 2005; and Ordinance on wastes sent to landfills.

*Economy:* Tax on waste sent to landfill from 1 January 2000.

### Switzerland:

*Policies:* Different measures. For information: see Official Web site: <http://www.umwelt-schweiz.ch/> or contact the competent authority.

*Legislation:* Different measures. For information: see Official Web site: <http://www.umwelt-schweiz.ch/> or contact the competent authority.

*Economy:* Different measures. For information: see Official Web site: <http://www.umwelt-schweiz.ch/> or contact the competent authority.

*Industry:* Different measures. For information: see Official Web site: <http://www.umwelt-schweiz.ch/> or contact the competent authority.

### Turkey:

*Policies:* Minimization of the waste production at the source; The recovery and reuse of waste is the principle of our national regulation if recovery and reuse of wastes are impossible as technical and financial prospective. The wastes shall be eliminated without causing and damage to the environment and human health. Elimination systems must be selected based on the waste characteristics and the corresponding technologies; and Establishment of sufficient elimination facilities, and control of such facilities in an environmentally sound manner.

- Legislation:** Communiqué on the Rules for the Incineration of Wastes as Alternative or Additive Fuels in Cement Rotary Kilns; By-law on the Control of Hazardous Wastes (published on 14 March 2005); By-law on the Control of Clinical Wastes (published on 22 July 2005); By-law on the Control of Solid Wastes (published on 14 March 1991); By-law on the Control of used batteries and accumulators (published on 31 August 2004); By-law on control of waste oils (published on 21 January 2004); By-law on control of package and packaging waste (published on 30 July of 2004); By-law on control of edible waste oils (published on 19 April 2004); and By-law on control of demolition waste (published on 18 March 2004).
- Industry:** The waste generators shall be liable to adopt the necessary measures for the minimization of waste production and to ensure waste management in a manner so that the harmful effects of wastes on the environment and the human health shall be minimized in accordance with the provisions of national regulation. Also waste generators have to fill the waste declaration form every year and forward it to Ministry of Environment using the waste description code issued by the Ministry. Responsible care is being implemented among the industrialists. There has been also Environmental Voluntary Declaration applied by the Ministry of Environment and Forestry to some industries. Also, efforts are made by the industries/waste generators through recycling/recovery to reduce the generation of hazardous wastes.
- Others:** In order to enhance the recovery of waste pilot projects have been initiated in Istanbul, Kocaeli and Bursa provinces by the coordination of the Ministry under the umbrella of Turkish Union of Stock Markets and Chambers Commerce and Industry regarding the waste stock exchange.

### United Kingdom of Great Britain and Northern Ireland:

- Policies:** Waste Strategy 2000 for England and Wales was published in May 2000; Since the publication of "Wise about Waste" in 2002, this now only applies to England. It is undergoing review currently. Scotland's National Waste Strategy was published on 9 December 1999; Northern Ireland's Strategy on 22 March 2000; and Wales' National Waste Strategy "Wise about Waste" was published in June 2002. Each strategy sets up a long term framework with challenging targets underpinned by realistic programmes to deliver more sustainable waste management; raising the awareness and participation of all stakeholders, including the public. The emphasis is on prioritising waste minimisation, achieving substantial increases in the recovery of value through recycling, composting, anaerobic digestion, and various Energy-from-Waste technologies. The Prime Minister's Strategy Unit Report - 'Waste Not, Want Not', published in November 2002, looked at ways to fulfill the UK's obligations and targets (particularly under the Landfill Directive) and to deliver more sustainable waste management. In its response, the Government accepted the majority of the reports' recommendations, and action has been taken to implement these commitments – significantly in the increase of the landfill tax, the reformation of the Landfill Tax Credit Scheme and the creation of a new Waste Implementation Programme within Defra to deliver a package of strategic measures recommended by the report. England: Waste Strategy 2000 set targets for the reduction of certain wastes going to landfill, and for the recovery of value (particularly through recycling and composting). These include targets to: reduce the landfill of industrial and commercial waste to 85% of 1998 levels; recycle/compost at least 25% of household waste by 2005; 30% by 2010 and 33% by 2015; and, recover value from 40% of municipal waste by 2005; 45% by 2010 and 67% by 2015. In March 2001 statutory performance standards were set for local authorities in England. These require them to, on average, recycle/compost double 1998/9 levels by 2003/4 and almost treble those levels by 2005/6. The Waste Strategy is currently being revised with a view to publication later in 2006. Wales: The Welsh Assembly Government published its National Waste Strategy "Wise about Waste" in June 2002 which can be viewed on [www.wales.gov.uk](http://www.wales.gov.uk). The emphasis is on waste minimisation and re-use of materials, and includes targets to: achieve combined recycling and composting of municipal waste of 15% in 2003-04, 25% in 2006-07, and 40% in 2009-10 (with only compost derived from source segregated materials counting); reduce the landfill of industrial and commercial waste to less than 85% of 1998 levels by 2005, and less than 80% of 1998 levels by 2010; reduce; reduce hazardous waste by 2010 by at least 20% compared with 2000. The Welsh Assembly Government has so far allocated £79 million in additional resources to improve waste management in Wales for the period 2001/02 to 2004/05. Scotland: The National Waste Strategy: 11 Area Waste Plans were published in March 2003 along with a National Waste Plan for Scotland. The National Waste Plan sets out a range of targets that reflect statutory requirements under the landfill directive and voluntary targets that are an accumulation of the Best Practicable Environmental Options identified in each Area Waste Plan. These targets include : · Stop growth in the amount of municipal waste produced by 2010; · Achieve 25% recycling and composting of municipal waste by 2006, 30% by 2008, and 55% by 2020; · Provide widespread segregated kerbside waste collections across Scotland to over 90% of households by 2020; · Recover energy from 14% of municipal waste (2020); · Reduce land-filling of municipal waste from 90% to 30% (2020); · Provide waste minimisation advice and business waste framework to businesses; and · Develop markets for recycled material to help recycling become viable and reduce costs. Northern Ireland: The Waste Management Strategy for Northern Ireland sets provisional targets for the reduction of waste to landfill and for increases in recycling and composting. These include targets to: recover 25% of household waste by 2005; recover 40% of household waste by 2010, of which 25% shall be by recycling or composting; reduce the landfilling of industrial and commercial wastes to 85% of 1998 levels by 2005; and, reduce the quantities of biodegradable municipal wastes being landfilled to 75% of 1995 baseline levels by 2010, 50% by 2013 and 35% by 2020. It is intended for these targets to become mandatory at the first Strategy

Review point in 2003.

- Legislation:** The Producer Responsibility Obligations (Packaging Waste) Regulations 1997 (as amended) implement part of the EC Directive on Packaging and Packaging Waste 94/62/EC, in particular the recovery and recycling targets. These required that, by 2001, between 50% and 65% recovery and between 25% and 45% recycling of packaging waste had to be achieved and within this, a minimum of 15% of each material was to be recycled; A revised Packaging Directive 2004/12/EC came into force in February 2004 and set new recovery and recycling targets to be met by 31 December 2008. - A revised and consolidated set of packaging Regulations "the Producer Responsibility Obligations (Packaging Waste) Regulations 2005" came into force on 1 January 2006 and implement the new requirements in Directive 2004/12/EC: The GB Regulations, and parallel legislation in Northern Ireland, place obligations on certain businesses who place packaging on the market including, in particular, a requirement to carry out target levels of packaging waste recovery and recycling each year. - The Packaging Waste Recovery Note (PRN) is an evidence note used by obligated businesses to demonstrate compliance with their recovery and recycling obligations. These are also a Packaging Waste Export Recovery Note (PERN) which is issued in respect of tonnages of packaging waste exported for recycling overseas (within and outside the EC). Only reprocessors and exporters who have been accredited by the relevant Agency (Environment Agency in England and Wales or Scottish Environment Protection Agency in Scotland) may issue PRNs or PERNs respectively; The Packaging (Essential Requirements) Regulations 1998 took full effect in January 1999 and were superseded by revised Regulations in 2003. They implement the Directive Provisions specifying essential requirements for packaging placed on the market, which cover minimisation, avoidance of noxious and hazardous substances and the need for packaging to be recoverable (through at least one of the following: material recycling, incineration with energy recovery, composting or biodegradation); On 1 August 2000, the Pollution, Prevention and Control (PPC) Regulations entered into force in England and Wales implementing the EU Integrated Pollution, Prevention and Control Directive (96/61/EC). This is progressively replacing the Integrated Pollution Control (IPC) regulatory regime, applicable to the most potentially polluting industrial processes, which requires the use of BATNEEC (best available techniques not entailing excessive cost) to prevent the release of polluting substances or, where this is not possible, to minimise emissions and render them harmless. Separate systems are being introduced to apply the IPPC Directive to Scotland, Northern Ireland and the offshore oil and gas industries. Existing processes will be phased into the new regulatory regime on a sectoral basis up to 2007. IPC covers about 2000 processes whereas PPC will cover 5000-6000. The PPC regime, which requires the use of BAT (best available techniques), will also include a wider range of installations. Those regulated under PPC will be required to abide by the general principle that waste production should be avoided wherever possible; where waste is produced it should be recovered, or recycled, unless technically and economically impossible; and The technical and regulatory aspects of Council Directive 99/31/EC on the Landfill of Waste were implemented in England and Wales by the Landfill (England and Wales) Regulations 2002; these came into force on 15 June 2002. The Directive bans from landfill certain hazardous wastes, along with liquid waste, tyres, and infectious clinical wastes. It also requires the pre-treatment of waste before disposal to landfill. The Directive bans the co-disposal of hazardous and non-hazardous waste and will place strict controls on landfill sites, particularly those for hazardous waste. One likely effect of this will be to increase the cost of disposal of hazardous waste in the future, providing an incentive to reduce the amount of hazardous waste generated.
- Economy:** Articles 5 (1) and (2) of the Landfill Directive deal with strategies for the reduction of biodegradable waste and sets targets to reduce the amount of biodegradable municipal waste going to landfill. These aspects of the Directive were implemented in the UK by the Waste and Emissions Trading Act 2003. The Landfill Tax was introduced in October 1996 as the first UK tax with an explicit environmental objective. It was designed to promote the 'polluter-pays' principle by increasing the price of landfill to better reflect its environmental cost, and to promote a more sustainable approach to waste management. The 1998 Budget introduced changes to the Landfill Tax including an increase from £7 to £10 per tonne for active waste from 1 April 1999. The 1999 Budget introduced an automatic escalator which will increase the rate of tax for active waste by £1 per year, until the rate reaches £15 per tonne in 2004/5. The 2003 Budget announced that the rate will be increased by £3 in 2005-06 to £18 per tonne, and by at least £3 per tonne in the years thereafter, on the way to a medium- to- long-term rate of £35 per tonne. The rate of tax for inactive waste remains frozen at £2 per tonne.
- Industry:** Envirowise: Envirowise is a government-funded programme that aims to promote cost-effective Resource Efficiency strategies and cleaner technology. It offers free, independent advice on practical ways to minimise waste and convert turnover into profit. Envirowise offers a range of free waste minimisation consultation and reference products to businesses in the UK including the environment and energy helpline, publications (case studies, best practice guides and datasheets written by experts provide up-to-date information on waste minimisation issues, methods and successes) and Resource Efficiency Clubs. [www.envirowise.gov.uk](http://www.envirowise.gov.uk). ISO 14001: At the end of 2004 there were 5,460 certifications in the UK. EMAS: At the end of 2004 there were 61 organisations registered for EMAS. This data relates to companies in all sectors and not exclusively to companies dealing with hazardous waste or waste management companies generally.
- Others:** The Waste Implementation Programme (WIP) was set up in May 2003 following a report published by the Strategy Unit in November 2002 entitled 'Waste Not, Want Not'. The remit of WIP is to divert biodegradable municipal waste (BMW) from landfill in England and help meet the requirements of

Article 5 of the EU Landfill Directive. WIP seeks to achieve this through waste reduction, recycling and home composting in close cooperation with Local Authorities. The targets of Article 5 require that: The UK, by 2010, reduce BMW landfilled to 75% of that produced in 1995. By 2013, the UK reduce BMW landfilled to 50% of that produced in 1995. By 2020, to reduce BMW landfilled in the UK to 35% of that produced in 1995. WIP's budget for the financial year 04/05 was approximately £90,500 million. Waste and Resources Action Programme (WRAP): WRAP is a government funded organisation which aims to remove barriers to waste minimisation, re-use and recycling, and to create stable and efficient markets for recycled materials and products. WRAP works with consumers, waste generators and re-processors, manufacturers, businesses and government. It has several work streams, focusing on generic recycling issues (financial mechanisms, procurement, waste minimization, collection and waste awareness) and specific material streams (paper, glass, organics wood, plastic and aggregates). More information on WRAP is available at <http://www.wrap.org.uk>.

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