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Working Group on Waste Prevention and Recycling

DRAFT REVISED REPORT TO THE OECD COUNCIL ON THE IMPLEMENTATION OF THE RECOMMENDATION ON ENVIRONMENTALLY SOUND MANAGEMENT OF WASTE [C(2004)100], AS AMENDED BY C(2007)97

12th Meeting of the WGWPR
Paris, 18-20 February 2009

This document includes a revised draft of a report to the OECD Council on the implementation of Recommendation on Environmentally Sound Management of Waste [C(2004)100], as amended by C(2007)97. It includes input from twenty member countries. The document was prepared by John Myslicki Consulting, Ottawa, Canada.

ACTION REQUIRED: For discussion and approval.

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EXECUTIVE SUMMARY

An OECD Council Recommendation on the Environmentally Sound Management (ESM) of Waste [C (2004)100], including its associated Core Performance Elements (CPEs), was adopted on 9 June 2004; and later amended [C(2007)97] (see Appendix 1). C(2004)100 recommends that Member countries elaborate and implement policies and/or programmes to ensure that waste is managed in an environmentally sound and economically efficient manner. It also recommends that they develop and implement practices and instruments that facilitate the efforts of competent authorities to monitor the implementation by waste management facilities of the Core Performance Elements.

The 2004 Recommendation also instructs the Environment Policy Committee to report to the Council, on the basis of the information received from Member countries, three (3) years after the adoption, on the implementation of the Recommendation. This report responds to that requirement.

The base information contained in this report was provided by twenty OECD countries, using a common template that had been agreed by the Working Group on Waste Prevention and Recycling (WGWPR).

All reporting countries have a legislative infrastructure and substantial enforcement arrangements in place for ESM. They have also adopted a wide range of policies and programmes that are broadly relevant for ESM. Implementation of the CPEs is also well underway, especially in facilities that manage hazardous waste. The number of dedicated "ESM" facilities is still relatively low, but is increasing. Most countries now have in place various standards and guidelines for the management of specific waste streams, some of which are binding. Most countries also have liability and compensation mechanisms in place or under development (again, covering mainly hazardous wastes and their management). Some countries have also established incentives and/or relief measures for facilities that fulfil the CPEs. Most also have developed solid monitoring and information exchange programmes, as well as more general activities and programmes related to ESM implementation.

OECD work on Sustainable Materials Management and on the Transboundary Movements of Waste is also supporting progress on the ESM front. For example, updates that are made to OECD Decision C(2001)107/FINAL on the Control of Transboundary Movements of Waste Destined for Recovery Operations (including its harmonisation with the Basel Convention and EU Shipment Regulation) are directly contributing to the development of a globally harmonised control system for transboundary movements of waste destined for environmentally sound management in ESM facilities.

The OECD ESM Recommendation has also had significant influence beyond the OECD and it Member countries. For example, the Bureau of International Recycling (BIR) has included the OECD's "Core Performance Elements" in its own "Guidance Manual for the World's Recycling Industries: Tools for Environmentally Sound Management" (http://www.bir.org/pdf/GuideESM.pdf).

The overall message from that review is that the 2004 OECD Council Recommendation has made a significant difference in the way the ESM challenge is being addressed in OECD countries, by the OECD itself, and in some external agencies.

INTRODUCTION

Waste management facilities, including recovery facilities, should, within the framework of local laws, regulations and administrative practices, and in consideration of applicable international agreements, principles, objectives and standards, take due account of the need to protect the environment, public health and safety and generally conduct their activities in a manner contributing to the wider goals of sustainable development.

The principle of "Environmentally Sound Management (ESM) of Waste" is therefore one of the underlying principles of most OECD Council Acts related to transboundary movements of wastes, to UNEP's Basel Convention on the Control of Transboundary Movements Hazardous Wastes and their Disposal, and to the EU Shipment Regulation. However, lack of a clear definition and common understanding of ESM has led to challenges for the practical implementation of ESM instruments.

Against this background, the OECD Member countries decided in 1999 to start working towards international ESM "guidelines" for waste recovery facilities. The broad objectives of that work were:

- *Sustainable use of natural resources, minimisation of waste and protection of human health and the environment from adverse effects that may result from waste;*

- *Fair competition between enterprises throughout the OECD area, through the implementation of Core Performance Elements (CPEs)by waste management facilities, thus contributing to a level playing field of high environmental standards;*

- *Diversion of waste streams to the extent possible from facilities operating with low-standards to facilities that manage waste in an environmentally sound and economically efficient manner, through incentives and other measures."*

As a result, the Recommendation of the Council on the Environmentally Sound Management (ESM) of Waste [C (2004)100], including its associated Core Performance Elements (CPEs), was adopted on 9 June 2004; later amended by[C(2007)97] (see Appendix 1). C(2004)100 recommends that Member countries elaborate and implement policies and/or programmes to ensure that waste is managed in an environmentally sound and economically efficient manner. It also recommends that they develop and implement practices and instruments that facilitate the efforts of competent authorities to monitor the implementation by waste management facilities of the Core Performance Elements.

The 2004 Recommendation also instructs the Environment Policy Committee to report to the Council, on the basis of the information received from Member countries, three (3) years after the adoption, on the implementation of the Recommendation. This report responds to that requirement.

The base information contained in this report was provided by twenty OECD countries, using a common template that had been agreed by the Working Group on Waste Prevention and Recycling (WGWPR). The countries which provided this information were: Australia, Austria, Belgium, Canada, Czech Republic, Finland, France, Germany, Hungary, Japan, Korea, Mexico, Netherlands, Poland, Slovak Republic, Spain, Sweden, Switzerland, United Kingdom, and United States.[1]

[1] Not all countries provided this information at the same level of detail. This report therefore reflects the Secretariat's judgement about what an appropriate level of detail would be for a report of this type.

OVERVIEW OF RECENT ESM DEVELOPMENTS IN OECD COUNTRIES

A. Policies, Programmes and Regulatory Frameworks which are broadly relevant to ESM

Australia

Different levels of government play different roles in environmentally sound management of waste. The Australian Government plays a leadership role, where nationally consistent approaches are needed, and where it has responsibility for meeting international commitments. State, territory and local governments are primarily responsible for the day-to-day management of waste and recycling and have a range of policies, programmes and regulatory frameworks in place that are relevant to implementing ESM. For example, waste management facilities are generally required to be licensed under legislation by individual state and territory governments.

EU

In addition to the general legislation (Waste Framework Directive, 1975 [75/442/EEC as amended] and the Hazardous Waste Directive, 1991 [91/689/EEC as amended]) that sets the foundation for ESM, as well as the IPPC Directive [96/61/EC] that prescribes best available techniques (BAT), the EU has also recently adopted several Directives aimed specifically at implementing ESM for specific treatment processes and waste flows:

Directives concerning waste management operations: The Landfill Directive (1999) [1999/31/EC] facilitates and improves the management of landfill sites in an environmentally sound manner; The Waste Incineration Directive (2000) [2000/76/EC] aims at reducing pollution caused by emissions into the air, soil, surface water and groundwater from incinerators and co-incinerators of hazardous and non-hazardous waste.

EU Directives concerning specific waste streams: The Directive on Sewage Sludge (1986) [86/278/EEC] aims at encouraging the correct management of the sludge from sewage treatment plants;

The End-of-life Vehicles (ELV) Directive (2000) [2000/53/EC] sets targets for re-use, recycling and recovery; The Waste Electric and Electronic Equipment (WEEE) Directive (2002) [2002/95/EC as amended] aims to minimise the impacts of electrical and electronic equipment on the environment throughout their life-cycle.

Other relevant EU legislation regulates packaging waste, waste oils, PCB/PCT waste, titanium dioxide waste, POPs waste, batteries and mining waste (see: *http://europa.eu.int/comm/environment/waste/legislation/index.htm*).

Austria

As an EU Member State, Austria has transposed the relevant EC-legislation into its national legislation. At the federal level, there are several recent waste management acts (*e.g.* Austrian Waste Management Act of 2002), plans (*e.g.* Federal Waste Management Plan 2006, which focuses on waste prevention and minimisation, recovery and treatment), and ordinances (*e.g.* Ordinance on Waste Treatment Obligations, that encompasses principles and objectives of environmentally sound management, promoting waste management hierarchy principles, emphasizing waste prevention, followed by recovery/recycling and disposal. The more specific ordinances on End-of-Life Vehicles (ELV) and on Waste Electrical and Electronic Equipment (WEEE) also contain requirements on ESM.

Belgium

As in other EU countries, a set of EU Directives and Regulations on waste and environmental protection contribute to the implementation of ESM principles in Belgium. These Directives and Regulations have also often been transposed by the Belgian regions. In many cases, regions have introduced more stringent ESM rules than what is required by the EU waste legislation.

Canada

All levels of government have important roles to play in ensuring that wastes are managed in an environmentally sound manner. The federal government is engaged on issues related to sustainable development, toxic substances, interprovincial and international movement of hazardous waste, management of wastes on federal lands and operations, greenhouse gas emissions, and other initiatives, through federal funding programmes. The regulations under the Canadian Environmental Protection Act (CEPA), revised in 2007, contain certain criteria for the assessment of the environmentally sound management of hazardous waste or hazardous recyclable materials, in order to protect the environment and human health from the adverse effects that may result from such wastes and/or recyclable materials.

Provincial and territorial governments are responsible for establishing policy, siting and licensing of facilities, issuing approvals and monitoring of municipal solid waste (MSW) operations (collection, diversion, and disposal) from both the residential and non-residential sectors.

Czech Republic

Act No. 76/2002 Coll. on Integrated Pollution Prevention and Control, which is in accord with the IPPC Directive[2] of the European Communities, was passed to achieve high level of environmental protection as a whole. This Act provides for integrated implementation of the public administration in permitting installations, and creation and operation of an integrated pollution register.

Application of best available techniques (BAT) is mandatory for all installations which fall under the IPPC Directive. In addition, ISO 14001 is the basic environmental standard for Czech companies.

Finland

Waste legislation is largely based on EU legislation, but in some cases includes stricter standards and limits than those applied in the EU. Finland also has legislation on some issues related to wastes that have not yet been covered by EU legislation. This legislation covers all wastes, except certain special waste types such as radioactive wastes, which are covered by separate laws.

There are decisions or decrees addressing a selected number of waste streams including provisions that these should be managed in an environmentally sound manner. The National Plan (to 2016) promotes working towards a recycling society. The National Programme, under this Plan, identifies proposals for "getting more-with-less" as a principle of sustainable consumption and production.

[2] The IPPC Directive deals with the reduction of pollution from various sources in the European Union. Industrial facilities must obtain permission (a permit) from the authorities in countries of the European Union to enter production. Authorities must base their decisions on the Best Available Techniques (BAT) concept, as defined by Article 2 of the Directive.

France

Rules and regulations relating to ESM of wastes are again governed by EU law on waste treatment facilities. These facilities (particularly incineration plants and landfill sites) are covered by the IPPC Directive.

Private sector initiatives are also relevant to the implementation of environmentally sound management of waste. The French Federation for Recovery, Recycling and Re-use (Federec) has set up a certification system for companies operating in this sector (CERTIREC). This system provides an intermediate step towards the management and continued improvement of quality, the environment, and security (e.g. ISO 14001).

Germany

ESM is reflected in "Kreislaufwirtschafts- und Abfallgesetz" (Circle Economy and Waste Act) (1996). This approach is currently being revised to reflect amendments to the EU-Waste Framework Directive and related EU policies and programmes, such as the National Waste Prevention Programme (new EU-WFD § 29)[3]. In addition, there are a number of specific acts in place for specific waste streams, such as municipal waste, hazardous waste, waste oil, PCB, ELV, waste tires, packaging, WEEE, batteries, and bio-waste, as well as for waste management operations, such as landfilling, incineration, and waste shipments.

Hungary

A general approach to ESM regulatory framework is based upon two pillars. One pillar involves the requirements of the IPPC Directive and its application (whereby the competent environmental authority requires the implementation of BAT by waste treatment facilities). The other pillar involves applying all relevant EU rules. The ESM principle, which appears in EU waste management policies and programmes, is also directly reflected in Hungarian waste management policies and programmes.

Japan

Different levels of the government play different roles in ensuring that wastes are managed in an environmentally sound manner. "The Waste Management and Public Cleansing Law" was enacted for the purpose of preserving a living environment through the restriction of waste discharge, appropriate disposal of wastes, and conservation of clean environment.

Municipal governments also develop plans for the treatment of municipal solid waste in their areas. There are a number of laws at the local level that deal with facility planning, waste collection and disposal, including environmental pollution control and facility operations. When establishing an industrial waste treatment facility, permission must be obtained from the relevant municipality. Industries generating waste are responsible for treating their own waste and are required to observe relevant waste management standards.

Japan has also established a comprehensive legislative system, in order to realise a "Sound Material-Cycle Society" (defined as a society characterised by the 3Rs (Reduce, Reuse and Recycle)). In broad terms, the 3Rs approach simply means reducing the generation of waste, utilising waste generated as a resource whenever possible, and disposing of waste in an environmentally sound manner, if it cannot be more productively used in some other way.

[3] http://register.consilium.europa.eu/pdf/en/08/st03/st03646.en08.pdf.

Korea

The Comprehensive National Waste Management Plan directs the main programmes and regulatory frameworks related to ESM. This Plan is reviewed and renewed every 10 years. The policy objectives contained within it have recently shifted from the safe disposal of wastes -- to reduction, reuse and recycling of these wastes. A sustainable society, where resources are recycled and zero-wastes are generated, is the final goal of Korean ESM policies.

There are three other fundamental pieces of legislation that incorporate ESM: i) The Waste Control Act, which defines the classification of wastes and responsibilities of central and local governments and citizens, and encourages the development of comprehensive waste management plans; ii) The Act on the Promotion of Saving and Recycling of Resources, as a comprehensive programme for establishing a resource recycling society; this Act sets up the basic plans for recycling, labelling for the separate collection and discharge of recyclable resources; and iii) The Act on Resource Recycling of Electrical and Electronic Equipment and End-of-Life Vehicles which aims for the improvement of material use and designs to promote recycling of vehicles and electrical and electronic equipments.

Mexico

ESM is generally included in the new regulatory framework aimed to be established by the national programme for prevention and integrated management of waste -- a "National Waste Programme" (Spanish acronym "PNPGIR"). This Programme proposes adjustments to the national law and corresponding regulations on waste, adjustments to state laws and municipal regulations, aimed at: prevention of waste generation, solutions to comprehensive waste management at regional or metropolitan level, promotion and/or adoption of new administrative schemes according to local conditions, new technologies for waste management, promotion of 3Rs; life-cycle policies and waste treatment and diversification of new models for final waste disposal (*e.g.* landfills, incineration).

Netherlands

As for other EU countries, EU has a set of common rules for permitting and controlling industrial installations in the IPPC Directive. All permits for companies falling under the regime of the IPPC Directive had to be brought in line with European requirements by 31 October 2007. In addition, other EU Directives and Regulations also contribute to the environmentally sound management of waste treatment operations, such as the Landfill Directive, Waste Incineration Directive; Packaging Directive or Directives on specific waste streams, such as waste oils, sewage sludge, batteries and accumulators, end-of-life vehicles (ELV), and waste electric and electronic equipment (WEEE).

EU Regulation No 1013/2006 on the Shipment of Waste, which applies from 12 July 2007, also directly addresses environmentally sound management of waste. This Regulation stipulates that the competent authority of dispatch in the EU shall prohibit an export of waste to third countries, if it has reason to believe that the waste will not be managed in an environmentally sound manner.

Poland

The 2001 Waste Act contains rules on preventing waste generation, waste minimisation, as well as on waste recovery and disposal to ensure protection of human life and health and protection of the environment, in accordance with the hierarchy of waste management.

The EU IPPC Directive was introduced in Poland by making amendments to the Waste Act. In addition, the Minister of the Environment commissioned preparation of BAT guidelines for various sectors

of economy: ferrous metalwork, non-ferrous metalwork, foundries, dairy industry, brewery industry, chemicals industry, paper industry, cocking industry, and ceramic industry.

The National Waste Management Plan (29 December 2006) analyses current waste management problems, and provides directions for developing waste management systems and waste prevention activities for a series of waste streams, such as municipal wastes, PCB-containing wastes, waste oils, waste batteries and accumulators, medical and veterinary wastes, end-of-life vehicles, waste electrical and electronic equipment, wastes containing asbestos, obsolete pesticides, waste explosives, end-of-life tires, wastes from construction, repair and demolition of building structures and road infrastructure, urban wastewater sludge and packaging waste.

Slovak Republic

The government recently approved (15 February 2006) the Waste Management Programme for 2006–2010, which provides for the prevention and reduction of waste generation, as well as for development of technologies that would save natural resources and reduction of waste generation. The objective is to protect the environment against the adverse effects which may result from such wastes. The obligatory part of the Waste Management Programme relates to implementation of EU waste management principles and Directives on waste streams.

The Slovak Act on Waste (223/2001)also implements the principles of precaution and sustainability, lays down the waste hierarchy logic (prevention, recycling/recovery and disposal of waste that cannot be recovered), and establishes measures on the management of waste streams, such as waste batteries and accumulators, end-of-life oils, end-of-life tires, multi-layer combined materials, WEEE, waste plastics, waste papers, waste glass, ELV, polychlorinated biphenyls and polychlorinated terphenyls, construction waste, and demolition waste and waste from the production of titanium dioxide.

In 2003, the EU IPCC Directive was incorporated into Slovak Waste Act, which also includes the principles of BAT and rules which are mandatory for all operating installations.

Spain

The fundamental piece of Spanish legislation concerning wastes is Law 10/1998. This Law establishes a general framework for all types of wastes. It aims explicitly at ESM, including protection of the environment and human health against the adverse impacts derived from the production and management of wastes. It also applies the Polluter Pays Principle, the waste hierarchy, and calls for wider use of economic instruments. According to this Law, national plans on wastes are to be elaborated at the state level, by integrating the relevant regional plans on wastes.

There are other specific national regulations for certain waste treatment operations (e.g. landfilling and incineration), as well as for specific waste streams (e.g. packaging and packaging wastes, hazardous waste, polychlorinated biphenyls (PCBs) and polychlorinated terphenyls (PCTs), batteries and accumulators, end-of-life vehicles, waste electrical and electronic equipment, end-of-life tires, and used industrial oils). All these regulations include the obligation for the producers to establish waste prevention plans and to reach, according to respective market share, specific waste prevention and recycling/recovery targets.

In 2002, the government also implemented EU IPPC Directive, which establishes the “integrated environmental permit” approach. This permit must be obtained by all industrial installations (or installations making substantial modifications) which produce major environmental impacts.

Sweden

As for other EU countries, EU rules exist for permitting and controlling industrial installations, via the EU IPPC Directive. The Environmental Code (SFS 1998:808) in Sweden also requires permits for many environmentally harmful activities including waste management. It furthermore contains a number of basic environmental principles, such as BAT. These principles are transformed into specific requirements when a permit is issued, for a certain activity or facility.

Switzerland

ESM is reflected in the Federal Act on the Protection of the Environment (Environmental Protection Act, EPA) of 7 October 1983 (as amended), and in the Technical Ordinance on Waste of 10 December 1990 (as amended). There are also specific technical ordinances in place for a number of waste streams, such as municipal waste, hazardous waste, waste oil, PCB, packaging, WEEE, batteries, bio-waste, construction and demolition waste and waste management operations, such as landfilling, incineration and waste shipments. Progress is also now being made toward new legislation -- such as a new law dealing with construction and demolition waste.

United Kingdom

ESM is reflected in the Environmental Protection Act (1990) and associated regulations (especially the 2007 Environmental Permitting Regulations). In addition, there are a number of special waste acts for specific waste streams, such as municipal waste, hazardous waste, waste oil, PCB, ELV, waste tires, WEEE, packaging, batteries, construction and demolition waste, bio-waste and waste management operations, such as landfilling, incineration and waste shipments. There is also a separate (2007) Waste Strategy for England and related waste strategies for other parts of the UK.

United States

ESM needs to be viewed from both federal and state/local perspectives, since each level of government has important roles in implementing policies and programmes relevant to this particular policy goal. Federally, the US approach to ESM focuses on hazardous waste management (treatment, storage, disposal, and recovery) and relies on the authorities granted through the Resource Conservation and Recovery Act (RCRA). The federal government has limited authority over non-hazardous wastes. It can therefore not regulate or require ESM elements beyond what is authorized under RCRA. It is therefore at the local level where ESM policies and programmes related to non-hazardous wastes are designed and implemented. US states (if authorized) also have a role in implementing RCRA at the state level, and must do so in a manner that is at least of equal stringency to what is required federally.

B. Activities aimed specifically at Implementation of the six Core Performance Elements

Australia

The CPE relating to Occupational and Environmental Health and Safety (CPE 2) is addressed at the State/Territory level. Each State/Territory has in place its own Occupational Health and Safety Act, stipulating measures to safeguard the health, safety and welfare of persons at work. Although the approach varies, all States and Territories also have activities aimed specifically at implementing the remaining five CPEs. The obligation to meet each CPE is variously imposed through conditions of operating licences, land use permits, development permits, or waste management contracts.

Austria

The six CPEs underlie the main requirements for audits within the scope of all environmental management systems, such as EMAS, ISO and EFB (a tailor-made system, covering Specified Waste Management Facilities). The ISO 14001 is part of the EMAS Regulation. The EU-EMAS system and the EFB both strive for a high degree of environmental protection and ensure reliability through company audits conducted by independent external verifiers (registered in a database). By October 2007, there were 38 EMAS-certified waste disposal facilities and 12 EMAS certified recycling facilities in Austria. There were also 37 waste management facilities certified under EMAS and ISO 14 000; and there 151 companies certified as EFB.

Belgium

All six CPEs are part of the implementation of ISO 14001 and EMAS. An additional requirement of EMAS, as compared to ISO 14001, is that organisations must provide a public statement of their environmental performance, which lays down the results and future steps to be undertaken in order to continuously improve that performance. In Belgium, the number of ISO 14001 and EMAS-certified organisations is on the increase.

Canada

Based on various existing federal, provincial and municipal environmental regulatory requirements, many of the ESM CPEs are already in place. Facilities are "permitted" with an overall goal of achieving certain limits on emissions and a variety of other regional, environmental, economic and health criteria. It is typical for permit/approval conditions to involve design and/or performance-based standards for such matters as the handling and storage of hazardous wastes, site security, hazardous waste treatment, hazardous waste disposal, disposition of residual wastes, discharge limits, monitoring and reporting, record keeping and financial security.

Czech Republic

All six CPEs are already being implemented in various acts and policies. These CPEs are also part of implementation of ISO 14001 and EMAS, which are independently audited. With respect to the sixth CPE, an adequate plan for closure and aftercare is in place for landfills. In addition, in Section 21 of the Waste Act (Special Provisions on Landfilling of Waste) there is a requirement to have the financial reserve for a period of at least 30 years.

Finland

All six CPEs have been implemented. An environmental management system is in place where the EU Eco-Management and Audit Scheme (EMAS) and ISO 14001 standard are being implemented. A number of CPEs are implemented through industrial safety legislation and permitting processes. Many industrial associations and private companies have also developed uniform reporting systems and training programs for their employees. The plan for aftercare of closed landfills is also part of the facility permitting process.

France

Industrial or agricultural facilities which are likely to create risks, pollute, or cause environmental nuisance, particularly to the health and safety of the local population, are "listed" facilities. Their activities are classified and governed by either a licensing or a declaration-based system obtained from local authorities, depending on the nature of the risks and problems that may be caused by such facilities. Apart

from small non-hazardous waste treatment facilities, almost all waste treatment facilities must be licensed, or identified in accordance with national legislation. This legislation has recently been improved to include the obligation to keep records, to track waste consignments, to declare the quantity of waste produced and/or treated each year, etc. Operators of facilities, which produce waste, are therefore responsible for monitoring waste production by a self-monitoring scheme.

Germany

All six CPEs have been implemented via the EU EMAS/ISO system. An additional German system for best-practice-enterprises "Specified Waste Management Facilities" (including certification system is in place. There are various laws and regulations dealing with labour health and safety, monitoring and inspections, employee training and emergency responses. There are also requirements to have adequate plan for facility closure and aftercare embodied in German waste laws.

Hungary

None of the six Core Performance Elements are yet in place. However, Hungary is actively planning to introduce them, starting with the WEEE treatment facilities.

Japan

There are many regulations which ensure implementation of the six CPEs. The applicable regulations and guidelines include: Eco-Action 21[4] Environmental Management Systems, Waste Management and Public Cleansing Law, Labour Safety and Sanitation Law, Air Pollution Control Law, Water Pollution Control Law, Human Resources Development Promotion Law, Fire Defence Law and Guideline for the Development of Countermeasure Manual for the Accident of Waste Disposal Facility. The requirement for the facility to have an adequate plan for closure and aftercare is also reflected in the Waste Management and Public Cleansing Law.

Korea

All six CPEs have been implemented via application of the ISO 14001 standard, the Industrial Safety and Health Act, the Waste Control Act and the Allbaro, which is a computing system that assists in monitoring generation, transportation and treatment of wastes on real-time basis.

Mexico

A new national programme for prevention of waste generation and comprehensive waste management: a "National Waste Programme" (Spanish acronym PNPGIR) integrates CPEs into national policies and/or programmes. It also constitutes the basic requirement to ensure ESM and to encourage recycling as part of waste management strategy. It should be noted that waste management facilities, which are operated by private companies, are more likely to meet the requirements of the CPEs, as these companies are required to obtain appropriate permits.

[4] Eco-Action 21 (Environmental Activity Evaluation Programme) is an environmental management system that small and medium-sized enterprises can easily adopt. To promote their environmental management efforts and to ensure the efficiency and effectiveness of their efforts, Eco-Action 21 shows how an environmental management system should be established according to the guidelines, which are based on ISO 14001.

Netherlands

Many of the ESM requirements operating in the EU Member States are very similar to the CPEs of the OECD Recommendation on ESM. In the Netherlands, 142 environmental organisations (most of which are managing waste) are ISO 14001-certified.

Poland

All six CPEs are fundamental requirements for audits of compliance with EMS-systems in place (EMAS/ISO and pre-authorization of the recovery facilities). EU Regulation No 761/2001, which allows voluntary participation by organizations in EMAS, was introduced into Polish law in 2004. There are now 10 EMAS-certified entities, and 13 verifiers in Poland. By 2007, 23 EMAS/ISO 14001 certificates had been issued. Through this certification scheme, the following goals have been achieved: reduction or elimination of waste water, vibration, noise, radiation, emissions into the atmosphere, reduction of quantities of waste, better management of natural resources; and withdrawal of harmful substances from products.

Slovak Republic

All six CPEs have been implemented through a voluntary application of Environmental Management System (EMS) and through the EMAS-Regulation II – which governs the accreditation procedure for environmental verifiers. It includes registration of the organisations in the "EMAS Register" (Act 491/2005 Coll).

Both the Waste Management Law and several labour and health laws require waste management facilities to be subject to general requirements on occupational and environmental health and safety. These laws also requires that waste holder keeps good records, provide information on handling of wastes when requested by authorities. Furthermore, they require that hazardous waste management facilities establish safety measures and have an emergency plan to prevent any environmental risks. All facilities are to have an adequate plan for facility closure and aftercare.

Spain

All six CPEs are implemented as part of the EMAS, regulated by EU Regulation 761/2001 and ISO 14001-2004 standard. As of December, 2007, Spain had 1069 EMAS-registered sites belonging to 884 organisations, of which 30 sites had waste management activities. Spain is also the third largest country in the world in terms of number of EMS-certified companies, according to ISO 14001 (after Japan and China). (Spain also ranks first if the EU, with over 11 200 ISO-certified companies).

As far as CPEs dealing with occupational and environmental health and safety are concerned, monitoring and reporting, and personnel training, any waste recovery or disposal facility are subject to general requirements, such as permitting (Law 10/1998). This Law also requires that any hazardous waste management facility (recovery, disposal, collection, storage and, in some cases, transport) be the subject to a permit, to be issued by environmental competent authorities of the relevant regional government. This Law further requires that persons or entities developing hazardous waste management activities should have an emergency plan in place, as a protection measure to prevent environmental risks.

Finally, regulations and royal decrees (e.g. Royal Decree 1481/2001 on landfills) prescribe adequate measures to prevent environmental damage and to undertake remediation measures upon closure of certain activities when such facilities pose a significant environmental risk.

Sweden

Many companies operating environmentally hazardous facilities have voluntarily implemented an EMS system, such as the ISO 14001 or EMAS. Facilities that are required to have permits are also required to have a monitoring, recording and reporting programme, and to produce annual environmental reports. Apart from the legislation connected to the Environmental Code, there are also several acts concerning the protection of workers and prevention of accidents. Many of the ESM requirements, operating in the EU, are also very similar to the CPEs of the OECD Recommendation on ESM.

Switzerland

All six CPEs have been implemented. The Federal Act on the Protection of the Environment, together with the individual ordinances and the waste stream specific guidelines, all contain ESM-relevant topics. Importance is given to strict implementation, monitoring and control through the responsible cantonal authorities. The ISO certification system, which is legally binding, is also applied for most large waste management facilities.

United Kingdom

All six CPEs have been implemented as part of the 1990 Environmental Protection Act and associated regulations (especially the 2007 Environmental Permitting Regulations) and a number of specific acts for selected waste streams. In addition, occupational health and safety is part of the Health and Safety at Work Act of 1974. There is also a comprehensive system of monitoring, to ensure protection of the environment and safeguarding human health. As a complement to industry training programmes, the waste management Industry Training and Advisory Board was also established to advise on training matters.

United States

All six CPEs are part of a comprehensive set of legislation and policies at federal and state levels. With the exception of federal facilities, the US approach to environmental management systems is aimed at encourage the voluntary use of EMSs across a broad range of organizational settings.

Since 1980, under the Resource Conservation and Recovery Act (RCRA), Subtitle C, the Environmental Protection Agency (EPA) has developed a comprehensive “cradle-to-grave management system”, to ensure that hazardous wastes are managed safely from the moment they are generated, transported, treated, or stored -- until the moment they are finally disposed of. RCRA further requires that Treatment Storage and Disposal Facility (TSDF) owners and operators provide training to ensure that employees at the facility understand the risks posed by management of hazardous waste, and are prepared to respond in the case of an emergency. RCRA’s preparedness and prevention standards are also intended to minimise and prevent emergency situations at TSDFs, such as a fire, an explosion or any unplanned release of hazardous waste or hazardous waste constituents to the air, soil, or surface water.

In addition, the Occupational Safety and Health Administration of the US Department of Labor has a significant role to play in ensuring occupational and environmental health and safety.

To ensure that a TSDF is closed properly, RCRA requires owners and operators to prepare a detailed closure plan and to submit the plan to their implementing agency for approval. The post-closure period normally lasts for 30 years, but may be either extended or shortened by the regulatory authority. In addition, owners and operators must demonstrate they have the adequate funding to complete closure of their facility and to conduct applicable aftercare, such as ground water monitoring and maintaining waste containment system.

C. Existing technical Standards and/or Guidance related to ESM

Australia

At the national level, there is an Australian Standard for environmental management systems (AS/NZS ISO 14001:2004). The Environment Protection Agencies (EPAs) in most States have also developed guidelines (e.g. EPA South Australia Publication 658/07), dealing with environmental management of landfill facilities (municipal solid waste and commercial and industrial general waste) and EPA Victoria Publication 788 – on the Siting, Design, Operation and Rehabilitation of Landfills.

Austria

Austria has transposed the relevant EU legislation reflecting BAT into national law. In addition, ESM technical standards are reflected in more than 15 ordinances, ranging from an ordinance on take-back and collection of deposits on refillable plastic beverage containers, to one on the treatment of waste. There are also ordinances based on the Chemicals Act and the Plant Protection Products Act, which contribute to qualitative waste prevention by banning or restricting the use of specific chemicals. ESM standards are also laid down in ordinances on the basis of the Trade Act, the Mineral Raw Materials Act, the Clean Air Act, the Water Management Act, the Fertilizers Act, the Soil Protection Act and the Veterinary Act.

Belgium

Being an EU Member State, Belgium is obliged to transpose the relevant EC-legislation reflecting BAT into national law. The EU has indirectly addressed ESM through many EC Directives and Regulations related to waste and environmental protection, where managing waste in an environmentally sound manner is an underlying principle.

Canada

The Canadian Council of Ministers of the Environment (CCME)[5] has developed tools and resources for ESM related to both hazardous waste and municipal solid waste (MSW). These tools promote sustainable use of materials and resources to reduce negative environmental impacts, and to encourage waste minimisation. The CCME recently published (2006) National Guidelines for Hazardous Waste Landfills, which define national criteria for "engineered hazardous waste landfill facilities". A variety of other guidelines and codes of practice have been developed for selected waste streams, as well as providing operational and emission requirements for new or modified hazardous waste and MSW management facilities.

Czech Republic

Being an EU Member State, the Czech Republic is obliged to transpose relevant EU Directives reflecting ESM and BAT into national law. ISO 14001 is also frequently applied as an ESM standard. There are general technical guidelines for recycling of waste and facilities engaged in the handling, dismantling, processing, refurbishing and recycling of electrical and electronic equipment.

Finland

Permits are needed for all activities that could create environmental pollution risk to air, water or soil. One important condition for these permits is that emissions are limited to levels obtainable by using BAT.

[5] The CCME is made up of Environment Ministers from federal, provincial and territorial governments. These 14 Ministers normally meet twice a year to discuss national environmental priorities.

This takes into account the EU IPPC Directive and BAT reference documents (BREF). Permit decisions must also be revised regularly.

France

In addition to the BAT reference documents, documents have been produced at the national level by certain sectors of the industry (for example operators of incineration plants).

Germany

There are technical standards prescribing emission standards (to air, water and soil), which are legally binding for different types of waste management facilities (such as incineration, landfills, biowaste treatment and recycling). There are also technical standards related to product and waste streams.

Hungary

In addition to the regulatory framework for ESM, there is also a technical standard on construction and demolition waste, as well as several guidance documents on the reuse of concrete, bricks and ceramics.

Japan

Facilities for municipal solid waste disposal, human waste treatment and industrial waste disposal have to constructed and operated in conformity with technical standards provided by the Ordinance of Ministry of the Environment. To further promote ESM, the national government has developed several relevant guidelines.

Korea

The Ministry of Environment has set up several standards for ESM in the field of waste management and recycling. These include: Policy Directions for Sustainable Waste Management; the Resource Recirculation Policy; Rules on the Standards of Product Packaging Materials and Methods; Management of Packaging Waste, Food Waste Reduction and Recycling; the Volume-Based Waste Fee System; and the Extended Producer Responsibility (EPR) System.

Various technical guidelines, such as Technical Guidelines on ESM of Plastic Waste, Technical Guidelines on ESM of Clinical Wastes from Medical Care Facilities, and Technical Guidelines on ESM Recycling/Reclamation of Metals and Metal Compounds, have also been developed.

Mexico

PNPGIR has proposed development of technical guidance documents related to the management of "special wastes". Other efforts related to ESM are now being implemented, including the project of Industrial Symbiosis (supported by the UK).

Netherlands

Being an EU Member State, the Netherlands has transposed several EU Directives on waste (reflecting ESM and BAT) into national law.

Poland

Being an EU Member State, is obliged to transpose several EC Directives on waste reflecting ESM and BAT into national law. There are now 18 acts and regulations dealing with specific wastes streams, such as PCB, end-of-life vehicles and with waste management facilities, such as landfills and incineration/thermal treatment.

Slovak Republic

Being an EU Member State, the Slovak Republic has implemented all relevant EC Directives and Regulations concerning ESM in relation to waste and environmental protection. All these EC Directives contain principles requiring environmentally sound management of wastes.

Spain

Being an EU Member State, Spain has implemented all the relevant EC Directives and Regulations concerning ESM in relation to waste and environmental protection. The Law on IPPC requires that the requirements in permits, granted to installations, take into account the implementation of BAT. The Ministry of Environment, in cooperation with the regional governments and the industrial sectors concerned, has also elaborated and periodically updated guiding documents on BAT specific for Spanish industries.

Sweden

Being an EU Member State, Sweden has implemented all relevant EC Directives and Regulations concerning environmentally sound management of wastes. Some examples of national implementation include: a ban on landfilling of organic waste (since 2005); general guidelines and an accompanying handbook to provide better guidance and more uniform application of the Environmental Code for digestion and composting of waste; implementation of WEEE and the Landfill Directive.

Switzerland

There are specific guidelines, which set technical standards on ESM for different waste streams. These are in addition to legally binding regulations.

United Kingdom

Being an EU Member State, the UK has implemented all relevant EC Directives and regulations concerning ESM of wastes. Comprehensive guidance is available on a range of ESM issues relating to specific waste streams, which can be obtained from the government website (*http://www.defra.gov.uk/environment/waste/topics/*). In addition, guidance exists on the IPPC and BAT, WEEE (*http://www.defra.gov.uk/environment/waste/topics/electrical/pdf/weee-batrrtguidance.pdf*) -- also available on the government website.

United States

There are several guidelines for the management of hazardous and non-hazardous waste streams and waste operations, such as Industrial D Guidance Document (*http://www.epa.gov/epawaste/nonhaz/industrial/guide/index.htm*); Criteria for Municipal Solid Waste Landfills (*http://www.epa.gov/epawaste/nonhaz/municipal/landfill/criteria/landbig.pdf*); Used Oil Management Standards (*http://epa.gov/osw/conserve/materials/usedoil/usedoil.htm*); Plug-In To eCycling: Guidelines for Materials Management

(*http://www.epa.gov/epawaste/partnerships/plugin/guide.htm*); and Best Management Practices/Certification Effort: Environmentally-Safe Electronics Recycling (*http://www.eworldrecyclers.com/news/content/epa20081031.htm*).

Also relevant here are the RCRA Orientation Manual 2006 (*http://www.epa.gov/epawaste/laws-regs/rcraguidance.htm*) -- which provides introductory information on the solid and hazardous waste management programmes under the Resource Conservation and Recovery Act (RCRA) -- a Handbook on Full Cost Accounting (FCA) for Municipal Solid Waste Management -- which describes key concepts and benefits of FCA helping communities to learn how other communities have used FCA (*http://epa.gov/epawaste/conserve/tools/fca/docs/fca-into.pdf*).

D. Liability Systems in Place

Australia

Various state Environment Protection Acts provide powers for the prevention and remediation of environmental damage. In most States, this includes the requirement on the holder of an environmental licence to provide financial assurances. These assurances usually take the form of a bond or a specified monetary sum to cover landfill rehabilitation, aftercare, and remediation – the repayment of which is conditional upon the licensee meeting the requirements of the relevant State or Territory Environment Protection Act.

Austria

Environmental liability regulations have been laid down in the national Water Act and Waste Management Act, based on the Polluter-Pays Principle. In the case of landfill sites, when granting the authorisation, the authority imposes the payment of a reasonable assurance for fulfilment of the stipulations and obligations associated with the authorisation, in particular for closure of the landfill and aftercare. EC Directive 2004/35 of 21 April 2004 on "environmental liability with regard to the prevention and remedying of environmental damage" is also pending approval by the Austrian Parliament. This will establish an administrative liability system that allows the polluter to be held liable.

Canada

Provinces and Territories approve hazardous waste and MSW facilities operations. Part of the approval process is an appropriate financial assurance plan to ensure the safe continuing operation of the facility.

Czech Republic

A landfill operator is obliged to create a financial reserve fund for recovery and maintenance of the landfill and for its decontamination after it has been closed. The amount the operator is to deposit to the financial reserve fund is CZK 100 (4 Euros) per tonne of deposited hazardous waste (excluding asbestos) or municipal waste; and CZK 35 (1.4 Euros) per tonne of deposited other waste, including asbestos waste. These funds are deposited in a special bank account and may be drawn from this financial reserve only with the consent of the competent regional authority for work related to reclamation, closure and aftercare of a landfill.

Finland

Under the Environment Act, an operator engaged in the recovery or disposal of waste must post collateral security that is sufficient considering the extent and nature of the activity, and in compliance with

regulations issued regarding the activity. An operator can also propose an alternative financial arrangement to guarantee appropriate waste management.

Under the Waste Act, the waste holder, or the previous holder, is liable for costs arising from the waste management (with the exception of producer responsibility schemes). This Act also gives municipalities a right to collect a waste charge to cover the cost of set up, run, closure and aftercare of waste disposal facilities.

France

Waste management facilities (in particular storage facilities) must put financial guarantees in place. Moreover, the EU's Environment Liability Directive, currently being transposed into French legislation, will create a new system of liability. Waste treatment facilities that damage the environment will be required to remedy the damage at their own expense, and will be required to restore the ecological services lost as a result of the pollution.

Germany

There is a general liability regime, which is legally binding.

Hungary

The Ministry of Environment has prepared a draft of a government decree on environmental liability, expected to be in place by 2009. This will contain a financial guarantee system for waste management facilities.

Japan

The Waste Management and Public Cleansing Law stipulates that companies which generate waste must properly dispose of this waste. The Governor of a District may issue an order to secure the implementation of the appropriate treatment of waste (Article 19-3 of the Law) if there is interference with the protection of living environments. Furthermore, the Governor may issue an order to take actions for eliminating interference or preventing the occurrence of interference.

Korea

Environmental liability regulation is in line with various articles of the Waste Control Act, covering the responsibilities of operators, those to whom wastes responsibilities have been assigned, and disposers. When the facility is the subject of post-closure management, the Minister of Environment has a right to make the agent of the waste disposal facility deposit part or the full cost of post-closure management.

The Waste Charge System is another policy that holds manufactures and importers liable for the cost of waste disposal of products, materials, and containers that contain certain hazardous chemical substances or are difficult to recycle. The collected charge is transferred into a "Special Account System for Environmental Improvement (SASEI)" and is applied for various waste reduction, collection and recycling initiatives.

Mexico

An environmental liability regime exists for facilities that carry out risky or potentially risky activities, and to ensure that there are adequate measures to address closed activities to prevent environmental damage. This regime is being incorporated into the PNPGIR.

Poland

Liability regulations have been prescribed by the Act on Waste, incorporating the Polluter-Pays Principle. EU Directive 2004/35/EC (21 April 2004) on environmental liability with regard to the prevention and remedying of environmental damage, was transposed to the Polish law, and entered into force on 30 April 2007.

Slovak Republic

Landfill operators are obliged to create a special purpose financial reserve, to be used for the closure, reclamation and aftercare of each landfill. For landfills with lifetimes of less than ten years, the landfill operator has to contribute no less than 10% of the investment and operating costs likely to be associated with the closure, reclamation and aftercare of the landfill. Not less than SKK 70 (2.3 Euros) per tonne of waste, nor less than SKK 20 (0.7 Euros) per tonne of inert waste, is required to be placed in the financial reserve.

Spain

The environmental liability regime of facility operators that carry out activities posing a significant environmental risk is established by the Environmental Responsibility Law (26/2007). These requirements go beyond those of the EU Directive 2004/35/EC. In addition, activities on the control of major accidents involving dangerous substances are also included in the scope of this law which prescribes strict responsibility, irrespective of whether or not the operator of the facility is at fault, or was negligent. Facility operators, which fall under the scope of Law 26/2007, must also make a financial guarantee, with the amount being established by the competent authority, to cover their environmental responsibility.

Sweden

There are specific requirements for hazardous facilities, in particular those covered by the IPPC Directives. There are also general rules concerning compensation for environmental damage and responsibility for polluted areas.

Switzerland

There is a strict liability regime for damages resulting from activities where wastes are involved. No financial limits are foreseen.

United Kingdom

Several (legally-based) systems already exist in the UK to provide for the remediation of environmental damage. Under these regimes, action is taken by public authorities such as local authorities or the Environment Agency. They can require remediation of damage by those responsible for it or remedy themselves, and then recover the costs from those responsible. Regulations have also been drafted and should be in place by 2009, to transpose the EU's Directive on Environmental Liability (Directive 2004/35/EC (which reinforces the Polluter-Pays Principle), making operators financially liable for threats of or actual damage.

United States

The US has comprehensive programmes in place to address environmental liability, particularly through the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) and the Resource Conservation and Recovery Act (RCRA). CERCLA imposes liability (which is joint and several

and strict) on parties responsible for, in whole or in part, for the hazardous substances at a site. RCRA regulations require the owner or operator of a hazardous waste facility to close the facility in a manner that minimises the need for further maintenance. Owners and operators must also demonstrate liability coverage for bodily injury and property damage to third parties.

The RCRA also generally mandates EPA to require the investigation and cleanup, or remediation, of these hazardous releases at RCRA facilities. The RCRA Corrective Action Programme, run by EPA and 41 authorized States and Territories, compels responsible parties to address the investigation and cleanup of hazardous releases themselves. Approximately 3 800 sites are undergoing corrective action. EPA's corrective action authority allows the Agency to address any releases of hazardous waste or hazardous constituents to all environmental media at both RCRA permitted and non-permitted facilities.

E. Incentive Programmes related to ESM

Australia

A broad range of incentives are provided by State, Territorial and local governments, including a grant for establishing or expanding reprocessing infrastructure, a grant for waste and recycling research, a grant for waste performance improvement for local governments, recycling incentive schemes for curbside collection of domestic recyclables and discounted environmental licence fees and less prescriptive licence conditions to reward best practice environmental management standards.

Austria

One incentive for the introduction of EMS systems is the requirement to draw up an environmental register of acts that have to be complied with, the annual updating of which provides a degree of legal certainty for the facilities involved. For those facilities that implement EMS-systems, the frequency of inspections and updating of controls is reduced. Facilities can also save costs by implementing appropriate technology, as part of their process which prevents hazardous waste generation, or promotes recycling activities instead of final disposal.

Belgium

Several economic instruments are used to promote ESM. For example, in some regions, people have to pay for garbage bags (household waste charge) and are financially encouraged to separate waste or produce less waste. "Smart taxes" are also used to make landfilling more expensive than incineration, or to make incineration more expensive than recycling. The idea is to steer the market toward those waste treatment options that have the lowest environmental impact. Municipalities that launch waste prevention programmes can also get financial support from the federal government.

Canada

A variety of incentives are used to ensure the ESM of hazardous waste and MSW. For example, several provinces have developed collection schemes for recyclables, such as electronic waste, used oil, scrap tyres, beverage container, and paint (http://www.ec.gc.ca/epr/default.asp?lang=En&n=1CEC96D3-1). Deposit-refund systems are also common, as are other financial incentives. For example, the Province of British Columbia administers a differentiated permit fee on a per tonne basis, according to the type of pollutant. Revenues collected are then used to finance various environmental protection programmes. In Ontario, generators are also exempted from the tonnage component of the generator registration fee for hazardous wastes that are recycled at listed facilities in Ontario (https://www.hwin.ca/hwin/oda/recyclers.jsp).

Finland

The new National Waste Plan includes a deposit-refund scheme for beverage containers. The Finnish Funding Agency for Technology and Innovation also supports innovative research and development projects in companies, universities and research institutions. The Ministry of the Environment co-ordinates the environmental cluster research programme, and is the programme's main source of funding. This programme aims to find new ways to help improve the environment and to develop related products, while improving co-operation between researchers, businesses, local authorities, and funding organisations. The Finnish Innovation Fund also provides operational support for companies that are developing technology that reduces the load on the environment.

France

The tax rate applicable to non-hazardous waste storage facilities is reduced for ISO14001 or EMAS certified facilities from 9.90€ to 8.10€/tonne.

Germany

Investment programmes and support of research and development are both offered for ESM facilities.

Hungary

An effort has been made recently to ask professional organisations (*e.g.* Association of Environmental Enterprises) for proposals concerning the type of relief measures that are likely to be needed to promote ESM activities. It is anticipated that new incentive programmes will be in place by 2009.

Japan

"Grants for Establishing a Sound Material-Cycle Society" are organised by the national government for the development of facilities which will be used to treat municipal waste. 33-50% of the related construction fees are supported with these grants when a new facility is built. Facilities entitled to these grant include: recycling centres, facilities for recycling kitchen solid waste, facilities which convert waste into raw materials, facilities for heat recovery, facilities for the recycling treatment of sludge, final disposal sites, septic tanks, facilities which recover raw fuels with high efficiency and planning projects supporting the development of such facilities.

There is also a tax reduction system for recycling facilities, for devices relevant to industrial waste disposal (high-temperature incineration devices and smoke treatment devices) and for other pollution control devices, as well as for facilities to treat asbestos or PCB wastes.

Korea

The National Environmentally Sound Management Programme evaluates and rewards exemplary enterprises. The Environmentally Friendly Enterprise Certification Programme helps enterprises to enter into partnership with the government. Enterprises which are designated as being environmentally friendly are exempted from regular guidance, inspection, and reporting requirements. There is also tax relief for enterprises that collect post-consumer resources and second-hand goods.

Mexico

Incentives and/or relief measures for facilities that fulfil ESM requirements are identified in the PNPGIR. At the State level, similar initiatives are needed, to foster ESM. Incentives for companies to take part in environmentally sound recycling schemes are therefore now being considered.

Poland

Several incentive programmes are in place to promote some elements of ESM, such as the "incentive for waste selection and better recovery". Winners receive a prestigious award - the Recycling Cup. There is also a competition carried out by the Minister of the Environment "Leader of Polish Ecology", which gives an opportunity to honor and promote those entrepreneurs and municipalities which put EMS as an important part of their activity.

Slovak Republic

The Recycling Fund was established as a non-state special purpose fund, to pool financial means for providing information on waste recovery and new waste recovery technologies. This Fund is also used to support the collection, recovery and processing of number of waste streams, such as waste batteries and accumulators, end-of-life oils, end-of-life tyres, multi-layer combined materials, waste electrical and electronic equipments, waste plastics, waste paper, waste glass and end-of-life vehicles.

Switzerland

Although there is no specific government-sponsored incentive programme related to ESM, larger companies set their own targets for improved performance, mostly related to minimizing wastes through increased recycling of waste (including improved energy recovery). There are also taxes for landfilling of wastes -- which encourages recycling and recovery activity.

United Kingdom

In the UK Department for Environment, Food and Rural Affairs (DEFRA), the Business Resource Efficiency and Waste (BREW) programme has delivered a range of support and services direct to business, including free advice on increasing resource efficiency and developing markets for recycled products and materials. BREW also funds longer-term research programmes which will benefit business in the years ahead (*http://www.defra.gov.uk/environment/business/support/index.htm*).

United States

The US has several incentive programmes relevant to ESM. Some of these provide regulatory relief to facilities that are viewed as operating in an optimal manner with regard to ESM, while other incentive programmes are designed to encourage recycling. Examples of incentive programmes related to ESM that provide some degree of regulatory relief include: Encouragement of Environmental Management Systems; Cathode Ray Tube (CRT) Rule (*http://www.epa.gov/epawaste/hazard/recycling/electron/index.htm*); Universal Waste; Pay as You Throw *(http://www.epa.gov/epawaste/conserve/tools/payt/index.htm*); Comprehensive Procurement Guidelines (CPG) (*http://www.epa.gov/epawaste/conserve/tools/cpg/index.htm*); Environmentally Preferable Purchasing (EPP) (*http://www.epa.gov/epp/*); US EPA's Waste Minimization Program; Industrial Materials Recycling Program; The National Partnership for Environmental Priorities (NPEP) (*http://www.epa.gov/epaoswer/hazwaste/minimize/success.htm*); Coal Combustion Products Partnership (C2P2); Waste Wise (*http://www.epa.gov/epawaste/partnerships/wastewise/index.htm*) and Electronic Product Environmental Assessment Tool (*http://www.epeat.net*).

F. Monitoring and Information Exchange Activities aimed at ESM Goals

Australia

Monitoring and information exchange activities related to ESM include: imposing licence conditions that require data reporting; conducting site inspections by authorized officers to ensure compliance with licence conditions; reporting to the National Pollutant Inventory on the types and amounts of pollutants being emitted to the environment (land, water and air); and developing and maintaining long-term partnerships with key industry associations and providing environmental management guidelines. In addition, State and Territory governments organize waste conferences to share information with industry, relevant government agencies, and other interested stakeholders.

Australian governments also operate websites to disseminate information, such as a public register that reports non-compliance with licence conditions in annual reports from waste facility licensees; monthly reporting of waste flows by composition when waste is disposed of; and tracking of particular types of solid or liquid wastes within a State.

Austria

Plants with more than 100 employees appoint a waste manager with appropriate technical qualifications, who is responsible for monitoring compliance with waste regulations. At municipal level, waste consultants inform private persons and small enterprises on waste separation, waste minimisation, new legislation and appropriate recovery or disposal options. Some 300 waste consultants belong to this Communication Network. There is also an Electronic Data Management system (EDM), whose aim is to implement e-Government in the field of environment, helping to register companies and to report on regulatory obligations. There are also several information exchange activities between Ministries (e.g. between Environment and Economy/Labour. Once a year, the Ministry of Economy and Labour and the industries organise a seminar on the implementation of EMS systems.

Canada

Provinces and Territories ensure that hazardous waste and MSW disposal facilities are operated in compliance with operating certificates. This may require annual reporting of activities (such as groundwater and surface water monitoring), to ensure facilities are not adversely impacting the local environment.

At the federal level, the National Performance Promotion Working Group (NPPWG), made up of Environment Canada headquarters and regional staff, also works to ensure that affected parties are aware of the regulations and their obligations. The NPPWG provides for an effective channel of communication between programme branches at headquarters and regions on waste activities and issues related to regulations under the federal Canadian Environmental Protection Act (CEPA). The NPPWG also delivers nationally developed informational materials that are used to promote awareness and compliance with the regulations.

Czech Republic

Information exchange is provided by sending data to the Commission on the Monitoring (reporting) of the implementation of EU Directives. Part Six of Act No 185/2001 Coll. sets out obligations to keep records and to report on waste and waste management facilities, collection and storage sites, shipments of hazardous waste, PCBs and PCB wastes. The Ministry stipulates in a decree the manner in which continuous records are kept and the period of reporting information. Waste generators and licensed persons managing waste are obliged to keep continuous on-site records of waste and their management and to

submit these annually to municipal authorities. The municipal authority is then required to send these records to both the Ministry and the competent regional authority.

Finland

Regional Environment Centres and the Finnish Environment Institute maintain an environmental protection database on things like decisions made by environmental permit authorities and supervisory authorities, reports and monitoring information on permits, reports on the state of the environment related to enforcement of the Environmental Protection Act and chemicals used in activities posing a threat of environmental pollution and the emissions and waste generated. The Ministry of the Environment and the Ministry of Employment and Economy have also recently set up a Material Efficiency Centre, which will provide services for business and provide advice for consumers and public sector organisations on various ways to improve material efficiency.

France

In addition to work carried out by the European IPPC Bureau, the obligation to report polluting emissions, together with the quantity of waste produced and treated, has been implemented at the European (E-PRTR regulation) and national levels. The data provided by the concerned facility operators is publicly available (*http://www.pollutionsindustrielles.ecologie.gouv.fr/IREP/index.php*).

Germany

Several government publications provide information on monitoring results. In addition, there are many different publications (magazines, newsletters, proceedings etc.) in the private sector that provide updates of technical, organisational and legal developments in the field of ESM.

Japan

Facility operators must compile a report on controlled and manifested wastes, and submit this report to the Governors, so that the administration can keep track of industrial wastes. In accordance with Article 12 of the Law, those who have built a facility to dispose a large amount of industrial waste must make a plan for the reduction and treatment of the waste. They are also required to submit these plans to regional Governors. Meanwhile, Governors can collect reports or conduct spot inspections, as deemed necessary.

Korea

A comprehensive waste management system (Allbaro) has been implemented to monitor the whole process of waste management -- from generation through transportation to final disposal (*http://www.allbaro.or.kr*). Pursuant to the Waste Control Act and the Construction Waste Recycling Promotion Act, waste generators, transporters and disposers are obliged to feed all relevant information into an electronic data system.

In addition, the Korea Environment and Resources Corporation (ENVICO) register permits, manage manifests, provides statistics and constructs data systems. It also operates a website that contains all relevant information on recycling statistics, waste recycling trends, recycling technology, etc. Experts in the fields of environment and waste can register online and upload their own research papers into the database, to be shared with others *(http://info.envico.or.kr*).

Mexico

Information exchange is encouraged between producers, waste generators, waste managers, sectoral trade or industry associations and authorities, in order to foster waste prevention, optimise recovery, minimise waste quantities requiring final disposal and thereby to minimise potential risk to the environment. The PNPGIR also includes a specific chapter on waste information system. This will be part of the National Information System for the Environment, whose objective is to set-up a common ground for data (both, statistical and physical) for waste management in Mexico.

Poland

Inspection tasks are performed by the Chief Inspectorate for Environmental Protection and by respective Voivodship (Provincial) Inspectorates for Environmental Protection. The principal task of the Inspectorate for Environmental Protection is to control compliance with legal provisions for environmental protection and to examine the state of the environment in the framework of the State Environmental Monitoring Programme. In addition, the Ministry of Environment maintains some databases on IPPC installations, EMAS registrants, WEEE, preauthorized facilities and waste management in general, all of which facilitate the exchange of information among different authorities.

Slovak Republic

Individuals or companies involved in waste management are required to report to the regional authority or to the Ministry of Environment. The Slovak Environmental Agency (SEA) collects information on waste and enters it into an information system, where it is combined with other environmental information constituting a central database (*http://www.enviroportal.sk/ovpz*). In addition, the Ministry of Environment keeps records of transboundary waste shipments, as well as registers of professionally qualified persons, authorised persons, competent persons, producers of electrical and electronic equipments, packaging producers and importers, collection schemes, and treatment facilities. These registers are published on the government website (*http://www.enviro.gov.sk*).

Sweden

Apart from the monitoring of compliance and reporting by the responsible company, there is an appointed supervisory authority that is also monitoring compliance. The supervisory authority has the power to use sanctions (*e.g.* injunctions and prohibitions combined with penalties), in cases of failure to comply with relevant requirements.

Switzerland

Monitoring and information exchange activities are based on legal requirements. In addition, most companies or Producer Responsibility Organisations (PROs) provide additional annual information to the public.

United Kingdom

The Environment Agency HazRed programme (*http://www.hazred.org.uk*) provides advice to certain small and medium-sized enterprises (SMEs) on hazardous waste reduction and management. The National Industrial Symbiosis Programme (NISP) (*http://www.nisp.org.uk*) provides a comprehensive information exchange service for ESM, reductions in landfill and improves cross industry resource efficiency through the commercial trading of materials, energy and water and sharing assets, logistics and expertise.

United States

Monitoring activities are generally required via US Congressional Act (government monitoring of environmental programmes) or through regulation (facility or waste generation monitoring). Information exchange activities are not generally required through regulation, but are supported through EPA programmes, and are also strongly encouraged through voluntary initiatives. Relevant examples include: i) the Government Performance and Results Act (GPRA) which holds federal agencies accountable for using resources wisely and achieving programme results; ii) the Biennial Report, which is intended to provide EPA with reliable national data on hazardous waste management; iii) Hazardous Waste Compliance Monitoring, an important component of the enforcement process is the authority to monitor facilities for verification of compliance with the regulations; and iv) Recycled Used Oil Compliance Monitoring, allowing EPA and its regulatory partners conduct inspections of recycled used oil facilities for compliance with requirements for storage, transportation, burning, processing, re-refining and storage.

There are also several relevant information exchange activities, such as Product Stewardship Program, also known as Extended Product Responsibility (*http://www.epa.gov/epr*); Design for the Environment (DfE) (*http://www.epa.gov/dfe/pubs/projects/index.htm*); Green Engineering; Industrial Ecology; Green Chemistry (*www.epa.gov/opptintr/greenchemistry*) and Materials and Waste Exchanges (*www.epa.gov/epaoswer/non-hw/recycle/jtr/comm/exchange.htm*).

G. Other major national Initiatives relevant to ESM

Australia

Since 1999, Australian governments have been reducing the environmental impact of packaging through a co-regulatory arrangement. This features an agreement between industry and governments, known as the National Packaging Covenant (the Covenant). The Covenant is supported by a National Environment Protection Measure -- a regulation which requires non-participants in the Covenant, with turnover above a statutory threshold, to participate or to face sanctions.

In 2001, the Australian Government introduced a Product Stewardship Programme for Used Oil, which helps protect the environment from inappropriate disposal of used motor oil by encouraging the collection and recycling of used oil. A levy on local production and/or import of petroleum-based oils helps fund the payment of benefits for recycling used oil.

Austria

Austria has implemented several policies to make its public procurement green and innovative. For example, it has set up a National Procurement Service for all national government departments, which use green tenders, linked with Eco-Management and Audit Scheme (EMAS) and Green Public Procurement (GPP). These (and other) GPP initiatives have proven to be cost-effective and beneficial for the environment, as well as being a strong driver for innovation.

Recycling Exchange Platforms are also available for acquiring various recyclables or affecting the ability to reuse certain products, such as Toner Cartridges Refill systems, Eco-label, Chemicals Leasing initiatives, where chemicals (e.g. solvents, cleaning agents, catalysts, coolants, and lubricants) are leased, instead of being purchased.

Austria has also a ban on landfilling of wastes containing organic carbon (TOC) of more than 5%, or having minimum calorific value of 6000kJ/kg. This ban is intended to avoid direct landfilling of household and similar wastes which would contribute to methane production, and to greenhouse gas formation.

The Environmental Technologies Action Plan is designed to overcome barriers that hinder the development of environmental technologies. This is done through a series of measures to promote eco-innovation and the take-up of environmental technologies (National roadmap is available at: http://www.umwelttechnik.at/etap/ETAP-Roadmap-Austria_englisch.pdf)

Canada

There has been progressive expansion of Extended Producer Responsibility (EPR)

Programmes, from packaging to several other waste streams, such as batteries, electronics, refrigerants, tyres, appliances, used crankcase oil, etc. Environment Canada stewardship and EPR inventory documents include almost 50 programmes (http://www.ec.gc.ca/epr).

The five-year Enhanced Recycling Programme (April 2001-March 2006) was based on life-cycle management and ESM principles with the goal of reducing greenhouse gas (GHG) emissions through increased recycling (http://www.recycle.nrcan.gc.ca/CFER%20Final%20Report.pdf).

Canada is also moving toward an Electrical and Electronic Equipment (EEE) product life-cycle approach to reduce toxic content through product re-design, maximize environmentally sound reuse and recycling and minimise risks posed to human health and the environment.

Czech Republic

Prevention, minimisation, recycling, recovery and disposal of hazardous and other wastes are subject to the Act on Waste. Concepts and programmes for the environmentally sound management of hazardous and other wastes are being developed with emphasis on waste prevention and minimisation, taking into account the different regional and sectoral capabilities. This is being done in partnership with all levels of government and stakeholders.

Finland

The Ministry of the Environment and the Ministry of Employment and the Economy are currently drafting proposals for a new government policy on public sector purchasing procedure. These proposals cover the kind of targets that public sector organisations can set, as well as ways to encourage suppliers to adopt environmentally favourable solutions.

Japan

In March 2003, the Fundamental Plan for Establishing a Material-Cycle Society was developed, based on the Fundamental Law. The national government pursues establishment of a sound material-cycle society (comprehensively and systematically), in line with its plan to reduce, reuse and recycle (3Rs), starting from minimisation of the consumption of natural resources to treatment and final disposal of wastes. To do that, quantitative targets were set for 2000-2010. To reach these targets, efforts will be required of all entities (national government, citizens, business organizations, NGOs and local governments).

Mexico

Provisions have been included in the PNPGIR that would move towards internalisation of environmental and human health costs in waste management, taking into account the differences between hazardous and non-hazardous waste.

Poland

The National Fund for Environmental Protection and Water Management, as well as various local funds, provide financial support for initiatives related to ESM. The Environmental Protection Bank offers a wide range of credit facilities for financing investments in environmental protection.

Slovak Republic

The Ministry of Environment has a goal to work out Action Plans for handling certain waste streams (WEEE, ELV, end-of-life batteries and accumulators, waste packaging). The purpose of this initiative is to build a sustainable plan and to work towards developing a cradle-to-cradle approach for material management. The aim of materials management is to reduce the environmental impact throughout the life-cycle of products, material or activities. Action plans are expected to be completed by 2009.

Sweden

To move towards internalisation of costs, Sweden has implemented producer responsibility for packaging, waste paper (newsprint), WEEE, tires and cars (ELV). To encourage material recycling (make it more economically competitive), there is also a tax on household waste that goes to incineration, whose energy is recovered and used for district heating. There are also various recycling targets, as well as targets for reducing different waste streams -- such as: household waste, food wastes from restaurants and catering and phosphorus compounds in sewage.

United States

The US has several other national initiatives that are relevant to ESM (i.e. beyond RCRA). Examples include: (i) Prospects for Waste and Materials Management in the Year 2020 -- an initiative to move from waste management toward materials management; (ii) Resource Conservation Challenge -- a major national effort aimed at finding flexible (http://www.epa.gov./rcc), yet protective, ways to conserve national resources through waste reduction and energy recovery; (iii) Government Performance and Results Act – with the goal being to reduce waste generation and to increase recycling, to manage hazardous wastes and petroleum products properly, to clean up and reuse contaminated land, and to prevent pollution and promote environmental stewardship by business; and (iv) Federal Electronics Challenge (FEC) -- a voluntary partnership program that encourages US federal facilities and agencies to purchase greener electronic products, to reduce impacts of electronic products during use, and to manage obsolete electronics in an environmentally safe way (*http://www.federalelectronicschallenge.net*).

OVERVIEW OF RECENT ESM DEVELOPMENTS WITHIN THE OECD

Since 2004, considerable work has occurred on the ESM theme at the OECD itself. Most of this effort went into developing a *Guidance Manual* for implementing the Council Recommendation. This *Guidance Manual* was published in 2007. It provides information on how waste management facilities can improve the level of environmental sustainability associated with their services. It also makes it easier for producers and exporters of waste to be sure that the wastes they are generating or exporting will be processed at facilities that manage wastes in an environmentally sound manner, using the criteria listed in the Recommendation itself (i.e. the Core Performance Elements (CPEs)). Special attention is also given in the *Guidance Manual* to the particular situation facing small and medium-sized waste management facilities, to help make it easier for these enterprises to implement the Core Performance Elements.

The OECD is also exploring the potential of (and the barriers to) the somewhat broader concept of Sustainable Materials Management (SMM). SMM aims to promote sustainable materials use, integrating actions targeted at reducing negative environmental impacts and preserving natural capital throughout the life-cycles of materials, taking into account economic efficiency, and social equity. ESM, which aims at protecting human health and the environment from adverse effects that may result from waste, is an integral part of the broader SMM concept.

The OECD has already organised two SMM Workshops: Seoul 2005 and Tel-Aviv 2008. The most important outcome of the Seoul workshop was a working definition of SMM. The Tel Aviv Workshop: i) took stock of major existing initiatives related to the SMM in both the public and private sectors and explored the main barriers to its further development; ii) identified/analysed methodologies for assessing the environmental impacts (negative externalities) associated with the use of materials; and iii) discussed the potential contribution of the OECD to the future development of SMM within OECD countries.

The OECD Council Decision on Transboundary Movements of Waste Destined for Recovery Operations [C(2001)107/FINAL] and the associated *Guidance Manual* for implementation of this Decision (forthcoming 2009) provide another mechanism for OECD countries to control transboundary movements of wastes destined for recovery operations within the OECD area. This Decision requires that "wastes shall be destined for recovery operations within a recovery facility which will recover the wastes in an environmentally sound manner". The *Decision* and the *Guidance Manual* were also revised in 2008, in order to harmonise the OECD waste lists and procedures with those contained in the Basel Convention and EU Shipment Regulation. Both the *Decision* and the *Guidance Manual* are very complementary to the goals of ESM, in that they promote recovery of materials and energy from waste in an environmentally sound and economically efficient manner.

OTHER RELATED DEVELOPMENTS

The OECD ESM Recommendation has also had ***significant influence beyond the OECD and its Member countries.*** For example, the Bureau of International Recycling (BIR) has included the OECD's "Core Performance Elements" in its own "Guidance Manual for the World's Recycling Industries: Tools for Environmentally Sound Management" (http://www.bir.org/pdf/GuideESM.pdf).

CONCLUSIONS

This review has found that there has been significant overall progress in OECD countries toward implementation of the OECD ESM Recommendation. Broadly, this implementation has focussed on developing programmes, policies, and regulatory frameworks, as well as technical standards, liability regimes, incentives and monitoring programmes which are aimed at ESM objectives.

More specifically, for those countries which contributed information to this review, it can be broadly concluded that:

- Legislative infrastructure and enforcement mechanisms related to ESM are now in place in all countries, as are many policies and programmes that include ESM objectives;
- 17 OECD countries have already incorporated (or are in the process of incorporating) the Core Performance Elements into their legislation and/or programmes that concern hazardous waste management.
- The selection of particular instruments being used to implement CPEs varies widely among the respondents (ranging from legally binding regulations to voluntary approaches).

All countries already have (or are in the process of finalising) standards and guidelines for the management of several different waste streams; again, some of these are binding; others are meant to be applied on a voluntary basis;

- 17 countries already have in place (or are in the process of implementing) a liability and compensation mechanism. Some countries are also currently reviewing their existing ESM mechanisms, to see what additional measures might be needed;
- 15 countries already have in place (or are in the process of implementing) incentives and/or relief measures for waste management facilities that fulfil the CPEs;
- 16 countries already have in place monitoring and information exchange programmes to assist in ESM implementation;
- 11 countries have additional national initiatives planned that are directly relevant for ESM;
- The number of dedicated "ESM" facilities is still relatively low, but is increasing;

OECD work on SMM and on the Transboundary Movements of Waste has also contributed to recent progress on the ESM front. For example, updates that are made to OECD Decision C(2001)107/FINAL on the Control of Transboundary Movements of Waste Destined for Recovery Operations (including its harmonisation with the Basel Convention and EU Shipment Regulation) are directly contributing to the development of a globally harmonised control system for transboundary movements of waste destined for environmentally sound management in ESM facilities.

The overall message is that the 2004 OECD Council Recommendation has made a significant difference in the way the ESM challenge is being addressed in OECD countries, by the OECD itself, and in some external agencies.

APPENDIX 1

RECOMMENDATION OF THE COUNCIL ON THE ENVIRONMENTALLY SOUND MANAGEMENT (ESM) OF WASTE* [C (2004)100], AS AMENDED BY C(2007)97

THE COUNCIL,

Having regard to Article 5 b) of the Convention on the Organisation for Economic Co-operation and Development of 14th December 1960;

Having regard to Decision-Recommendation C(90)178/FINAL of 31 January 1991 on the Reduction of Transfrontier Movements of Wastes;

Having regard to Decision C(2001)107/FINAL issued in May 2002[6], which is a revision of Decision C(92)39/FINAL on the Control of Transboundary Movements of Wastes Destined for Recovery Operations;

Having regard to the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal of 22 March 1989, in particular Article 4 of this Convention;

Having regard to the "Guidance Document on the Preparation of Technical Guidelines for the Environmentally Sound Management of Wastes Subject to the Basel Convention", the "Guidance Document on Transboundary Movements of Wastes destined for Recovery Operations"; and the Basel Declaration on Environmentally Sound Management adopted by Ministers at the 5th Meeting of the Conference of the Parties in December 1999;

Agreeing that the implementation of environmentally sound and economically efficient management of waste should achieve the following objectives:

- sustainable use of natural resources, minimisation of waste and protection of human health and the environment from adverse effects that may result from waste;
- fair competition between enterprises throughout the OECD area through the implementation of "core performance elements" (CPEs) by waste management facilities, thus contributing to a level playing field of high environmental standards;

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* For the purpose of this Recommendation, wastes are substances or objects, other than radioactive materials covered by other international agreements, which:
  (i) are disposed of or are being recovered; or
  (ii) are intended to be disposed of or recovered; or
  (iii) are required, by the provisions of national law, to be disposed of or recovered.
  Reference: OECD Decision C(2001)107/FINAL
  Considering this definition of waste, "waste management facilities" include recovery facilities.

[6] This Decision was adopted in two steps by the OECD Council: Decision C(2001)107was adopted on 14 June 2001 without section C of Appendix 8 to the Decision. Section C, which includes the forms for the notification and movement documents and the instructions to complete them, was adopted on 28 February 2002 as Addendum 1 to Decision C(2001)107. Section C was then incorporated into Decision C(2001)107 to form one single Act which was released as Decision C(2001)107/FINAL in May 2002.

- through incentives and measures, diversion of waste streams to the extent possible from facilities operating with low-standards to facilities that manage waste in an environmentally sound and economically efficient manner;

On the proposal of the Environment Policy Committee,

RECOMMENDS that Member countries elaborate and implement policies and/or programmes to ensure that waste be managed in an environmentally sound and economically efficient manner. Domestic policies and/or programmes implemented under this Recommendation shall not lead to or create unnecessary obstacles to international trade of waste destined for recovery operations.

For the purpose of this Recommendation, taking into account the size of the enterprise, especially the situation of small and medium size enterprises (SMEs), the type and amount of waste, the nature of the operation and their domestic legislation, Member countries should:

- have an adequate regulatory and enforcement infrastructure at an appropriate governmental level, consisting of legal requirements such as authorisations/licences/permits, or standards;
- develop and implement practices and instruments that facilitate the efforts of competent authorities to monitor the implementation of the CPEs listed in Annex I to this Recommendation and control compliance of waste management activities with applicable national and international rules and regulations. In case of non-compliance with existing rules, prompt, adequate and effective actions should be undertaken;
- ensure that waste management facilities are operating according to best available techniques[7] while taking into consideration the technical, operational and economic feasibility of doing so, and work towards continually improving environmental performance;
- encourage, through appropriate measures, information exchange between producers, waste generators, waste managers and authorities, including participation in sectoral trade or industry association activities addressing these issues, in order to foster waste prevention, optimise recovery operations and minimise quantities as well as potential risk of waste destined for disposal or recovery;
- integrate into national policies and/or programmes the core performance elements listed in Annex I to this Recommendation, which constitute the basic requirements to ensure environmentally sound management of waste;
- consider incentives and/or relief measures for facilities that fulfil the core performance elements listed in Annex I to this Recommendation;
- implement the technical guidance for environmentally sound management of waste that has been developed by the OECD and, where appropriate, work towards the implementation of other ESM guidance referred to in Annex III to this Recommendation;
- move towards internalisation of environmental and human health costs in waste management, taking into account the differences between hazardous and non-hazardous waste;
- provide incentives to take part in environmentally sound recycling schemes;

[7] Use of best available techniques implies the use of technology, processes, equipment and operations that are based on scientific knowledge, whose functional value has been successfully tested in operative comparable plants.

- encourage the development and implementation of an environmental liability regime for facilities that carry out risky or potentially risky activities to ensure adequate measures upon definite cessation of activities and to prevent environmental damage;
- ensure that the implementation of the core performance elements listed in Annex I to this Recommendation does not discourage recycling in Member countries, recognising, in particular, the flexibility appropriate for each Member country to increase the rates of environmentally sound recovery of low risk waste.

INSTRUCTS the Environment Policy Committee to:

- update as necessary the Core Performance Elements listed in Annex I to this Recommendation;
- update as necessary the existing technical guidance for ESM of specific waste streams listed in Annex II to this Recommendation according to technological progress and develop technical guidance deemed useful for additional waste streams;
- report to the Council, on the basis of the information received from Member countries, three (3) years after the adoption, on the implementation of this Recommendation.

ANNEX I TO THE RECOMMENDATION

CORE PERFORMANCE ELEMENTS FOR THE ENVIRONMENTALLY SOUND MANAGEMENT OF WASTE.

Waste management facilities, including recovery facilities, should, within the framework of laws, regulations and administrative practices in the countries in which they operate, and in consideration of applicable international agreements, principles, objectives and standards, take due account of the need to protect the environment, public health and safety, and generally conduct their activities in a manner contributing to the wider goals of sustainable development.

In particular, taking into account the size of the enterprise, especially the situation of SMEs, the type and amount of waste, the nature of the operation and domestic legislation, the following core performance elements would apply to waste management facilities:

1. The Facility Should Have an Applicable Environmental Management System (EMS) in Place

As an underlying principle of ESM, waste management facilities should have an applicable environmental management system (EMS) in place. A fully developed EMS should be certified by a recognised party and should include:

- Measurable objectives for continual improvements in environmental performance, including periodic review of the continuing relevance of these objectives;
- Regular monitoring and re-examination of progress toward environmental, health and safety objectives;
- Collection and evaluation of adequate and timely environmental, health and safety information regarding facility activities;
- Provisions included in CPEs 2-6;
- Applicable ESM technical guidance.

Licensed/authorised/permitted waste management facilities should be subject to periodic inspections and/or audits, normally on an annual basis, by a recognised independent auditor. The auditor shall:

- verify the conformance of the facility with CPEs 2 to 6, relevant environmental regulations, and, if applicable, current EMS systems, such as the ISO 14 001 Environmental Management or the European Community Eco-Management and Audit Scheme (EMAS), or any other equivalent national or sub-national system;
- assess the performance of the facility regarding environmental, health and safety aspects against measurable objectives.

The facility should make publicly available an annual report describing the firm's EMS system and the achieved environmental, health and safety performance.

Concerning SMEs, the procedures for achieving certification/registration and reporting should be simplified in comparison with large facilities. Because regular audits may create a burden and impose excessive costs on SMEs, their audits should be less complicated and could be carried out less frequently (normally every three years) than those of large facilities, while being consistent with the need to maintain an ESM of waste. Also the environment, health and safety report could be made publicly available every three years.

In addition, there are domestic EMS systems which are specifically tailored to address the needs of SMEs. Whatever EMS system will be selected, it is recommended that the government or large companies have a programme in place to provide support for SMEs in terms of information and know-how sharing.

2. The Facility Should Take Sufficient Measures to Safeguard Occupational and Environmental Health and Safety

Workers of facilities should not be exposed to unacceptable occupational health and accident risks, related to the content of the materials they are handling, emissions from those materials and the equipment being used. The waste may include hazardous chemicals or toxic metals; they may emit toxic gases or release harmful dust. Workers may have to handle heavy loads, be exposed to vibration and noise of machinery. Also, the risk of fire, explosion, etc. may exist in some cases. Consequently, adequate measures should be taken to avoid unacceptable occupational health and safety risks.

People living and working in the vicinity of a waste management facility should also not be exposed to unacceptable environmental health and accident risks. These risks relate mainly to the emissions, including noise, from the process and transport to and from the facility. Therefore, adequate measures should also be taken to minimise these impacts to human health. Adequate measures may include national as well as international regulations, agreements, principles and standards, whether mandatory or voluntary.

3. The Facility Should Have an Adequate Monitoring, Recording and Reporting Programme

The facility should have a monitoring and recording programme which covers:

- relevant legal requirements, including key process parameters;
- compliance with applicable safety requirements;
- effluents and emissions; and
- incoming, stored and outgoing waste, in particular hazardous waste.

All relevant environmental records should be maintained and made available to competent authorities according to national legislation and/or local authorisation/license/permit requirements. Waste management facilities should maintain records on the generation, collection, recovery or disposal of waste, its types and amounts which are to be made available to the competent authorities upon request.

On-site recovery or disposal of waste generated by the process concerned must be carried out in compliance with applicable laws and regulations and should be recorded appropriately. In case of off-site recovery or disposal, outgoing waste should be recorded appropriately and handed over only to environmentally sound recovery and/or disposal operations.

Upon request, and taking into account business confidentiality and the protection of intellectual property rights, reliable information on the activities of the facility that may impact the environment or the health and safety of personnel should be made available to the public in a reliable and timely manner.

4. The Facility Should Have an Appropriate and Adequate Training Programme for the Personnel

The facility should have training in place for proper identification and handling of any hazardous components in incoming waste. Personnel involved in the management of waste and materials, in particular hazardous waste and materials, should be capable and adequately trained to be able to properly handle the materials, equipment and processes, eliminate risk situations, control releases and carry out safety and emergency procedures.

The facility should define and document the responsibility, authority and interrelations of key personnel, who manage, perform and monitor the activities which may have adverse effects on the environment.

Adequate operative training programme for the personnel should be in place and properly documented.

5. The Facility Should Have an Adequate Emergency Plan

The facility should have a regularly updated plan for monitoring, reporting and responding to accidental or otherwise exceptional pollutant releases, including emergencies such as accidents, fires, explosion, abnormal operating conditions etc. The emergency plan should be based on the evaluation of existing and potential risks. An emergency co-ordinator should be designated to handle hazardous wastes. Large facilities would need a complete contingency plan. The plan should cover both short-term and long-term remedial activities. SMEs whose operation presents little or no risk would need a significantly more limited emergency plan. Any emergency plan should be periodically reviewed by the relevant authority and/or external auditor. Particularly, in case of SMEs the reviewing body could be the local fire fighting agency or corresponding municipal authority. This plan should be regularly tested and revised as appropriate, in particular after the occurrence of accidents or emergency situations.

6. The Facility Should Have an Adequate Plan for Closure and Aftercare

Generally, the facility should have an adequate plan for closure and aftercare. The need for closure plans and financial guarantees is determined by applicable laws and regulations, taking into consideration the level of risk. Closure plans should be updated periodically and financial guarantees should ensure that the necessary measures are undertaken upon definite cessation of activities to prevent any environmental damage and return the site of operation to a satisfactory state, as required by the applicable laws and regulations.

REVIEW AND UPDATE OF THE CORE PERFORMANCE ELEMENTS FOR THE ENVIRONMENTALLY SOUND MANAGEMENT OF WASTE

The core performance elements of the OECD for environmentally sound management (ESM) of waste should be periodically reviewed in order to adapt them to technical development. The OECD's Working Group on Waste Prevention and Recycling (WGWPR) would make proposals for this purpose as needed.

ANNEX II TO THE RECOMMENDATION

TECHNICAL GUIDANCE DEVELOPED BY OECD FOR THE ENVIRONMENTALLY SOUND MANAGEMENT OF SPECIFIC WASTE STREAMS

Technical guidance for the environmentally sound management of the following waste/material streams has been developed (see: http://www.oecd.org/env/waste):

i) ***Used and scrap personal computers*** *[ENV/EPOC/WGWPR(2001)3/FINAL]*

ANNEX III TO THE RECOMMENDATION

OTHER SELECTED TECHNICAL GUIDANCE FOR THE ENVIRONMENTALLY SOUND MANAGEMENT OF SPECIFIC WASTE STREAMS

"Technical guidelines" for the environmentally sound management of specific waste streams have also been developed by the Basel Convention and other international organisations and are considered useful for the implementation of the OECD Council Recommendation on ESM and the core performance elements:

1. Updated general technical guidelines for the environmentally sound management of wastes consisting of, containing or contaminated with persistent organic pollutants (POPs). Basel Convention, 2006.

2. Updated technical guidelines for the environmentally sound management of wastes containing or contaminated with polychlorinated biphenyls (PCBs), polychlorinated terphenyls (PCTs) or polybrominated biphenyls (PBBs). Basel Convention, 2006.

3. Technical guidelines for the environmentally sound management of wastes consisting of, containing or contaminated with the pesticides aldrin, chlordane, dieldrin, endrin, heptachlor, hexachlorobenzene (HCB), mirex or toxaphene or with HCB as an industrial chemical. Basel Convention, 2006.

4. Technical guidelines for the environmentally sound management of wastes consisting of, containing or contaminated with 1,1,1-thrichloro-2,2-bis(4-chlorophenyl)ethane (DDT). Basel Convention, 2006.

5. Technical guidelines for the environmentally sound management of wastes containing or contaminated with unintentionally produced polychlorinated dibenzo-p-dioxins (PCDDs), polychlorinated dibenzofurans (PCDFs), hexachlorobenzene (HCB) or polychlorinated biphenyls (PCBs). Basel Convention, 2006.

6. Technical guidelines on the environmentally sound recycling/reclamation of metals and metal compounds (R4). Basel Convention, 2004.

7. Technical guidelines for the environmentally sound management of biomedical and healthcare waste (Y1; Y3). Basel Convention, 2002.

8. Technical guidelines for the environmentally sound management of the full and partial dismantling of ships. Basel Convention, 2002.

9. Technical guidelines for the environmentally sound management of waste lead-acid batteries. Basel Convention, 2002.

10. Technical guidelines for the identification and environmentally sound management of plastic wastes and for their disposal. Basel Convention, 2002.

11. Technical guidelines on the identification and management of used tyres. Basel Convention, 1999.

12. Pollution Prevention and Abatement Handbook. World Bank, 1998.