Environment and the OECD Guidelines for Multinational Enterprises

Corporate Tools and Approaches

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and the OECD Guidelines
for Multinational Enterprises
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Foreword

Protecting and preserving the environment is central to achieving sustainable development and creating a better world for all today and for future generations. At the 2002 World Summit for Sustainable Development in Johannesburg, Heads of State and Government agreed on the need to promote corporate responsibility and accountability in the field of the environment. Further promotion of the OECD Guidelines for Multinational Enterprises figures among the most promising avenues for OECD to follow up on the Johannesburg Summit.

The OECD Guidelines for Multinational Enterprises, revised in 2000, express the shared values of the countries that have adhered to them. This includes all 30 OECD members and, to date, 9 non-member countries. The adhering countries are the source of most of the world's foreign direct investment and are home to most of the major multinational enterprises. Many codes of responsible business conduct are available. The Guidelines stand out amongst them as the only multilaterally endorsed and comprehensive code that governments are committed to promoting. This makes them one of the world's foremost corporate responsibility instruments.

Environment figures prominently in the Guidelines and one chapter is specifically dedicated to enterprises' environmental performance. It broadly reflects the principles and objectives contained in the Rio Declaration on Environment and Development and in Agenda 21.

This booklet is a summary of an in-depth report, whose aim is to assist enterprises, governments and members of civil society in using the Guidelines to address corporate environmental performance. It provides detailed information about the tools and approaches that are available to companies wishing to implement the Guidelines and enhance their environmental performance. The report is available at *www.oecd.org/env/investment*.

The report is the result of a joint undertaking by the OECD Environment Policy Committee and the OECD Investment Committee in 2003 and 2004. It serves as a demonstration of the «whole-of-government» approach to policy making that is being increasingly pursued by countries adhering to the Guidelines. We are pleased to have presided over a constructive and co-operative project between the OECD environment and investment policy communities to promote the Guidelines and their contribution to environmental protection.

Mr Mats Olsson
Chair
Environment Policy Committee

Mr Manfred Schekulin
Chair
Investment Committee

Environment and the OECD Guidelines for Multinational Enterprises

Sound environmental management is an important part of sustainable development, and it is increasingly seen as both a business responsibility and a business opportunity. Multinational enterprises have a role to play in both respects. The OECD Guidelines for Multinational Enterprises ("the Guidelines") recommend that managers of enterprises give appropriate attention to environmental issues in their business strategies and day-to-day operations. The Guidelines are recognised as one of the world's foremost corporate voluntary codes of conduct. Their ten chapters cover a broad range of corporate activities, several of which are relevant to companies' environmental performance. One of the chapters deals specifically with environmental issues.

The Environment Chapter of the Guidelines, which is reproduced below, encourages multinational enterprises (MNEs) to raise their environmental performance through improved internal environmental management and better contingency planning for environmental impacts.

Further information and the full text of the Guidelines is available at: *www.oecd.org/daf/investment/guidelines*.

OECD Guidelines for Multinational Enterprises
Chapter V. Environment

Enterprises should, within the framework of laws, regulations and administrative practices in the countries in which they operate, and in consideration of relevant international agreements, principles, objectives, and standards, take due account of the need to protect the environment, public health and safety, and generally to conduct their activities in a manner contributing to the wider goal of sustainable development. In particular, enterprises should:

1. Establish and maintain a system of environmental management appropriate to the enterprise, including:

    a) Collection and evaluation of adequate and timely information regarding the environmental, health and safety impacts of their activities;

    b) Establishment of measurable objectives and, where appropriate, targets for improved environmental performance, including periodically reviewing the continuing relevance of these objectives; and

    c) Regular monitoring and verification of progress toward environmental, health and safety objectives or targets.

2. Taking into account concerns about cost, business confidentiality, and the protection of intellectual property rights

    a) Provide the public and employees with adequate and timely information on the potential

environment, health and safety impacts of the activities of the enterprise, which could include reporting on progress in improving environmental performance; and

b) Engage in adequate and timely communication and consultation with the communities directly affected by the environmental, health and safety policies of the enterprise and by their implementation.

3. Assess, and address in decision-making, the foreseeable environmental, health, and safety-related impacts associated with the processes, goods and services of the enterprise over their full life cycle. Where these proposed activities may have significant environmental, health, or safety impacts, and where they are subject to a decision of a competent authority, prepare an appropriate environmental impact assessment.

4. Consistent with the scientific and technical understanding of the risks, where there are threats of serious damage to the environment, taking also into account human health and safety, not use the lack of full scientific certainty as a reason for postponing cost-effective measures to prevent or minimise such damage.

5. Maintain contingency plans for preventing, mitigating, and controlling serious environmental and health damage from their operations, including accidents and emergencies; and mechanisms for immediate reporting to the competent authorities.

6. Continually seek to improve corporate environmental performance, by encouraging, where appropriate, such activities as:

a) Adoption of technologies and operating procedures in all parts of the enterprise that reflect standards concerning environmental performance in the best performing part of the enterprise;

b) Development and provision of products or services that have no undue environmental impacts; are safe in their intended use; are efficient in their consumption of energy and natural resources; can be reused, recycled, or disposed of safely;

c) Promoting higher levels of awareness among customers of the environmental implications of using the products and services of the enterprise; and

d) Research on ways of improving the environmental performance of the enterprise over the longer term.

7. Provide adequate education and training to employees in environmental health and safety matters, including the handling of hazardous materials and the prevention of environmental accidents, as well as more general environmental management areas, such as environmental impact assessment procedures, public relations, and environmental technologies.

8. Contribute to the development of environmentally meaningful and economically efficient public policy, for example, by means of partnerships or initiatives that will enhance environmental awareness and protection.

Corporate responsibility and the environment: the business case and the challenges

Most enterprises find it in their own interest to minimise aspects of their activity that may have negative impacts on the environment. In addition to their personal ethical views, company owners have to consider the interests of stakeholders. In many countries, society expects that companies take steps to safeguard the environment over and above legal compliance. Corporate responsibility may cost time and money, but studies have consistently found that environmental enhancement goes hand in hand with above-average growth and earnings. Some of the benefits that enterprises have obtained are:

• *Improved business performance*. The use of environmental management tools leads to better overall business management, including improvements in operational efficiency and productivity. These include waste minimisation and pollution prevention; a reduction in the number of accidents; lower clean-up costs; and reduced liability. In technologically advanced enterprises, improved business performance also has a long-term dimension. Environmental efforts are often coupled with the search for new technologies, which may increase profitability through "front-runner" benefits.

• *Gaining market access*. Some companies have chosen to implement environmental tools (especially those verified by a certified third party) so as to enhance their access to a particular market where enterprises are expected to operate according to certain environmental standards. In addition, a growing number of large MNEs require their suppliers to have a certified environmental management system.

• *Communicating with stakeholders*. The implementation of environmental tools provides "reputational benefits" by communicating to customers, clients, investors and civil society a commitment to good practice. It can also be used to improve relationships with government regulators, by providing assurance that the company is making a serious effort to meet compliance or to go beyond compliance commitments.

However, to reap these benefits enterprises need to overcome obstacles, ranging from direct costs to organisational problems. Some of the most frequent challenges are:

• *Perception of environmental tools as a cost centre, rather than a revenue-enhancer*. This perception is wide-spread, and managers and employees need to be convinced that environmental efforts are a net benefit rather than a net cost.

• *Management and employee inertia; inexperience and company culture*. The implementation of environmental tools is an innovation in business management. As with all innovations, it can be slowed by organisational inertia and inexperience. A positive "learning culture" can be of major help; some

companies are more adaptable and more able to innovate than others. The structure of management responsibilities can also play a role – not least the degree to which the responsibility for environmental efforts is integrated with other core objectives.

• *Isolation of environmental departments.* Implementing environmental tools often needs to overcome the traditional compartmentalisation of the management structure. Environmental management practices are rarely successful unless environmental managers are in a position to influence other key departments within an enterprise.

One way for enterprises to enhance their environmental performance is to implement the OECD Guidelines for Multinational Enterprises. A company wishing to implement the eight recommendations of the Guidelines' Environment chapter will need to translate them into concrete managerial approaches. In doing so, it may choose to implement one or more of a growing number of off-the-shelf environmental management tools, reporting and information codes and sectoral guidelines and recommendations. Another option is for the company to develop tailored approaches to suit its specific needs. The remainder of this report summarises some of the more prominent tools and highlights examples of concrete enterprise experiences.

Putting the Guidelines into practice: corporate tools and approaches

1. Environmental management systems

Enterprises should

Establish and maintain a system of environmental management appropriate to the enterprise, including:

a) Collection and evaluation of adequate and timely information regarding the environmental, health, and safety impacts of their activities;

b) Establishment of measurable objectives and, where appropriate, targets for improved environmental performance, including periodically reviewing the continuing relevance of these objectives; and

c) Regular monitoring and verification of progress toward environmental, health, and safety objectives or targets.

The broad aim of an environmental management system (EMS) is to help an organisation achieve its environmental goals through consistent control of its operations, just as internal accounting controls provide intrinsic assurances that financial management systems are functioning well. Whatever the specific goals, the assumption behind the implementation of an EMS is that better environmental management will improve overall business performance.

An EMS is not based on the adoption of uniform standards or benchmarks. Rather, each organisation tailors the starting point, design and content of its EMS to serve its own aspirations, business goals, capacities and experience. However, there is a growing consensus that an EMS should normally encompass key elements, often referred to as "Plan-Do-Check-Improve". These are: undertake an initial environmental review; define an environmental policy; develop an environmental action plan and define environmental responsibilities; develop internal information and training courses; audit the environmental management system and conduct an environmental management review.
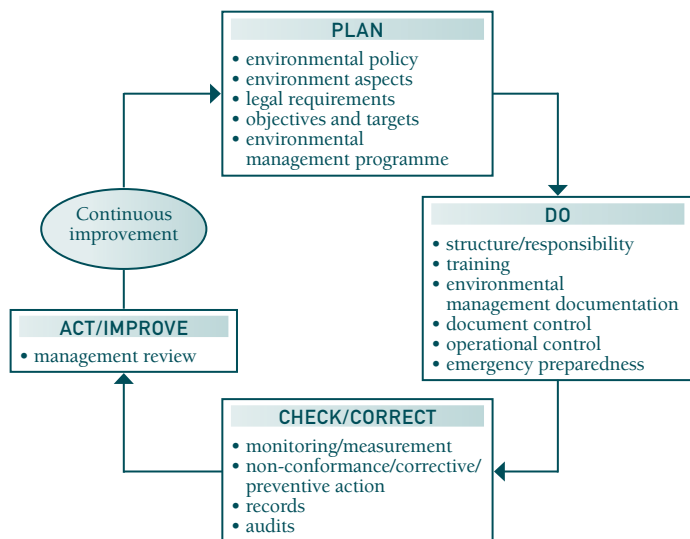
Tools and approaches

Companies have many operationally distinct types of EMS from which to choose. In practice most EMS fall into two broad categories: "externally certified" and "performance-driven". The former are designed inter alia with a view to compliance with the requirements for certification. The latter are tailored to fit the particular operational requirements of the implementing company, typically with the specific purpose of giving this company a competitive edge. Finally, sector-specific EMS are also emerging as a way to further drive performance gains, by developing templates designed to address specific industry environmental impacts.

The EMS Method: Plan–Do–Check–Improve

Source: UNEP, Department of Trade, Industry and Economics, Production and Consumption Branch.

Externally certified EMS
ISO 14001. Developed under the auspices of the International Organisation for Standardisation (ISO), ISO 14001 is the main international standard for the design and content of an EMS. This standard is part of the ISO 14000 "family", a set of generic tools for developing, implementing, maintaining and evaluating environmental policies and objectives. The family contains standards for environmental management systems, environmental

auditing, environmental performance, evaluation, environmental labelling and life-cycle assessment.

EMAS. The European Union's Eco-Management and Audit Scheme (EMAS) is a management tool for companies and other organisations operating in the European Union and the European Economic Area. EMAS provides an opportunity for companies to receive an external "seal of approval" associated with EMAS registration. To receive this, a company must meet six requirements: conduct an environmental review of its activities; establish an environmental management system; carry out an environmental audit; provide an environmental performance statement; verify most of the above with an accredited EMAS verifier; and make publicly available the environmental review, EMS, audit procedure and environmental performance statement. The environmental management systems required by EMAS to fulfil the second requirement are no different from those needed for ISO 14001. However, two EMAS requirements – the provision of an environmental performance statement and making information publicly available – are not required by ISO 14001.

Performance-based EMS
A tailored EMS is ideally integrated with core business practices, including strategic planning and investment, financial management, product development and marketing with the full support of senior management. Performance-based EMS are not an antithesis to ISO-based systems; ISO 14001 in many cases acts as the foundation for a performance-driven EMS.

Attempts at standardisation of tailored systems are ongoing. In the US, the Multi-State Working Group on Environmental Performance (MSWG) has developed guidelines for a performance-based "External Value EMS". Its aim is to increase stakeholder assurance that the implementation of an EMS delivers the hoped-for performance gains. It emphasises and provides guidance on three key components: achievement and maintenance of legal compliance with environmental, health and safety regulations; involvement of external stakeholders; and transparency of external communications.

Sector-specific EMS
Chemical sector. One of the best known sector-specific EMS is the Responsible Care initiative by the global chemical industry. Responsible Care is implemented in 47 countries by the members of the International Council of Chemical Associations (ICCA). The Guiding Principles of Responsible Care include "continuous progress toward the vision of no accidents, injuries or harm to the environment" and to "publicly report our global health, safety and environmental performance". In the originating vision, members of Responsible Care were guided by six Codes of Conduct and 106 management practices, covering Community Awareness and Response; Distribution; Employee Health and Safety; Pollution Prevention; Process Safety; and Product Stewardship. In an attempt to move beyond the Codes to a performance-driven EMS, the American Chemistry Council developed Responsible Care 14001, a Responsible Care Management System (RCMS). The RCMS

is based on benchmarked best practices of leading private sector companies; initiatives developed through the Global Environmental Management Initiative, ISO and other bodies; and requirements of national regulatory authorities.

Financial sector. UNEP's Finance Initiative engages a broad range of financial institutions in a constructive dialogue about the link between economic development, environmental protection and sustainable development. The Finance Initiative promotes the integration of environmental considerations into all aspects of the financial sector's operations and services. A secondary objective is to foster private sector investment in environmentally sound technologies and services. Another initiative in the financial sector are the "Equator Principles", a voluntary set of guidelines developed by a group of banks from seven countries for managing social and environmental issues related to the financing of development projects. The principles apply to project financing in all industry sectors, including mining, oil and gas, and forestry.

2. Public information and stakeholder consultation

Enterprises should

Taking into account concerns about cost, business confidentiality, and the protection of intellectual property rights:

a)   Provide the public and employees with adequate and timely information on the potential environmental, health and safety impacts of the activities of the enterprise, which could include reporting on progress in improving environmental performance; and

b)   Engage in adequate and timely communication and consultation with the communities directly affected by the environmental, health and safety policies of the enterprises and by their implementation.

Information about the activities of enterprises and associated environmental impacts is an important vehicle for building public confidence. This is most effective when information is provided in a transparent manner and when it encourages active consultation with stakeholders so as to promote a climate of long-term trust and understanding of environmental issues of mutual interest. One of the most fundamental questions facing corporate decision-makers is whether to disseminate information regarding their enterprise's environmental performance as a whole, or about the environmental impact of individual products and activities.

Tools *and approaches*

The principal way in which enterprises make environmental information publicly available is the production of company reports. These often cover environment, health and safety issues and are published annually. They can be incorporated into company annual reports , but separate environmental reporting has become increasingly common. So far no standard for how much and what kind of information an enterprise should disseminate has won common acceptance. Recent initiatives aimed at establishing such standards are described below.

Global Reporting Initiative. The Global Reporting Initiative (GRI) has as its mission "to develop and disseminate globally applicable Sustainability Reporting Guidelines." GRI has since embraced a "triple bottom line" approach, incorporating environmental, social and economic reporting. The 2002 Sustainability Reporting Guidelines constitute an information reporting framework, providing both reporting principles and specific content requirements to guide companies and other organisations in preparing publicly available sustainability reports. A GRI-consistent report includes five core components: vision and strategy of the reporting organisation; profile of the reporting organisation (*e.g.,* structure and operations); a description of governance structure and management systems; the GRI content index (a table identifying where the information required by the GRI Guidelines is located); and performance indicators – measures of the effect of the reporting organisation divided into integrated, economic, environmental, and social performance indicators.

AA1000. The UK professional group AccountAbility recently released the AA1000 Assurance Standard, which provides guidelines for the verification of published company reports, including (but not limited to) environmental or sustainability reporting. AA1000 provides a framework intended to guide good practice not only for company reports but for environmental communication more broadly. It is based on a commitment to the practice of 'inclusivity' – that is, an organisation's commitments to (i) identify and understand its social, environmental and economic performance and impact, and the associated views of its stakeholders; (ii) consider and coherently respond (whether negatively or positively) to the aspirations and needs of its stakeholders in its policies and practices; and (iii) provide an account to its stakeholders for its decision actions and impacts.

ISO 14063. The draft ISO 14063 standard recognises that companies' motivation and preferred directions may differ more in the case of communication than in management systems. Once adopted, this environmental communications standard will offer guidance on what companies should consider when developing an environmental communication programme.

Product information: Eco-labels
Environmental labelling ("eco-labelling") allows companies to communicate their environmental commitments directly to consumers. As with all public information tools, eco-labelling programmes must be credible. This has two implications. On the one hand, labels need to be based on

meaningful and scientifically sound criteria. On the other, enterprises must avoid misleading claims that undermine consumer trust. To build trust, environmental criteria for certification must be robust, and verification and monitoring must be reliable and consistent.

A prominent standardised approach is the **ISO 14020** series. This addresses a range of approaches to voluntary environmental labels and declarations, including self-declared environmental claims, eco-labels (seals of approval) and quantified environmental information about products and services. In this context, ISO has defined three types of labelling: Type I is a voluntary multiple-criteria-based third-

party programme that awards a licence that authorises the use of environmental labels; Type II covers environmental claims made, without independent third-party certification, by manufacturers, importers, distributors, retailers or anyone else likely to benefit from such a claim; Type III (not formally an ISO standard) identifies elements and issues for consideration when making declarations of product information based on Life-Cycle Inventory data.

Stakeholder consultation
Effective consultation with stakeholders implies an expectation that company managers not only divulge and receive information, but that the former stand ready to

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Involving stakeholders in "ethical investment" decisions

The Co-operative Bank, based in the UK, offers its customers a broad array of personal and business financial services. The Bank's logo proclaims that it is "Customer Led, Ethically Guided."

In 1997, the Co-operative Bank announced a "Partnership Approach" to its core business strategy, based on the ethos of serving and engaging stakeholders. In this approach, the Bank commits itself to serve the interests of all partners involved in the bank's activities: shareholders, customers, staff, suppliers, local communities, national and international society, as well as "past and future generations of co-operators."

According to Bank research, "ethically motivated customers" (those attracted by the ecological and ethical branding) are likely to buy more than one financial service, to recommend the Bank, and to be more satisfied with the services they receive. Overall, the Bank estimated that its ethical and ecological policies drew one in three new customers in 2001, accounting for about 20% of profitability. Another benefit appears to be employee morale. In 2001, the Bank was rated for the second consecutive year as one of the Sunday Times' 100 Best Companies to Work For in the UK, compiled on the basis of staff feedback. Staff turnover is well below the industry average.

act upon the information they receive. There are many ways in which companies can consult with and engage their stakeholders. These can be broadly clustered into two groups: those where enterprises limit themselves to soliciting the inputs from stakeholders, and those that include an ongoing interactive process. Most companies that have engaged in stakeholder consultations seem to agree that a successful process needs to be inclusive and set out clearly defined goals and allow for active stakeholder dialogue.

Efforts at developing commonly agreed standards for stakeholder engagement are still in their infancy – even more so than is the case for information policies. The **AA1000** Assurance Standard also proposes guidelines for stakeholder engagement. They: (i) define the aims of stakeholder engagement in the context of AA1000; (ii) describe a number of methods of stakeholder engagement; and (iii) provide techniques and advice to support the good practice of companies' reporting and communication methods.

One further way in which companies have consulted with and responded to stakeholders is via partnerships with civil society and governments. In the past, companies partnered with NGOs and other civil society groups primarily as sponsors. In the past decade, a new form of "strategic partnership" has emerged that involves internal, core company operations.

3. Life-cycle assessment

Enterprises should

Assess, and address in decision-making, the foreseeable environmental, health, and safety- related impacts associated with the processes, goods and services of the enterprise over their full life-cycle. Where these proposed activities may have significant environmental, health, or safety impacts, and where they are subject to a decision of a competent authority, prepare an appropriate environmental impact assessment.
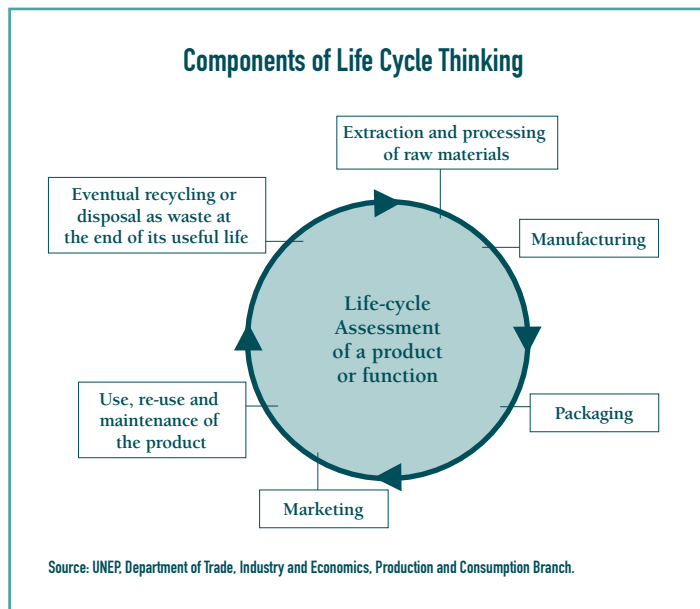
Environmental life-cycle assessment is a tool for systematic evaluation of the environmental aspects of a product or service through its entire life-cycle. A product's life-cycle starts when raw materials are extracted, followed by manufacturing, transport and use, and ends with waste management including recycling and final disposal. There are emissions and consumption of resources at every stage of the life-cycle. Life-cycle assessment (LCA) starts with life-cycle thinking – an understanding that the environmental impacts of the entire life-cycle of products and services need to be addressed.

Tools and approaches

There are many ways to implement an LCA, depending on the needs, aspirations and capacities of the company undertaking it. One of the key operational decisions concerns

the scope of the assessment (*i.e.* what environmental impacts will be examined). Another one concerns the interpretation of the assessment (*i.e.* which environmental impacts will be prioritised for action). Some of the best known tools to implement an LCA are described below.

ISO 14040. This standard is part of ISO's 14000 Environmental Management series. ISO 14040 outlines and provides guidance for a four-step LCA process:

Components of Life Cycle Thinking

Source: UNEP, Department of Trade, Industry and Economics, Production and Consumption Branch.

- *Goal and scope definition.* The product or service to be assessed is defined, a functional basis for comparison is chosen and the required level of detail is defined.

- *Inventory of extractions and emissions.* The energy sources and raw materials used, the emissions of pollutants and different types of land use are quantified for each process, then combined in the process flow chart and related to the functional basis.

- *Impact assessment.* The effects of the resource use and emissions are grouped and quantified into a limited number of impact categories that may then be weighted for importance.

- *Interpretation.* The results are presented, and the need and opportunities to reduce the impact of the product or service on the environment are systematically evaluated.

Life-cycle Initiative. UNEP and the Society for Environmental Toxicology and Chemistry (SETAC) are collaborating in the Life-cycle Initiative (LCI) – a standardised approach to global "best practice" for LCA. LCI aims to build on the ISO 14040 standards, the objective being to develop and disseminate practical tools for evaluating the opportunities, risks, and trade-offs associated with products and services over their entire life-cycle. Specific aims of LCI include the exchange of information on the conditions for successful application of LCA and life-cycle thinking, as well as about the interface

between LCA and other tools. Most importantly, given the obstacles identified above, the LCI aims to provide guidance on the use of LCA data and methods.

Design for Environment. Design for Environment (DfE) is the systematic integration of environmental considerations into product and process design. DfE is an umbrella term for a variety of engineering and other techniques, and uses LCA as the information base from which to develop cost-effective design innovations that reduce resource use, pollution, and/or waste. DfE's prime objective is to design products and services that minimise environmental impact throughout the product life-cycle. In the DfE process, designers may look at the source, composition and toxicity of raw materials; the energy and resources required to manufacture the product; and how the product can be recycled or reused at the end of its life. Balanced with other product considerations – such as quality, price and functionality – eco-designed (or DfE) products are sold as environmentally and economically viable alternatives to traditional products.

Using LCA to reduce environmental impacts

The company 3M, which manufactures a wide range of products from display and graphics, electronics and telecommunications, health care to industrial products, launched a formal LCA initiative, the Life-Cycle Management System (LCM). 3M chose a qualitative approach to LCA: the tool was designed to identify risks and opportunities, particularly during the use/disposal phase of product life. To implement this tool, 3M created an "LCM Screen" that allows managers to identify the environmental, health, and safety opportunities and risks through the stages of the product's life-cycle.

Recent achievements accomplished through LCA include the development of new film, labels, and adhesive. For example, 3M developed new film that is manufactured with 80% less solvent and with less waste. Trim waste is recycled as a raw material back into the process. Also, working with plastics suppliers and a European-based global manufacturer, 3M Europe created new labels that reduce customers' costs for raw materials, labour, and disposal. Compatible labels make plastic recycling easier and more profitable. Appliance manufacturers can now recycle product cases and meet the EU Directive on waste electrical and electronic equipment.

4. Exercising precaution

Enterprises should

Consistent with the scientific and technical understanding of the risks, where there are threats of serious damage to the environment, taking also into account human health and safety, not use the lack of full scientific certainty as a reason for postponing cost-effective measures to prevent or minimise such damage.

Governments and enterprises are changing the way in which they look at environmental risk. It is increasingly perceived that repairing environmental damage is not enough, but rather that environmental damage, especially irreversible one, should be prevented. While governments are ultimately responsible for the health and welfare of their citizens and the environment, they have increasingly acted to assign a larger burden of liability for specific acts of harm to the private sector. This is in part an outgrowth of the perception that private gains should not be obtained at the cost of the public interest, and in part a recognition that government cannot compensate for specific acts of harm.

The basic premise of the Guidelines is that enterprises should act as soon as possible, and in a proactive way, to avoid, for example, serious or irreversible environmental damage resulting from their activities. For enterprises, precaution is, in part, a function of how they operate in an everyday setting, and in part, how they implement national regulatory requirements. Enterprises may need to exercise precaution in situations where two factors occur: the existence of a risk, *i.e.,* where potentially hazardous effects deriving from an action, product or process have been identified, and lack of scientific certainty on the effects of such action, product or process on human health and the environment, or on the extent of the potential damage.

Tools and approaches

Risk analysis plays an important role in the decision-making process, particularly in situations of scientific uncertainty, and is an integral part of many companies' business. There is as yet no single internationally agreed operational standard for environmental risk analysis, although many international agreements and processes are based on it. Risk analysis can be defined as a process consisting of three components: risk assessment, risk management and risk communication.

Risk assessment. Environmental risk assessment consists in identifying and evaluating each step of a process – from the origins of a hazard to its final consequences for a given system. It is an essential element for deciding whether and how risk needs to be avoided, reduced or accepted. Before a risk can be assessed it must be characterised. Risk characterisation consists of the qualitative and, wherever possible, quantitative determination, including attendant uncertainties, of the probability of occurrence of known

and potential adverse effects of an agent, product, process or situation under defined exposure conditions. Among the main tools for risk assessment are environmental impact assessment; life-cycle assessment (LCA), and research and peer review.

Risk management. Risk management organises options to deal with a risk. Experts see the risk management process primarily as providing an integrated approach to solving health and environmental problems; to ensure that the risk management and economic decisions rely on the best scientific evidence and are made in the context of operational alternatives; to focus on collaboration, communication and negotiation among relevant stakeholders, to produce decisions more likely to be successful than those made without early stakeholder involvement; and to accommodate critical information that may emerge at any time. Tools for risk management include environmental management systems, environmental audits and environmental standards.

Risk communication. One important concern for companies undertaking risk analysis is how that process will be publicly perceived. Practice shows that inadequate risk communication can have severe impacts on the sales of a product and even cause its removal from the market. Risk communication tools range from hands-on work in relevant communities to corporate sustainability reporting, and include annual reports and labelling.

Designing an effective risk communication message

The following suggestions can assist risk communicators in achieving the maximum impact for their messages:

- Be clear about your intentions and make them the central message of your communication effort.
- Simplify your message as much as you can without being inaccurate.
- Place your simple messages (general information) at the beginning of a text and gradually add the complex issues (specifics).
- Never assume technical knowledge about the issue unless the audience is clearly a technical community.
- Anticipate the interests of your target audiences and design your communication programme to match their needs.

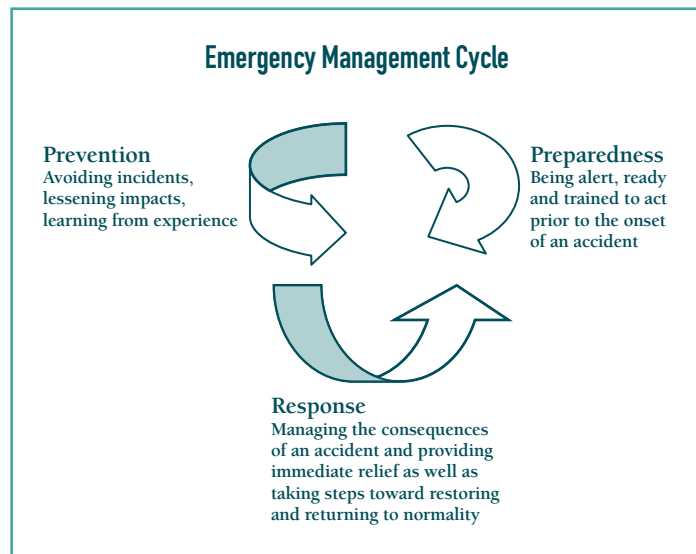## 5. *Emergency prevention, preparedness and response*

Enterprises should

Maintain contingency plans for preventing, mitigating, and controlling serious environmental and health damage from their operations, including accidents and emergencies; and mechanisms for immediate reporting to the competent authorities.

Preventing, mitigating and controlling environmental and health damage that can be caused by a company's operations is at the heart of sound environmental management. The Guidelines address what are commonly considered to be the three core components of emergency management:

- *Prevention.* The minimisation of the likelihood that an accident will occur.

- *Preparedness and mitigation.* The mitigation of the consequences of accidents through emergency planning, land-use planning, and risk communication.

- *Response.* Limiting adverse consequences to health, environment and property in the event of an accident. The response includes actions needed to learn from the experiences of accidents and other unexpected events (follow-up) in order to reduce future incidents (prevention).

Traditionally, most of the responsibility in the area of emergency response fell to experts in government and industry. However, in recent years, the role of communities has become a more prominent component in the emergency planning and response process. As the case for corporate transparency gains ground, corporate environmental, health and safety reports increasingly include information about community involvement in environmental and emergency management.

Emergency Management Cycle

Prevention
Avoiding incidents, lessening impacts, learning from experience

Preparedness
Being alert, ready and trained to act prior to the onset of an accident

Response
Managing the consequences of an accident and providing immediate relief as well as taking steps toward restoring and returning to normality

Tools and approaches

Standardised approaches

ISO 14001 specifies core requirements for establishing an environmental management system geared toward continual improvement. Enterprises have to establish and maintain procedures to identify potential for, and respond to accidents and emergency situations, and for preventing and mitigating associated environmental impacts. The standard also requires that companies review (and revise where necessary) their emergency preparedness and response procedures (in particular following accidents or emergency situations) and periodically test such procedures where practicable. ISO 14001 also suggests that companies implement procedures for receiving, documenting and responding to information and requests from interested parties, including communication with public authorities regarding emergency planning.

In the event of an emergency or accident, workers are often the first exposed. One of the objectives of contingency plans is to ensure workers' health and safety in such situations. Environmental Management systems such as ISO 14001 provide general guidance on measures to take in cases of

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Creating a Crisis Management System

The BASF Group is a chemicals company with production in 38 countries and 93,000 employees worldwide. BASF has developed a comprehensive crisis management system that stretches from individual production facilities, the fire department, on-site medical services, environmental monitoring, and analysis to plant and work safety, all the way to corporate communications.

This strategy involves a crisis management team in corporate communications whose task it is to inform the public and the workforce about emergencies through news releases, flyers, the Internet and a telephone hotline - around the clock, 365 days a year. Additionally, BASF has established "Site Incident Management Teams" at all major national and international production sites. If required, teams of experts may be formed and dispatched to provide local support. At the highest level, a global "Crisis Management Support" unit is available at headquarters, in Germany.

The emergency response experts are also available around the clock through a global network of emergency contact numbers. BASF has also established "Emergency Control Centres" to provide direct support services in several key countries.

emergency or accidents. These can complement measures in occupational health and safety management tools, such as the *ILO Guidelines on occupational safety and health management systems ILO-OSH 2001* and *OHSAS 18001*.

Voluntary codes of conduct and other guidelines
The International Chamber of Commerce (ICC) has included emergency preparedness and response among the 16 core principles of its Business Charter on Sustainable Development. The Coalition for Environmentally Responsible Economies (CERES) Principles require signatories to strive to minimise the risks to employees and to the communities in which they operate "through safe technologies, facilities, and operating procedures, and by being prepared for emergencies". Signatories also commit to inform in a timely manner anyone who may be affected by the conditions caused by the company that might endanger health, safety, or the environment, and to taking no action against employees for reporting dangerous incidents or conditions to management or to appropriate authorities.

Sector-specific codes and guidelines
Among sector-specific guidelines are those established under the *OECD Guiding Principles for Chemical Accident, Prevention, Preparedness and Response*. Other examples include Responsible Care, founded by the US chemicals industry, which offers several codes linked to emergency management, and the *Safety and Quality Assessment System*, a programme of the European Chemical Industry Council aimed at safer transport of chemicals.

6. *Continuous improvements in environmental performance*

Enterprises should

Continually seek to improve corporate environmental performance, by encouraging, where appropriate, such activities as:

Adoption of technologies and operating procedures in all parts of the enterprise that reflect standards concerning environmental performance in the best performing part of the enterprise;

Development and provision of products or services that have no undue environmental impacts; are safe in their intended use; are efficient in their consumption of energy and natural resources; can be reused, recycled, or disposed of safely;

Promoting higher levels of awareness among customers of the environmental implications of using the products and services of the enterprise; and

Research on ways of improving the environmental performance of the enterprise over the longer term.

Multinational enterprises are permanently and continually adapting to a changing socio-economic environment. This applies to all corporate activities, including their environmental management tools. For example, in a departure from previous "end-of-pipe" approaches to limiting pollution, companies have

implemented more efficient preventive environmental techniques, affecting the different stages of their value chains. Improved brand and corporate reputation, risk reduction, improved access to finance, and value creation (*i.e.*, development of "green products" for which a price premium can be obtained) are among the key considerations that motivate businesses in their efforts to improve environmental performance.

Tools and approaches

The Guidelines address four categories of environmental improvements: process-related improvements, product-related improvements; consumer awareness; and research and development.

Tools for process-related improvements
Environmental management systems are one (possibly the main) tool to achieve process-related improvements. The commitment to continual improvement of environmental performance is the main raison d'être of any mainstream EMS (see section 1).

Environmental metrics is another important approach increasingly used by companies. Companies are unlikely to achieve environmental improvements if they lack data about their performance in the first place. Companies also face expectations from financial and non-financial stakeholders that they quantify their environmental performance and inform the public. Useful tools for measuring

environmental performance are indicators, benchmarking, and environmental management accounting (EMA). EMA expresses environmental information in terms of financial costs to the company. It is a tool to identify, collect and analyse information about environment-related, internally absorbed costs.

Tools for product and service-related improvements
Life-cycle assessment and **Design for Environment** (see section 3) are among the main tools to achieve product and service-related improvements.

Product stewardship calls on those in the product life-cycle – manufacturers, retailers, users, and those who dispose of products – to share responsibility for reducing the environmental impacts of products. Product stewardship usually requires manufacturer-centred action, covered under "Extended Producer Responsibility" laws gaining prominence in several European countries, Canada, and Asia. In the US, "Extended Product Responsibility" is the concept that is taking hold. Take-back schemes are one example of product stewardship.

Collaborative partnerships with other organisations such as environmental groups, the government and other companies can help improving environmental performance, notably of services. For example, the United Parcel Service of America (UPS) developed a partnership with the Alliance for Environmental Innovation in the US that resulted in the creation of next-day-air-reusable envelopes.

Raising consumer awareness
Product-information tools. Only a minority of consumers seeks information about the environmental performance of products. If companies provide that information, consumers may take this information into account in their purchasing decisions. One tool used by companies to raise consumer awareness is eco-labelling (see section 2).

Company-information tools. Another way to increase awareness among potential consumers is to provide easy-to-access and comparable information about the company's environmental conduct, *e.g.* through public databases. For example, Deloitte & Touche-Denmark, in conjunction with the Danish Consumer Information Center (DCI) – an organisation that informs consumers about issues relating to products and services – and various partner enterprises, has developed an ethical database. This database provides consumers with electronic information, not only about a company's products and services, but also about its actions on corporate responsibility – including environmental behaviour.

Research and development (R&D)
Greening facilities and processes is one improvement that requires research and development. For example, Seiko Epson from Japan has developed the concept of compact

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Case study: A take-back scheme in the shoe industry

Under the "Reuse-a-Shoe" Program, Nike collects used and defective athletic shoes, grinds them up, and uses the resulting material in making synthetic athletic surfaces. Nike has established shoe collection programmes across the US through cooperative agreements with retailers and organisations such as the Institutional Recycling Network. To inform consumers, Nike's website offers information for dates and drop-off sites in different states.

The company produces three different types of material from the ground-up shoes: rubber from the outsole, used in making synthetic soccer, football, and baseball fields; foam from the mid-sole, used for synthetic basketball courts, tennis courts, and playground surfacing tiles; fabric from the shoes' upper, which becomes padding used under hardwood basketball floors.

The "Reuse-a-Shoe" Program, which accepts athletic shoes of any brand, helped the company recycle more than 15 million pairs of shoes in the last 10 years. The goal is to recycle two million pairs of post-consumer and defective shoes each year.

manufacturing; this allows the company to increase output without needing to build new facilities.

Development of new environmental management tools. Another research activity for improving future environmental performance deals with innovation in environmental management. It addresses issues such as the tools a company will need to have in place in the near future to continually improve its environmental performance.

7. Environmental education and training

Enterprises should

Provide adequate education and training to employees in environmental health and safety matters, including the handling of hazardous materials and the prevention of environmental accidents, as well as more general environmental management areas, such as environmental impact assessment procedures, public relations and environmental technologies.

The expectation that enterprises will provide environmentally-related training arises from two general objectives: promoting environmental health and safety and implementing environmental management systems. Under environmental and occupational health and safety (OHS) regulations in most countries, employers must train their staff with the purpose of protecting their health and safety, as well as that of the local community. Training activities that relate to more general environmental management aspects are mostly voluntary and focus on achieving both internal environmental goals and compliance with environmental legislation.

Tools and approaches

Training workers to prevent and handle emergencies is usually mandatory. Regulation in some cases specifies the *technical requirements* (*e.g.* safety issues) to be addressed in training, but not how to design or develop, let alone deliver or evaluate training. There are also cases where companies decide to provide environmental education and training on a voluntary basis. This is particularly relevant for operations in developing countries, where mandatory requirements may be less stringent.

Training also plays an important role in the implementation of environmental management systems, by raising staff awareness about conformance with EMS requirements, the environmental impacts of their activities, and their roles and responsibilities in the successful functioning of the EMS.

Several standards aim to assist companies in the implementation of occupational health and safety practices. The most prominent one (and the only one to have been developed in a multi-stakeholder process) is ***ILO-OSH 2001***. The industry standard ***OHSAS 18001*** is also in widespread use.

Another international standard, ISO 14004, offers guidance for companies that want to establish an EMS that conforms to the requirements of ISO 14001. It suggests areas of training, such as raising awareness of the strategic importance of environmental management and of environmental issues more generally, as well as skills enhancement and training to achieve compliance with environmental regulation.

Elements of a training programme
The characteristics of training programmes depend on the characteristics and goals of the EMS of which they are part. They typically have the following elements: identification of employee training needs; development of a training plan to address defined needs; verification of conformance of training programmes to regulatory or organisational requirements; training of target employee groups; documentation of training received; and evaluation of training.

Success factors for effective environmental training
The Global Environmental Management Initiative (GEMI) proposes three success factors for effective environmental training:

Training for safer operational practices

Occupational Health and Safety training at Rio Tinto's mining operations in Canada seeks to "improve efficiency in the operations, prevent accidents, promote safe work practices, and to encourage environmental awareness". It forms part of a strategy to achieve the company's long-term goal of zero accidents. So far the established training programmes have offered over 75,000 hours of employee training (as of 2001).

In setting up the training programme, the company established an internal team of trainers and complemented it with external experts. The training activities focus on improving skills in safety and the environment, management, and industrial processes. Learning is facilitated by the use of instructional tools such as a rotary kiln (an industrial oven) simulator. Employees who wish to upgrade their academic training in their field of activity can take advantage of the financial aid programme for ongoing development. The training themes fall into three categories: technical (production and maintenance), general (industrial health, safety, personal health and environment) and safety management.

The company reports that, partly thanks to the training, it has reduced the number of lost-time accidents by 56%. Accidents numbered 20 in 2001, a drop from 46 in 2000.

- Training must be designed for a specific audience. In general, the audience should be as homogeneous as possible; hence it is important to identify the needs for each group. Training should be tailored to match the audience's skills and background (*i.e.* education, job assignments, position levels, experience).

- Trainers must establish clear objectives prior to the start of the training which would allow them to have measurable results. Training objectives usually need to be stated in terms of how the trainee's behaviour will be affected, such as "What should the participants be able to accomplish at the end of the training?"

- Training should be tailored according to the corporate culture (which can vary within the same company). Multinational enterprises also need to identify key cultural aspects of the country where the training is conducted.

Categories of potential trainees
Core categories of potential trainees within a company include:

- Environmental managers and specialists. Employees that have a direct responsibility for on-site environmental management such as recycling, waste management, pollution prevention, compliance with environmental regulation, and EMS more generally.

- Directors and senior managers. This group includes managing directors, financial officers and marketing managers. While they do not play a direct role in implementing the EMS, some find that environmental issues impacts play a role in strategy (*e.g.,* harming or enhancing reputation) and liability.

- General staff. This group includes employees that are not in the categories above. They may or may not be aware of the company's environmental goals and programmes.

Training activities can also be offered to business partners such as suppliers, sub-contractors and contractors. Training can facilitate environmental improvement throughout the supply chain by helping suppliers gain knowledge and skills in the area of environmental management. Where it is not feasible for a company to conduct the training per se, an alternative strategy could be to follow ISO 14001's recommendation that a company should "require that contractors working on its behalf are able to demonstrate that their employees have the requisite training".

8. Contributing to the development of environmental policy

Enterprises should

Contribute to the development of environmentally meaningful and economically efficient public policy, for example, by means of partnerships or initiatives that will enhance environmental awareness and protection.

Partnerships between various stakeholders have become an integral part of the policy-making process and contribute to developing sound public policy from both economic and environmental standpoints. The involvement of all stakeholders in policy discussions reduces the risk that some problems go unanticipated by regulators. By involving the business sector, policy-makers and regulators are better able to design policies to reflect business realities. This may result in better compliance. Conversely, policy changes without consultations with enterprises may lead to unsatisfactory results, insofar as companies may have little scope and incentive to go beyond minimum requirements. Finally, involving enterprises in policy discussions also allows policy-makers to apprise themselves of new technologies, and the feasibility of the changes that may be needed to achieve compliance. Considering the broad ambit of environmental regulations and policies, business contribution in the latter is likely to impact on many other aspects of sound environmental management.

Most OECD Governments are parties to the Convention on Access to Information, Public Participation in Decision-Making and Access to Justice in Environmental Matters (the Aarhus Convention), which provides for the establishment of public participation mechanisms in the preparation of plans and programmes relating to the environment.

The 2002 World Summit on Sustainable Development (WSSD) identified a number of multi-actor, voluntary agreements that would contribute towards achieving sustainable development. For these so-called "Type II Partnership Initiatives", like-minded governments, stakeholders, and inter-governmental organisations have agreed to tackle specific issues together.

Tools and approaches

References to partnerships in codes of conduct. Company codes of conduct may call for a partnership role with governments, as well as other stakeholders in civil society. An increasing number of enterprises have listed this activity in their corporate environmental policy.

Participation in government consultation processes. Many governments offer an opportunity for the private sector to comment on legislative and regulatory proposals. Thus enterprises can provide constructive criticism, so that new policy or legal measures will be practicable and cognisant of business realities. Governments have also designed public

comment and political dialogue mechanisms to solicit feedback on comprehensive proposals.

National committees on sustainable development. These bodies are created or sanctioned by national governments, generally drawing together members of government, business and civil society to define sustainable development within a particular national context. Many of these Committees are also responsible for implementing national commitments made at the 1992 Earth Summit in Rio de Janeiro, and at the 2002 WSSD in Johannesburg.

Self-regulation and market-based instruments. In addition to legislation and government regulation, governments have been using other instruments to improve enterprises' environmental performance. Business and industry leaders have been actively engaged in changing the "rules of the game" for policy, based on alternatives to regulation. These tools include covenants, agreed by governments and businesses, under which the latter are given an opportunity to meet general government environmental objectives through a scheme devised by business.

Partnerships with government and local authorities. The WSSD Plan of Implementation recommends to "enhance partnerships between governmental and non-governmental actors…for the achievement of sustainable development at all levels." Some enterprises have taken the initiative to enter into partnerships with local authorities in the policy-making sphere.

Cooperative approaches among enterprises. One way of establishing dialogue with governments is through policy advocacy. Others include dialogue through industry associations. Dialogue with industry associations sharing a common viewpoint can be more efficient for governments who may lack the resources to liaise with individual enterprises.

International processes. Enterprises that have operations in multiple jurisdictions perceive the importance of attending international meetings since the results can impact regulatory systems in these jurisdictions. A number of international environmental treaty and policy development processes allow for participation of civil society representatives in meetings. In addition, independent organisations have been set up that facilitate government-business dialogue at the international level, *e.g.*, the Business and Industry Advisory Committee (BIAC), which has been specifically set up to engage in dialogue with OECD governments, the World Business Council for Sustainable Development (WBCSD) and the International Chamber of Commerce (ICC).

Dialogue between business and other civil society groups

The New Directions Group (NDG), based in Alberta, Canada, has been working since 1990 developing NGO-business relations. The Group was initiated by three key Canadian figures from the corporate, NGO and academic communities. It provides a vehicle for debate, sharing of information and the search for common ground on environmental policy issues. Although the Group features established policies and procedures to guide discussions and activities, it essentially operates on an ad hoc basis. Members work towards a goal of consensus in discussions and decisions taken, but recognise that not all recommendations will be unanimously approved.

The NDG has reached consensus on two key issues that have led to policy statements concerning the management of toxic chemicals and the application and design of voluntary initiatives. The NDG prepared a report that was as a key input into many domestic policy processes. The principles and criteria developed eventually led to the Environmental Voluntary Agreements Policy Framework adopted by the Canadian Government and industry.

The NDG model has been adopted by others to address several sector-specific environment-development issues in Canada, such as the British Columbia understanding on protected areas and forest management, and the coalition of NGOs and industry associations to support endangered species legislation in Canada.

Useful web-links

Organisation for Economic Co-operation and Development (OECD), *www.oecd.org*; OECD Environmental Health and Safety Programme, *www.oecd.org/ehs*

United Nations Environment Programme (UNEP), *www.unep.org*; UNEP Finance Initiative, *www.unepfi.org*; UNEP Life-cycle Initiative, *www.uneptie.org/pc/sustain/lcinitiative/home.htm*

International Organization for Standardization (ISO), *www.iso.org*

Global Reporting Initiative (GRI), *www.globalreporting.org*

International Labour Organisation (ILO), *www.ilo.org*

European Commission, Environment Directorate, EMAS, *europa.eu.int/comm/environment/emas*

US Environmental Protection Agency (USEPA), Design for Environment, *www.epa.gov/dfe*

World Business Council for Sustainable Development (WBCSD), *www.wbcsd.org*

International Chamber of Commerce (ICC), *www.iccwbo.org*

Business and Industry Advisory Committee to the OECD (BIAC), *www.biac.org*

Trade Union Advisory Committee to the OECD (TUAC), *www.tuac.org*

Coalition of Environmentally Responsible Economies (CERES), *www.ceres.org*

Global Environmental Management Initiative (GEMI), *www.gemi.org*

AccountAbility, *www.accountability.org.uk/aa1000*

Responsible Care, *www.americanchemistry.org*