*Industry as a partner
for sustainable development*

10 years after Rio:
the UNEP assessment

UNEP

Industry as a partner for sustainable development

10 years after Rio: the UNEP assessment

UNEP

About the report

This report documents industry's progress, unfinished business and future challenges in implementing Agenda 21. It contributes to the global preparatory activities for the World Summit on Sustainable Development by providing recommendations for sustainable business practices.

The report builds on a multi-stakeholder process facilitated by the Division of Technology, Industry and Economics (DTIE) of the United Nations Environment Programme (UNEP). This process has been possible thanks to the generous financial contribution of the French Ministry of the Environment.

Contents

Executive summary

Through a multi-stakeholder process facilitated by the United Nations Environment Programme (UNEP), as a contribution to the World Summit on Sustainable Development (WSSD) 22 industry-sectors, ranging from aluminium production to chemical manufacturing, from tourism to finance, have developed global sustainability reports. It is the first time that business and industry have formed a partnership with the United Nations (UN) in consultation with labour and non-governmental organisations (NGOs) to report on sector-specific progress in implementing Agenda 21 on a global scale, integrating economic, social and environmental dimensions of sustainable development. Like any first time initiative, it has not been easy. But despite the difficulties, participating industry sectors and stakeholders have generally felt the process to have been positive, contributing to better mutual understanding needed in moving forward. It has helped in identifying leadership initiatives and progress, but at the same time pointed out areas where improvements have to be made.

This publication provides an overview of industry achievements and unfinished business in implementing Agenda 21 and moving towards sustainability, identifies key gaps and stakeholder concerns, summarises industry-specific challenges, goals and commitments, and provides UNEP recommendations on the way forward. The overview covers economic aspects, environmental performance, social issues, tools for sustainability and integration for sustainability.

Economic importance of industry sectors

Much attention has focused in the past on the economic pillar of sustainable development, so only a brief overview of the economic importance of industry sectors is provided in terms of sector global production, projected growth, and worldwide employees.

It is worth emphasising that:

- A company or industry has to be economically sustainable if it is to contribute to sustainable development. Its role, however, is about more than providing jobs and generating wealth.
- Sustainability depends on local conditions and context. A community may wish to give priority to one or other of the three pillars in order to meet specific development needs, but ultimately, economic sustainability will not be achieved if local environmental and social needs are continually put on the waiting list.
- In an increasingly interdependent world, industry's contribution to sustainable development has to consider global as well as local economic, environmental and social aspects.

Sector-specific environmental performance

Significant efforts have been made by participating industries in reducing their environmental footprint. Increased awareness and improvements in the application of management tools have resulted in reduced energy consumption, emissions and toxic releases, and greater resource and water efficiency. Consequently, performance in these areas have received more attention in the sector reports than other more difficult to measure impacts, such as biodiversity or the environmental impacts of product use, that will require more attention in the future.

New legislation and regulation requirements, business self-interest in reducing costs related to raw materials and treatment of emissions and wastes, and growing public concerns are frequently credited as the main drivers for these achievements. International conventions, such as the Montreal Protocol on Substances that Deplete the Ozone Layer, have also been a key driving force in motivating industries to

invest in new technologies that have less environmental impacts. Cleaner production (and associate, preventive concepts such as eco-efficiency) has moved from a few, multinational corporations to wide acceptance as a first option of choice, promoted by industry associations as best practice.

Key gaps and stakeholder concerns

- **Lack or incomparability of data.** It is difficult to measure real progress globally. There are significant differences in what is measured, how it is measured (relative or absolute reductions), and the time period used, making it difficult to determine whether environmental progress is real or simply a result of economic downturns or geographic shifts in production.
- **Impacts of product use and consumption.** For many products, most serious environmental impacts (energy consumption, air emission, water pollution, etc.) occur during the use of the products. Industry needs to do much more in adopting full life cycle, product stewardship and eco-design practices, in partnership with its stakeholders.
- **Cleaner production or end-of-pipe?** It is also difficult to know whether pollutant and waste reductions are achieved through real cleaner production techniques (at-source prevention) or merely shifted between air, water and soil through end-of-pipe technologies.
- **Growth overtaking gains/rebound effect.** Gains made in relative reductions or efficiencies (i.e. per unit of production) are in many cases being overtaken by economic growth and may also be mitigated by difficult to measure 'rebound' effects, in which gains in one area are offset by new demands as a result of the gains.
- **SMEs.** The particular needs of the majority of SMEs (particularly those outside the policy reach of multinational corporations or influence of competitive certification schemes such as ISO 14000) in reducing their environmental impacts are still largely unmet, despite years of identifying SMEs as a priority.
- **Developing countries.** To some degree, developing countries and countries undergoing economic transition have been able to 'leapfrog' over the past environmental mistakes of industrialised countries, integrating cleaner production early into industrial development and taking a more integrated approach to sustainable development. However, much remains to be done in recording and reporting progress in these countries to get a better sense of areas of real progress and need.
- **Global shift of production.** There is a global shift of manufacturing production towards poorer countries that often do not have the resources or capacity to manage the accompanying environmental, health and safety impacts.

Social aspects

There is growing awareness among business and industry that the social side of global sustainable development needs to be taken into account alongside environmental and economic aspects. Leading edge companies and industries are trying to better understand the direct and indirect social implications and contributions of their activities.

Many are finding that companies that choose to adopt corporate social responsibility (CSR) principles not only achieve benefits to society, but find it helps them enhance their reputation, improve competitiveness and strengthen their risk management. However, the concept of corporate social responsibility, in the context of sustainability, is still very much in its infancy, in much the same way that environmental responsibility was a decade ago. Consequently, there is no general agreement yet on what corporate social responsibility means in practice; some even mistakenly include environmental responsibility as a social one.

Participating industry sectors have thus struggled on how to deal with, measure and report on their sector's social contributions and implications. To date, the focus has been primarily on workplace issues, human rights and other social issues such as HIV/AIDs and child labour. This aspect of sustainability reporting will likely improve in the future, as business and industry gain a better understanding of emerging (and sometimes conflicting) societal expectations of corporate social responsibility, helped by various multi-stakeholder initiatives, such as the Global Compact and the Global Reporting Initiative, that include social elements and performance indicators.

Tools for sustainability

Over the last decade, many tools have been used by industry to put sustainability into practice. Multi-stakeholder dialogue is increasingly gaining acceptance as a tool for business understanding of societal expectations, for avoiding problems and for finding sustainability solutions. Voluntary initiatives have become a more common tool to spread industry awareness of the need to improve environmental performance over and beyond regulatory requirements. Environmental management systems (EMS) have become synonymous with good business practice, and a competitive market advantage when coupled with third party certification such as ISO 14001 or the European Eco-Audit.

Environmental and sustainability reporting by companies and associations is becoming increasingly valued as a tool for measuring and communicating corporate and industry performance. A key achievement has been the development of broad-based stakeholder consensus on basic sustainability reporting indicators as developed by the United Nations-sponsored Global Reporting Initiative. Industries in highly competitive markets are investing a portion of their research and development (R&D) budgets into developing environmentally sound technologies to reduce operating costs and to gain new market share. The globalisation of information and communication technologies has facilitated the transfer of best practices, while globalisation of markets has, to some extent, enabled the transfer of environmentally sound technologies, through global multinational standards, joint ventures, and multilateral development assistance.

Key gaps and stakeholder concerns

- **Growing gap between the leading minority and the majority.** In some industries, there is a growing gap between the few companies that have taken the lead, and the silent majority.
- **Implementation and verification.** Most voluntary initiatives are still characterised by problems of effective implementation, monitoring, transparency, and free-riders.
- **Linkage with public policy framework.** Few voluntary initiatives are directly linked with government policy and regulatory framework in a way that would complement the strengths and weaknesses of both. Voluntary initiatives cannot provide a substitute for an effective regulatory framework. The right balance of regulations, economic measures and voluntary initiatives, appropriate to specific socio-economic and cultural contexts, needs to be developed.
- **Stakeholder consultation.** Many voluntary initiatives are still being developed with little, real consultation of those outside the industry.
- **Minority practice.** Corporate environmental and social reporting is still a minority practice, and only a third of multinational corporations are using comparable frameworks such as the GRI in reporting their performance.
- **Reporting indicators.** Most industry sectors have not yet developed industry consensus on performance indicators for reporting on their specific sector's progress and gaps.

- **Unenvironmentally sound technology transfer.** Although globalisation may facilitate the transfer of environmentally sound technology, it does not stop the transfer or 'dumping' of polluting technologies or products that have been banned in other countries.

Integration for sustainability

Clearly, the sustainability agenda has evolved since the Earth Summit. There has been slowly but steadily growing appreciation that, in the words of Nelson Mandela, ' if globalisation is to create real peace and stability across the world, it must be a process benefiting all.' In 1999, at the World Economic Summit, United Nations Secretary-General Kofi Annan challenged business leaders 'to help build the social and environmental pillars required to sustain the new global economy and make globalisation work for all the world's people.' This will require four types of integration:

- **social, environmental and economic integration** - moving from a fragmented approach that deals with environmental, social and economic aspects separately to a holistic approach (triple bottom line, or people-planet-profits) that unites them;
- **integrating sustainability criteria into mainstream business decision-making** rather than a separate, niche operation;
- **cross-sector integration for sustainability**- moving from a sector-specific approach to sustainable development towards a cross-sector approach to better meet sustainability needs;
- **global integration** - helping to establish the global framework of rules and institutions needed to protect global commons, and to meet the particular needs of developing countries.

Industry challenges, goals and commitments

All the participating industries identify in their reports future challenges and goals for their sector. Some make specific commitments, such as:
- further reductions in greenhouse gases,

toxic releases, energy use, waste, etc;
- improving the quality of voluntary initiatives;
- spreading best practices to countries that are not yet a part of a global industry association;
- developing and investing in promising technologies;
- improving the social dimension of their business;
- helping to build capacity in developing countries to improve health, safety and environment standards;
- developing partnerships with stakeholders.

Stakeholders, including those that participated in the consultation process, will not always agree with industry's analysis and views. The reports nonetheless move one step further in providing greater transparency needed for more informed multi-stakeholder discussions and better mutual understanding. Stakeholders are thus encouraged to consult specific sector reports for more details and to encourage industry, not only to meet future challenges, but to continually improve its environmental and social performance.

It needs to be noted, however, that while many of the industry organisations, associations and voluntary groups were able to report on progress, many are not currently constituted to make specific, all embracing global commitments on behalf of their industry. This represents a new kind of governance that could evolve during the 21st century, with the involvement of stakeholders.

Conclusions and recommendations

Each of the 22 sector reports in this series presents numerous efforts developed by industry in reducing their environmental footprint and addressing other sustainability challenges, despite the difficulties of reporting on a global level for the first time. However, there is a widening gap between the efforts they have made and the worsening global environmental situation. It is evident that we are still confronted with worrying, global

trends related to biodiversity, air pollution, land degradation, chemical emissions and wastes, freshwater and the regional seas, as demonstrates the Global Environmental Outlook 2002, published by UNEP.

The two main reasons for this widening gap are:

- In most industry sectors, only a small number of companies are actively striving for sustainability. The majority of companies are still doing business as usual. It is in industry's own self-interest to do more to spread best practice and raise the performance levels of all its members everywhere. But in reality, different socio-political-cultural and economic contexts across borders mean that what works in one country, may not be applicable in another. Also, there are limits to voluntary action and industry self-regulation. All sector reports highlight the crucial role of governments, combining regulatory, economic and voluntary instruments, in spurring social and technological innovation, and in ensuring that laggard or negligent companies do not benefit at the expense of those investing in best practices. Public and consumer pressure also play an important role in providing market incentives that are needed to motivate corporate change, and reward it. Government and media should work more to raise public awareness.
- The improvements are being overtaken by economic growth and increasing demand for goods and services (rebound effect). Future projected growth in most industry sectors will only further widen this gap. The reports also call for governments to develop long-term policies. It is in this context that private sector voluntary initiatives, in co-operation with non-governmental organisations and labour, will be able to develop. It is also in this context that the private sector needs to join the public sector and develop innovative

financing schemes, technology co-operation, education and capacity building.

To move forward, UNEP has identified five priority areas, and has provided recommendations for business and industry, governments, civil society groups and international organisations. The five priority areas are:

1. **Mainstream decision-making.** Integrate environmental and sustainability criteria into mainstream business decision-making at all levels in the company, building local capacity worldwide to spread best practice from the leaders to the rest of industry, worldwide.
2. **Improve voluntary initiatives.** Make voluntary initiatives more effective and credible as a complement to government measures, and assess improvements in environmental and social performance through reporting.
3. **Reporting.** Help ensure transparency, assess performance improvements and spread environmental and sustainability reporting practices beyond the pioneering companies to the silent majority.
4. **Integration of social, environmental and economic issues.** Move from the current approach of dealing separately with environmental, social and economic aspects of sustainable development, to an integrated approach to global challenges.
5. **Global responsibilities and opportunities.** Help build the global framework of rules, established practices and institutions needed to protect the global commons and to develop the new responsibilities that lead to new global opportunities.

Foreword

Ten years after the Earth Summit and Agenda 21, there is no longer a shortage of good examples of how companies and industries are reducing waste and emissions, becoming more energy efficient, and helping poor communities to meet their basic needs. This in itself is no small achievement. Such efforts need to be acknowledged and applauded. As humans, we all need recognition of our achievements to develop the confidence and drive needed to meet increasingly difficult and complex challenges. Good examples are then more likely to have a domino effect.

The downside of good examples, however, is that they may obscure the broader picture. Policy and decision-makers at the World Summit on Sustainable Development (WSSD) need to know whether the good stories reflect the industry as a whole or are still limited to a leadership minority. Progress since the 1992 Earth Summit has clearly been uneven within and amongst industry sectors and countries. As UNEP's third Global Environment Outlook (GEO-3) report shows again and again, we are still confronted with worrying, global trends related to biodiversity, air pollution, land degradation, chemical emissions and waste, freshwater and the regional seas.

It is time now to move beyond good examples to sector-specific, industry-wide assessment of progress and gaps in meeting sustainability challenges. This is why UNEP approached a number of industries to see whether they were willing to globally review their sector's progress in implementing Agenda 21, in consultation with non-governmental and labour organisations from around the world. Twenty-two sectors responded favourably to UNEP's request, knowing that this would not be an easy task for them.

Industry is a key partner for sustainable development. We rely on industry not only for reducing the environmental impacts of the products and services it provides us with; we also increasingly depend upon industry for the innovative and entrepreneurial skills that are needed to help meet sustainability challenges. More then ever before, this will require more integrated approaches and partnerships with governments and civil society.

This will also require, in a world increasingly interconnected economically, environmentally and socially, a more global approach than that of the past. But above all, it will also mean that industry needs to be fully transparent about its level of progress to enable a better understanding and dialogue with stakeholders that is needed to achieve sustainable development goals.

This UNEP-facilitated initiative is a step towards this process. The industry associations that embarked on this journey with UNEP, in consultation with a wide range of stakeholders from around the world, are to be applauded for their first attempt at compiling a global sustainability progress report for their sector.

Klaus Töpfer
Executive Director, UNEP

Part 1: Introduction

This is UNEP's overview of 22 industry-driven reports on sector-specific progress in reducing industry's environmental footprint and moving towards sustainability. It has been prepared for the World Summit on Sustainable Development to:

- provide a synthesis of the achievements and unfinished business, as reported by participating industry sectors, and integrating perspectives and concerns of non-governmental and labour organisations;
- identify key gaps and future challenges;
- suggest recommendations on the way forward.

This is the first time that industry organisations have embarked on a multi stakeholder process catalysed by UNEP on such a wide scale. It is the first time that specific industry sectors have reported on their global sustainability performance. Thus, it is the first time that economic, environmental, and social dimensions have been integrated together in one report. It is also the first time that a wide range of stakeholders from around the world - governments, intergovernmental organisations, non-governmental and labour organisations, and research institutes - have been consulted by industry on what should appear in the reports.

Like any first-time initiative, it has not been easy.

For industry, compiling industry-specific global sustainability reports has been particularly challenging. Few industry sectors have a global association to collect data on, for example, air emissions reductions or corporate social contributions. In most cases, the data exists only in a few countries, often collected differently, or simply does not exist at all. Many sectors also felt unease at having non-governmental and labour organisations examine their reports, and then having to broaden or deepen their scope to include issues they felt inexperienced in handling. Despite these difficulties, participating industry sectors have generally found the process positive.

For non-governmental and labour organisations and other societal stakeholders, there are some real concerns that the reports represent more of a 'green-wash' than an honest appraisal of industrial performance and will not lead to industry commitments. However, most participating stakeholders also recognised that while it is true that the industry can and should do more, there must also be acknowledgement of what has been achieved since Rio, even if it is uneven within and among industry sectors. The overall message is that industry must truly engage in all aspects of sustainability and be fully transparent about the level of progress and that industry, governments and civil society have to work together in a constructive dialogue.

> 'In common, I suspect, with other reports in this series, the results are neither half as bad as we feared, nor half as good as we had originally hoped. And even if we had done all we had been implored to do, we would still not be in a position to say 'that's it, job's done' because sustainability doesn't work like that.'
>
> *Accounting sector report*

For UNEP, it has not always been easy to moderate sometimes conflicting perspectives of industry's role as partner for sustainable development, and to navigate its way among different expectations of governments, industry, non-governmental organisations.

It needs to be recognised that this is the first time that such a large number of industry sectors and related stakeholders have agreed to participate in such a dialogue. What is important is to ensure that the momentum of improvement does not stop and that the partnerships formed will lead to continuing synergies and results. None of the participating industry sectors see the reports as an end in themselves, but as a part of a long-term process of stakeholder dialogue that neither begins nor ends with the World Summit on Sustainable Development.

Background

UNEP launched the sector-specific reporting process at its 17th Annual Consultative Meeting with Industry Associations, held in Paris in September 2000. UNEP proposed that each industry sector prepare a self-evaluation report for the World Summit on Sustainable Development (WSSD), and offered to organise a multi-stakeholder dialogue to discuss those reports. Participants, including the United Nations Department of Economic and Social Affairs (UNDESA) and some 50 representatives of national and international industry associations, welcomed the proposal.

Discussion on the framework of industry sector reports began with representatives of 16 international industry associations and four non-governmental and labour organisations during a workshop hosted by UNEP in February 2001. The objective was to design a common format for industry to report on progress made with regards to the implementation of Agenda 21, indicating environmental and sustainability challenges for each sector, major changes and progress made since 1992, challenges remaining, as well as steps to be taken to address them. Invitations were sent to international business and industry associations, inviting them to participate.

Twenty-eight industry associations or organisations, from 22 industry sectors responded positively. The subsequent preparation of reports was driven by the relevant industry associations and conducted in liaison with the International Chamber of Commerce (ICC), the World Business Council on Sustainable Development (WBCSD) and their joint Business Action for Sustainable Development (BASD).

Preparation of these 22 reports compiled for the WSSD involved more than 200 participants including some 130 representatives of business and industry, 40 representatives of non-governmental organisations, ten representatives of labour organisations and 25 representatives from international organisations and academic institutions.

Stakeholder representatives commented on early drafts of the reports by email and during a series of consultative workshops convened in Paris during the period of October to December 2001.

The cement, detergents, mining (other than coal and aluminium), postal services, pulp and paper, tanning and industry sectors declined for various reasons including: their own preparatory process (mining and cement), more time needed to make internal organisational preparations for compiling a report of this nature (postal services), lack of an umbrella body to collect contributions globally (pulp and paper), or providing input to another sector report (detergents part of chemicals).

Strengths and weaknesses of the UNEP process

Strengths

While UN agencies have been engaged in discussions with industry in the annual and PrepCom meetings of the Commission of Sustainable Development, this process can be credited for being the first in providing:

* reporting by industry sector;
* reporting that is integrated and covers the economic, social and environmental dimensions of sustainable development;
* reporting that is international or global in scope;
* reporting where industry takes the lead, but in consultation with a diverse group of stakeholders;
* reporting that is not simply 'rear-view' mirror reporting but forward looking.

In addition, the process has contributed to awareness-raising on WSSD throughout the business and industry community.

Table 1: Reporting industry sectors and associations

Participating sectors agreed that working with UNEP and other stakeholders would enable them to compile a more balanced presentation of progress, difficulties and remaining issues in their industries than if they were to do reporting on their own. The following industry associations and organisations have joined the process of producing reports for WSSD:

1. **Accounting:** Association of Chartered Certified Accountants (ACCA)
2. **Advertising:** European Association of Communications Agencies (EACA), World Federation of Communications Agencies (WFA)
3. **Aluminium:** International Aluminium Institute (IAI)
4. **Automotive:** International Automobile Manufacturers
5. **Aviation:** Air Transport Action Group (ATAG)
6. **Chemicals:** International Council of Chemical Associations (ICCA)
7. **Coal:** World Coal Institute (WCI)
8. **Construction:** Confederation of International Contractors' Associations (CICA)
9. **Consulting engineering:** International Federation of Consulting Engineers (FIDIC)
10. **Electricity:** E7
11. **Fertilizer:** International Fertilizer Industry Association (IFA)
12. **Finance and insurance:** UNEP's Finance Industry Initiatives
13. **Food and drink:** Confederation of the Food and Drink Industries of the European Union (CIAA)
14. **Information and communications technology:** Global e-Sustainability Initiative (GeSI)
15. **Iron and steel:** International Iron and Steel Institute (IISI)
16. **Oil and gas:** International Petroleum Industry Environmental Association (IPIECA), International Association of Oil and Gas Producers (OGP)
17. **Railways:** International Union of Railways (UIC)
18. **Refrigeration:** International Institute of Refrigeration (IIR)
19. **Road transport:** International Road Transport Union (IRU)
20. **Tourism:** World Travel & Tourism Council (WTTC), International Hotel & Restaurant Association (IH-RA), International Federation of Tour Operators (IFTO), International Council of Cruise Lines (ICCL)
21. **Waste management:** International Solid Waste Association (ISWA)
22. **Water management:** International Water Association (IWA)

Weaknesses
A number of difficulties have been experienced:

• **Industry representation:**
An important shortcoming is limited involvement of (i) *small and medium-sized enterprises (SMEs) from all parts of the world* and (ii) *business and industry from the developing world.*

One reason for the above is an organisational one. In a number of cases a representative body or umbrella international organisation is lacking, be it at the regional or global level. Associations come in many different forms, some specialist and some generalist. There are associations - global, regional and national - that have been created specifically to deal with particular sustainability issues. Some are broad-spectrum associations, others are sector-specific. In addition, there are the traditional associations created primarily to look after the general interests of their members, be it global, regional or national. Networking with this diverse range of associations needs to be improved so as to reach out more effectively

'We all know that SMEs are the worst polluters, but it will be very difficult to, measure their performance and to help them improve it. Probably the majority of SMEs do not belong to business associations. So improving 'networking with this diverse range of associations' would not necessarily reach SMEs. Secondly, SMEs usually do not have reliable and transparent financial data even when it is in their interest in order to obtain credit or equity. There is even less incentives to collect environmental data. However, if SMEs are to be competitive they must minimise their materials wastes. Therefore, capacity-building for technology upgrading and mastery might be a more effective route to go with SMEs to reduce their environmental footprint.'

Lorraine Ruffing,
United Nations Conference
on Trade and Development (UNCTAD)

to SMEs and business and industry especially from the developing world.

Another reality is that some industry associations or sectors do not yet fully appreciate the need for engaging in new relationships with governments or societal stakeholders. Some see stakeholder dialogue as simply bringing unwanted attention and criticism, rather than providing insight into changing society needs and values. This highlights the challenge for associations to move beyond traditional activities such as lobbying and to become more pro-active in facilitating self-evaluation and providing advice, training and guidelines.

• **Non-industry stakeholder capacity and engagement:**
The experience has shown that non-governmental organisations and labour often have limited resources to analyse and comment on industry contributions with a global coverage. In this respect the organisational structure of the international labour union movement made it easier for this stakeholder group to comment. Clearly, the international non-governmental movement is a more diverse group, making the task of pooling resources all the more demanding.

In one or two instances some environmental non-governmental organisations also preferred not to be associated with reports that they feared would not adequately address their concerns. Fearing that business and industry would simply use their involvement in the process to 'green-wash' its outcome, these non-governmental organisations wanted guarantees that their positions would be annexed separately. In the chemical report, the industry annexed the list of all stakeholder comments, indicating whether and how each comment had been addressed in the revised report.

'The current trends in, and processes for the development of environmental management standards for industry is Euro-centric, and does not foster the participation of developing country industries, particularly those of Africa. These non-participating industries are then expected to adhere to standards in whose development they had no say. Future processes for developing and reporting on corporate environmental standards should consider the capacity needs of developing country industries.'

Dr C Olver,
Department of Environmental Affairs and
Tourism, South Africa

• **Social issues:**
Corporate social responsibility (CSR). There's a need to better understand the social role of industry and the means to improve current practice

• **Unavailability of data:**
In some instances the effort to collect information showed that aggregated data at the global level simply does not exist. Being a first of its kind, it was inevitable that the process would come across this problem. Those sectors which in the past often found themselves in the public or media limelight as a result of pollution incidents, have made more progress over the last ten years in taking stock and collecting sector-wide information. Yet in many sectors, global data on some issues hardly exists. This calls for more research as we strive to benchmark sustainability.

• **Resource constraints:**
In the process facilitated by UNEP, limited resources constrained the preparation of background documents and attempts to ensure greater participation, both at the regional and global consultations. For example, this process is supported financially only by a contribution from the Government of France. Some participants also found their resources stretched as they were challenged to deal with tight deadlines set by UNEP. (The work schedule was designed so as to ensure that the sector reports were finalised in time for the final preparatory committee meeting (PrepCom IV) to be held in Indonesia in June 2002).

Part 2: Industry achievements and gaps

This section provides an overview of industry-specific achievements and gaps in implementing Agenda 21, as reported by industry, and integrating the perspectives and concerns of non-governmental organisations, labour and other societal stakeholders in moving towards sustainability. It is divided into five parts:

- Global economic importance of each industry sector, as reflected by world production, projected growth, and world employment figures.
- Environmental performance in key areas of focus over the last decade, and for which at least some data is available, namely: energy consumption/efficiency, reductions in ozone depleting substances, greenhouse gas and toxic air emissions, waste reduction/recycling/ material resource efficiency; and freshwater conservation. Other issue areas, such as biodiversity and the impacts of product use, are beginning to be addressed by some specific industry sectors. But reporting on such issues, hampered by the lack of performance indicators, is still in its infancy, making any overview assessment of industry achievements and gaps premature at this stage.
- Social issues and corporate social responsibility regarding workplace issues, human rights, and other social issues such as HIV/AIDS.
- Tools for sustainability, focusing specifically on multi-stakeholder dialogue, partnerships, voluntary codes and initiatives, environmental management systems, environmental / sustainability reporting, environmentally sound technology and R&D.
- Integration: social, environment and economic integration; cross sector integration for sustainability; and global integration.

Concrete examples are drawn from the 22 sector reports to illustrate achievements made and gaps still to fill. No attempt has been made to determine which industry has the best examples to provide for a specific area (energy efficiency, environmental management systems etc.), or, more generally speaking, which industry is the best or poorest performer in any given area. Some industries are inevitably more experienced or more 'proactive' than others in addressing sustainability issues and thus more accomplished. However, it would be as irresponsible as counterproductive to even attempt to compare 22 sectors that range from aluminium to tourism.

The purpose of this section is to provide an overview, not an evaluation of industry progress in moving towards sustainable development. Based on this overview, suggestions are made on the way forward so that industry can play a fuller role as partner for sustainable development.

2.1 Economic importance

Much attention has focused in the past on the economic pillar of sustainable development, so only a brief overview of industry sectors' economic aspects is provided in table 2 opposite which summarises the economic importance of each industry in terms of global production, projected growth, and worldwide employees.

It is worth emphasising that:

- A company or industry has to be economically sustainable if it is to contribute to sustainable development. Its role, however, is about more than providing jobs and generating wealth.
- Sustainability depends on local conditions and context. A community may wish to give priority to one or other of the three pillars in order to meet specific development needs, but ultimately, economic sustainability will not be achieved if local environmental and social needs are continually put on the waiting list.
- In an increasingly interdependent world, industry's contribution to sustainable development has to consider global as well as local economic, environmental and social aspects.

'Our businesses have been designed to generate financial benefit to their shareholders. That obligation remains. At the same time, society must benefit as well. As public awareness grows, our business success is linked to performance in the areas of environmental protection and community affairs.'

Oil and gas sector report

'Corporations must recognise that there are three dimensions to sustainability. Then, if they wish to play the role of 'chief advocates' for the economic dimension, corporations must admit that the other two dimensions must have their appropriate advocates, as well.'

John Evans, Trade Union Advisory Committee (TUAC) to the OECD

Table 2: Global economic importance of reporting industry sectors			
Industry	World production	Projected growth	Worldwide employees
Primary/extractive industries			
Aluminium	Production has increased from one thousand tonnes in 1900 to 32 million tonnes in 2000.	Forecast annual growth in consumption over the next ten years is approximately 3%.	Directly employs over a million people worldwide and indirectly generates four times as many jobs in downstream and service industries.
Coal	Coal supplies 23% of world primary energy and is the most important fuel for electricity generation and for steel production.	Global energy needs are predicted to grow at an average annual rate of 2% to 2020. Demand for coal is projected to increase around 1.7% per year. 70% of the increase in coal demand will come from non-OECD countries.	Employs an estimated seven million people worldwide, 90% of which are in developing countries, five million in China alone.
Iron and steel	The value of steel produced annually is over USD200 billion. 96% of world production in 2000 was produced in 36 countries. The three top producers, China, Japan and United States, are also the three top consumers of steel.	Production is at record levels, supply exceeds demand, exerting downward pressure on prices. Price of steel has been diminishing since the 1980s and is currently, in real terms, at the same level as the mid-1950s. The industry as a whole is in a financially precarious position.	Employment in the United States, the United Kingdom, Japan, Brazil and South Africa has decreased 65% between 1974 and 2000.
Oil and gas	World demand for hydrocarbons is increasing. Today, we use about 75 million barrels per day (mbd) of oil and daily consumption of gas is 220 billion cubic feet (bcf).	By 2010, even with modest economic growth, world consumption is expected to rise to 90 million barrels per day of oil and 280 billion cubic feet of gas per day.	

Table 2: Global economic importance of reporting industry sectors			
Industry	World production	Projected growth	Worldwide employees
Secondary/intermediary industries			
Chemicals	World chemical production exceeds USD1.7 trillion annually with almost 30% traded internationally.	Projected growth in chemical demand between 1996 and 2010 expected to continue at 2.4% per annum in the developed world and at 5.9% per annum in the developing world (exceeding GDP growth by approximately 2%)	The chemical sector operates in nearly every country in the world, employing over ten million people although productivity improvements have meant that world employment levels have fallen by 7.5% over the last ten years.
Construction	Total annual output worldwide of USD 3000 billion, roughly 10% of GNP. Construction accounts for about half of all fixed capital investment.		Considered as the world's largest industrial employer with an estimated 111 million employees. This amounts to approximately 28% of all industrial employment, or 7% of all jobs. 97% of all firms are SMEs. 75% of construction workers are in developing countries.
Electricity	Average annual growth rate of demand for electricity is about 3%.	Due to economic growth and electricity replacing the direct combustion of fossil fuels for many end uses, electric power generation will continue to be the fastest growing energy user in the industrialised countries (1.5% to 2% per year) and emerging economies (5%-10% per year)	

Table 2: Global economic importance of reporting industry sectors			
Industry	**World production**	**Projected growth**	**Worldwide employees**
Food and drink	An estimated USD 4,000 billion is spent on food worldwide: 73% in retail outlets and 27% in food service establishments. Global exports of agri-food products have increased from USD250 billion in 1988 to USD442 billion in 2000.		One of the largest employers worldwide. It represents 19.6% of all industry employment in Brazil and 11% in the European Union.
Fertilizer	In 1999/2000, the world fertilizer industry produced 155 million metric tonnes of primary plant nutrients. The total trade of fertilizers and fertilizer raw materials in the bulk shipping market is fourth in volume after iron ore, coal and grains.	Assuming a slow-down in the growth of world population and crop production and improved fertilizer use efficiency, world fertilizer use is forecast to reach some 180 million nutrient tonnes by 2030, a compound increase of 0.8% annually. Production will continue to shift towards endowments of the necessary natural resources, many of which are found in developing countries.	The exact employment figures are difficult to compile as the fertilizer industry cuts across many sectors including mining, raw materials suppliers, manufacturing, warehousing, packaging, distributing, transportation, retailing, etc.
Refrigeration	Total worldwide annual sales of refrigeration, air-conditioning and heat-pump equipment are estimated to be about USD200 billion with annual production of 82 million domestic refrigerators, 15 million m^3 of cold storage facilities, 40 million air-conditioning units, 42 million passenger car and commercial vehicle air-conditioning systems.	In the US, the number of heating, air-conditioning and refrigeration technicians and installers is expected to increase at the rate of 10% and 20% between now and 2008.	In the US, heating, air-conditioning and refrigeration technicians held about 286,000 jobs in 1998. Other developed countries have similar numbers of refrigeration technicians with respect to their populations.

Table 2: Global economic importance of reporting industry sectors			
Industry	World production	Projected growth	Worldwide employees
Transport industries			
Automotive	The automotive sector contributes from 4% to 8% of the gross domestic product in OECD countries. In 2000, 58 million motor vehicles were produced (excluding commercial vehicles), representing a 4% increase over 1999. Production was equally distributed between North and South America (19.7 million), Europe (20.2 million) and Asia (17.9 million).	The total number of vehicles in OECD countries is expected to grow by 32% from 1997 to 2020. On a global scale, the OECD projects a 74% increase in the total number of cars in the same period. The total number of motor vehicle kilometres travelled is expected to increase by 40% in OECD regions and by 86% worldwide between 1997 and 2020.	It accounts for 2% to 4% of the labour force in OECD countries. One out of seven American jobs is in car manufacturing or a related industry. In the EU, 1.2 million people are directly and 12 million are indirectly employed by the automotive industry. One qualified job in the automotive industry indirectly creates seven to ten qualified jobs in related industry sectors.
Aviation	Transporting over 1,600 million passengers and 29 million tonnes of freight, in 2000, the air transport industry generated a turnover of USD307 billion.	A mid-range scenario forecasts an average traffic growth rate of 3.1% a year between 1990 and 2050 which results in a doubling of traffic every 22 years.	More than 3.9 million people are directly employed by the air transport industry worldwide.
Railways	Annual investment in railways worldwide reaching USD 70 billion of which USD45 billion in infrastructure and 25 billion in rail vehicles.		Total global employment of over 8 million people at the end of 1997.
Road transport	Trucks carry nearly 80% of all goods in industrialised countries, and buses and coaches play an important role in public transport and tourism.	Heavy vehicle transport will increase by more than 40% between 1995 and 2020.	

Table 2: Global economic importance of reporting industry sectors			
Industry	World production	Projected growth	Worldwide employees
Service industries			
Accounting	The gross revenues of the five major accountancy firms amounted to approximately USD63.2 billion in 2000.		The International Federation of Accountants represents two million accountants in 114 countries.
Advertising	Worldwide advertising expenditures increased from USD213 billion in 1990 to USD265 billion in 2000.		
Finance and insurance	The assets of the world's top-ten banks alone roughly amounted to the accumulated GDP for all 108 developing countries in 1999. The world private insurance market had a premium volume of USD2.4 trillion in 2000 with an annual average growth of 6% over the last ten years.		
Information and communications technology	Revenue from the provision of telecom services and equipment was estimated at USD1,160 billion in 2000, double that of 1990.		In 1999, the industry employed a total of 5.8 million staff.
Travel and tourism	In 2001, directly or indirectly contributed USD3.3 trillion to global gross domestic product (GDP), almost 11% to total GDP.	International tourist arrivals increased 7.3% in 2000 to 698 million. In less than a decade, international tourist arrivals are projected to reach one billion.	207 million jobs worldwide, over 8% of all jobs.

2.2 Environmental performance

- Energy efficiency and energy consumption
- Reductions in ODS, GHG and air emissions
- Waste reduction/recycling / material efficiency
- Water conservation

In brief

Significant efforts have been made by participating industries in reducing their environmental footprint. Increased awareness and improvements in the application of management tools have resulted in reduced energy consumption, emissions and toxic releases, and greater resource and water efficiency. Consequently, performance in these areas have received more attention in the sector reports than other more difficult to measure impacts, such as biodiversity or the environmental impacts of product use, that will require more attention in the future.

New legislation and regulation requirements, business self-interest in reducing costs related to raw materials and treatment of emissions and wastes, and growing public concerns are frequently credited as the main drivers for these achievements. International conventions, such as the Montreal Protocol on Substances that Deplete the Ozone Layer, have also been a key driving force in motivating industries to invest in new technologies that have less environmental impacts. Cleaner production (and associate, preventive concepts such as eco-efficiency) has moved from a few, multinational corporations to wide acceptance as a first option of choice, promoted by industry associations as best practice.

Key gaps and stakeholder concerns
- **Lack or incomparability of data.** It is difficult to measure real progress globally. There are significant differences in what is measured, how it is measured (relative or absolute reductions), and the time period used, making it difficult to determine whether environmental progress is real or simply a result of economic downturns or geographic shifts in production.

- **Impacts of product use and consumption.** For many products, most serious environmental impacts (energy consumption, air emission, water pollution, etc.) occur during the use of the products. Industry needs to do much more in adopting full life cycle, product stewardship and eco-design practices, in partnership with its stakeholders.
- **Cleaner production or end-of-pipe?** It is also difficult to know whether pollutant and waste reductions are achieved through real cleaner production techniques (at-source prevention) or merely shifted between air, water and soil through end-of-pipe technologies.
- **Growth overtaking gains/rebound effect.** Gains made in relative reductions or efficiencies (i.e. per unit of production) are in many cases being overtaken by economic growth and may also be mitigated by difficult to measure 'rebound' effects, in which gains in one area are offset by new demands as a result of the gains.
- **SMEs.** The particular needs of the majority of SMEs (particularly those outside the policy reach of multinational corporations or influence of competitive certification schemes such as ISO 14000) in reducing their environmental impacts are still largely unmet, despite years of identifying SMEs as a priority.
- **Developing countries.** To some degree, developing countries and countries undergoing economic transition have been able to 'leapfrog' over the past environmental mistakes of industrialised countries, integrating cleaner production early into industrial development and taking a more integrated approach to sustainable development. However, much remains to be done in recording and reporting progress in these countries to get a better sense of areas of real progress and need.
- **Global shift of production.** There is a global shift of manufacturing production towards poorer countries that often do not have the resources or capacity to manage the accompanying environmental, health and safety impacts.

Energy efficiency and energy consumption

Achievements

Many industries started to invest in energy efficiency in the 1970s, prompted by the two energy crisises and rising costs. Thus, much progress in reducing energy consumption had already been made by 1992. Nevertheless, many industries continue to steadily improve their energy efficiency through better housekeeping and technology developments, and voluntarily commit to more reductions in the future.

In the extractive industries, the oil and gas sector reports that co-generation is reducing energy consumption in oil operations by up to 30%. In refining, an 8% improvement in energy efficiency worldwide since 1992 is reported. In its annual Survey of Global Energy Consumption at primary aluminium production facilities, the International Aluminium Institute (IAI) reports that smelters in the 1990s used a third less electricity per tonne than the equivalent plant in the 1950s. The steel industry, a major user of energy, accounting for 5.7% of total energy consumption in Germany, for example, has reduced by 24% since 1989, the energy consumed in the manufacture of a tonne of steel.

In the secondary, manufacturing industries, the chemical industry has consistently improved its energy efficiency over the years and nationally sets goals for further improvements. In the United States, the chemical industry achieved an energy efficiency improvement of 13.5% from 1992 to 1998 and in Europe, the industry has committed to voluntarily reduce specific energy consumption by 30% by 2010. The electricity sector reports that new coal plants are averaging 40% efficiency and new gas combined cycle plants 55% efficiency. This contrasts with the average 28% thermal efficiency of existing fossil fuel power generation in the developing world. Similarly, in the refrigeration industry, a typical new American refrigerator consumes 48% less energy than it did in 1980.

Rising energy costs, technological improvements and environmental management systems have also led to significant energy reductions in the transport industries. The automotive industry has greatly reduced energy consumption of both production processes and products and the aviation industry points out that new aircraft in production today use three times less fuel per seat-kilometre than aircraft in operation in the early 1960s.

Service industries, such as advertising, finance, and telecommunications have relatively limited energy use relative to extractive and manufacturing industries. Nevertheless, they too are starting to look into ways to reduce energy consumption by modifying office behaviour and choosing energy efficient equipment.

**Chapter 30 0f Agenda 21
Strengthening the Role of Business and Industry**

'Production: Governments, business and industry, including trans-national corporations, should aim to increase the efficiency of resource utilisation, including increasing the reuse and recycling of residues, and to reduce the quantity of waste discharge per unit of economic output'.

Key gaps and stakeholder concerns

- Although gains in industrial energy efficiency have ensured that consumption has not grown more than it is predicted to, total energy consumption continues to increase in both developed and developing countries. More needs to be done to ensure that any energy be used as efficiently as possible.
- In many countries, incorrect price signals, due in part to energy subsidies and in part to externalities not being adequately

accounted for, continue to act as an economic disincentive for improved energy efficiency.

• Higher energy efficiency often leads to a rebound effect in which, for examples reduced energy costs lead to increased energy demand.

Ozone-depleting substances, greenhouse gases and air emissions

Achievements

Energy efficiency leads to reduced greenhouse gases and other air emissions and pollutants, such as CO_2, NO_x, SO and lead. More stringent legislation and market competition has motivated industries to do better housekeeping and invest in new technologies to further reduce emissions and toxic releases. In the effort to combat air pollution, success stories over the last fifteen years have included: the reduction of SO_2 emissions, phasing out the production and consumption of the main ozone depleting substances, and introducing the use of lead free petrol, which in turn permitted the use of catalytic converters in vehicles. For example, the total production globally of CFCs in 1999 was only 4% of the peak production level of 1988.

In the extractive industries: the aluminium sector reports that despite an increase in worldwide aluminium production of about 24% since 1990, there has still been an overall reduction of about 40% in the total annual emissions of perfluorocarbons, which have up to 9,200 times the warming potential of carbon dioxide (CO_2). The iron and steel industry provides case studies of cleaner production technologies dramatically reducing emissions of hydrogen cyanide, benzene, toluene, xylene and hydrogen sulphide emissions.

In secondary/manufacturing industries, the mandatory Toxic Release Inventory in the United States enables the chemical industry to track releases of toxic chemicals to air, water and land, and to thereby report a 58%

reduction in the United States since 1988 even though chemical production increased by 18%. Similarly, nitrogen fertilizer plants in the United States are able to report that their emissions have been cut by 75% since 1987. The refrigeration industry points to the Montreal Protocol on Substances that Deplete the Ozone Layer as a key driving force in reducing the proportion of fluorocarbons in total annual greenhouse gas emissions from its peak of 14.6% in 1988 to 6.5% in 1995.

In the transport industry, the aviation sector reports that today's aircraft engines roughly emit 15 times less volatile organic compounds, five times less carbon monoxide and 20% less nitrogen oxides than engines certified before 1976. The automotive industry points out that 100 of today's new cars produce the same amount of emissions as a car built in the 1970s, as a result of new engine technology and advanced exhaust gas treatment. Strict legislation in the European Union (EU) is seen, by the automotive industry, to contribute to the continuing downward trend in road traffic emissions, despite the increase in traffic volume, and NO_x, HC and CO emissions are predicted to be reduced by at least 85% by 2020 (as compared with 1990).

Key gaps and stakeholder concerns

• Economic growth, increased demand for products and services outweigh or threaten to overtake many of the gains made.

• Effective implementation still remains a challenge. The oil and gas industry reports that while 85% of gasoline sold worldwide is lead free, leaded gasoline is still being sold in nearly one third of all countries in spite of the Rio+5 discussions urging accelerated elimination of lead in gasoline.

• It is difficult to assess how much of the emissions have been reduced at source (cleaner production) and how much has simply transferred to other media (water, land) through end-of-pipe technologies.

- Air quality continues to deteriorate in most urban centres; UNEP's GEO 2000 report highlighted urban air quality in mega-cities in the developing world as a critical issue.

Waste reduction, recycling and material resource efficiency

Achievements
Waste reduction - through better housekeeping, technology advances and design or process changes - has seen significant advances over the last ten years driven largely by business self-interest in reducing costs and increasing competitiveness. Outside factory gates, waste recycling has also increased significantly as local authorities, responding to growing public awareness develop the necessary infrastructure needed to collect and recycle materials. Some national governments are also experimenting with take-back legislation, placing the responsibility on companies for taking back used products they produced. Waste reduction and waste recycling improve resource and energy conservation.

By recycling nearly 300 million tonnes of scrap each year, the iron and steel industry does not have to extract 475 million tonnes of natural iron bearing ore, and saves energy equivalent of 160 million tonnes of hard coal. Actual scrap steel recycling rates of over 80% are achieved on a worldwide basis and over 40% of all steel is manufactured using processes that consume scrap as the primary input material.

Recycling of aluminium requires only 5% of the energy and 5% of the CO_2 emissions as compared with primary production. Recycled metal already satisfies about a third of world demand for aluminium. The role of consumers is evident in, for example, beverage can recycling. Today recycling of aluminium in the form of beverage cans show rates that range from 79% in Japan and 78% in Brazil to 62% in the United States and 41% in Europe. The automotive industry has developed a system to mark the different parts and components of automobiles to ultimately be able to comply with the recycling requirements made by some governments.

Key gaps and stakeholder concerns

- Increased economic activity continues to lead to increased waste generation. In developed countries and rapidly industrialising countries, waste generation rates per capita continue to increase.
- New 'throw-away' products continue to be introduced by industry to meet changing consumer needs and expectations, with little or no consideration of sustainable development beyond short term economic gain.
- The majority of countries are still struggling to provide basic waste management services such as collection and control at disposal sites.
- The trend of urbanisation and the global shift of manufacturing to developing countries exacerbates an already critical waste management problem.

Fresh water conservation

Achievements
Industries that are located in countries where climatic or geographic conditions make water a scarce resource are making concerted efforts to maximise water efficiency.

Automobile manufacturers report that advanced wastewater treatment processes are constantly being improved and the introduction of new paint shops has reduced waste water to a minimum, and in some cases this is even a closed loop system. This is especially important for water distribution systems in developing countries or in countries like South Africa where climatic conditions call for conservative use of ground water. Water consumption in automobile production has effectively been reduced by up to 85%. Preventing and controlling industrial wastewater discharges is an element of the

chemical industry's Responsible Care programme. In Mexico, water consumption, tracked by ANIQ, decreased by 10% between 1997 and 2000. The chemical industry contributes to water purification and water treatment technologies, recognising that unwanted side-effects (persistent nature of chlorine products) remain to be resolved. The industry also sees as part of its responsibilities the need to encourage responsible use of its products (fertilizers, pesticides and herbicides) to avoid water pollution.

Some companies in the food and drink industry have elaborated corporate water policies that state their commitment to the responsible use of the world's water resources. Cleaner production techniques are increasingly being used for conserving or reusing water.

The tourism sector reports that, although tourists typically consume more water than local residents, many hotels have adopted systems to reduce consumption of water, and that hotel developments help cover the high costs of de-salination plants and waste water treatment facilities that are needed by the local community.

Key gaps and stakeholder concerns

- The water situation remains critical. Although industry accounts for 'only' an estimated 23% of fresh water use competing uses for water is already intense in many parts of the world. Industries that consume a lot of water directly or indirectly contribute to potential sources of conflict within and between countries. Yet these are often the industries that are being encouraged for economic development and foreign investment.
- Pollution of freshwater resources contributes to water shortages, yet in many countries, industrial waste water is discharged into the environment without any treatment while fertilizers, pesticides and other agrochemical products are polluting surface or underground water sources.

2.3 Social aspects

- Workplace issues
- Human rights
- Other social issues

In brief

There is growing awareness among business and industry that the social side of global sustainable development needs to be taken into account alongside environmental and economic aspects. Leading edge companies and industries are trying to better understand the direct and indirect social implications and contributions of their activities.

Many are finding that companies that choose to adopt corporate social responsibility (CSR) principles not only achieve benefits to society, but find it helps them enhance their reputation, improve competitiveness and strengthen their risk management. However, the concept of corporate social responsibility, in the context of sustainability, is still very much in its infancy, in much the same way that environmental responsibility was a decade ago. Consequently, there is no general agreement yet on what corporate social responsibility means in practice; some even mistakenly include environmental responsibility as a social one.

Participating industry sectors have thus struggled on how to deal with, measure and report on their sector's social contributions and implications. To date, the focus has been primarily on workplace issues, human rights and other social issues such as HIV/AIDs and child labour. This aspect of sustainability reporting will likely improve in the future, as business and industry gain a better understanding of emerging (and sometimes conflicting) societal expectations of corporate social responsibility, helped by various multi-stakeholder initiatives, such as the Global Compact and the Global Reporting Initiative, that include social elements and performance indicators.

Workplace issues

Occupational health and safety is one area in which much progress has been made in measuring companies' social responsibility to employees, particularly in industries or countries where labour organisations have had a strong influence and participation in improving company health and safety practices. In some industries, improvements are not limited to developed countries. In the aluminium industry, the best performing mines, refineries and smelters in safety performance in the year 2000 were in India and Brazil and the best performing alumina refinery was also in India.

The chemical industry commenced collection of health and safety data in 1999. Thirty two countries reported on the number of fatalities and the number of lost time injuries per million working hours, in their Responsible Care companies. The food and drink industry reports that most companies report publicly on progress towards health and safety indicators such as frequency of workplace accidents, lost workdays due to illness or sickness, breaches of legislation, etc. In the automotive industry, workplace security has been increased to a high standard (machines have infrared safety features, etc.).

Other workplace issues, such as union rights, human resource policies, work life balance and diversity, and profit-sharing are also seen as elements of corporate social responsibility (CSR), although this varies widely among countries, industries and companies.

Key gaps and stakeholder concerns

- Health and safety practices still leave much to be desired in many industries, particularly in developing countries. The

fatality rate, the crudest performance health and safety indicator, in the coal mining industry, for example, is over 300 times worse in China (prompting the government to close many of the small scale mines that are unable to meet health and safety standards) than in Australia where large scale operations dominate.

Human rights

The protection of human rights is a basic element of corporate social responsibility. Some companies have adopted internationally accepted norms of human rights, guided by codes of ethical conduct such as the Global Sullivan Principles (1977), SA 8000 on labour conditions for companies and their suppliers (1997), AA1000 social and ethical accounting principles (1999), and by the Global Compact (2000). Some companies in some sectors, telecommunications for example, have now launched initiatives to put human right policies into practice, although it is too early to determine their success.

Key gaps and stakeholder concerns

- This area is still in its infancy, and only a handful of companies are really working to understand and improve their industry's impact on human rights.

Other social issues

Several industries report on various programmes they have established to address other social issues such as HIV/AIDS. In the tourism industry, for example, the International Hotels and Restaurants Association (IH&RA) published a manual in 1999 to address the issue of HIV/AIDS in the workplace, in collaboration with UNAIDS, designed to help hotels and restaurants of all sizes to develop their own HIV/AIDS policies and awareness programmes, illustrated by examples of industry best practice. The industry is also working with governments and other

stakeholders to address sexual exploitation of children that is a concern not just for hotels that may be inadvertently implicated, but also for tour operators.

> *'Given its key contribution to gross global output and employment, hotel industry leaders are being challenged to demonstrate greater levels of social responsibility and will be increasingly called upon to address the gap between so-called 'haves' and 'have-nots'.'*
>
> *Tourism sector report*

2.4 Tools for sustainability

- Multi-stakeholder dialogue
- Partnerships
- Voluntary codes and initiatives
- Environmental management systems
- Environmental/sustainability reporting
- Environmentally sound technology and research and development (R&D)

In brief

Over the last decade, many tools have been used by industry to put sustainability into practice. Multi-stakeholder dialogue is increasingly gaining acceptance as a tool for business understanding of societal expectations, for avoiding problems and for finding sustainability solutions. Voluntary initiatives have become a more common tool to spread industry awareness of the need to improve environmental performance over and beyond regulatory requirements. Environmental management systems (EMS) have become synonymous with good business practice, and a competitive market advantage when coupled with third party certification such as ISO 14001 or the European Eco-Audit.

Environmental and sustainability reporting by companies and associations is becoming increasingly valued as a tool for measuring and communicating corporate and industry performance. A key achievement has been the development of broad-based stakeholder consensus on basic sustainability reporting indicators as developed by the United Nations-sponsored Global Reporting Initiative. Industries in highly competitive markets are investing a portion of their research and development (R&D) budgets into developing environmentally sound technologies to reduce operating costs and to gain new market share.

The globalisation of information and communication technologies has facilitated the transfer of best practices, while globalisation of markets has, to some extent, enabled the transfer of environmentally sound technologies, through global multinational standards, joint ventures, and multilateral development assistance.

Key gaps and stakeholder concerns
- **Growing gap between the leading minority and the majority.** In some industries, there is a growing gap between the few companies that have taken the lead, and the silent majority.
- **Implementation and verification.** Most voluntary initiatives are still characterised by problems of effective implementation, monitoring, transparency, and free-riders.
- **Linkage with public policy framework.** Few voluntary initiatives are directly linked with government policy and regulatory framework in a way that would complement the strengths and weaknesses of both. Voluntary initiatives cannot provide a substitute for an effective regulatory framework. The right balance of regulations, economic measures and voluntary initiatives, appropriate to specific socio-economic and cultural contexts, needs to be developed.
- **Stakeholder consultation.** Many voluntary initiatives are still being developed with little, real consultation of those outside the industry.
- **Minority practice.** Corporate environmental and social reporting is still a minority practice, and only a third of multinational corporations are using comparable frameworks such as the GRI in reporting their performance.
- **Reporting indicators.** Most industry sectors have not yet developed industry consensus on performance indicators for reporting on their specific sector's progress and gaps.
- **Unenvironmentally sound technology transfer.** Although globalisation may facilitate the transfer of environmentally sound technology, it does not stop the transfer or 'dumping' of polluting technologies or products that have been banned in other countries.

Multi-stakeholder dialogue

Successful companies and industries of the future will be those that gain an early understanding of emerging societal needs and aspirations of sustainable development

> *'In concentrating on securing future supplies of oil and gas, we have perhaps paid less attention to other, equally important aspects of our business. As a result, we are sometimes perceived as arrogant, top-down, non-participative polluters, more interested in providing cheap energy to developed nations than fostering long-term prosperity elsewhere.. ... We readily acknowledge that as individual companies - and as an industry - we do not always have the right answers. Sometimes, we do not even ask the right questions. Therefore, probably the biggest challenge we face is in working more closely and effectively with others; listening to and learning from diverse points of view.'*
> *Oil and gas sector report*

Gaining this understanding will mean moving from one-way stakeholder communication (public reporting) and ad hoc stakeholder consultation (what should be in a report or policy) to on-going multi-stakeholder dialogue to exchange perspectives and perceptions, build mutual understanding and trust, and determine priorities and targets for the future. Areas in which multi-stakeholder dialogue will be increasingly required at the local, national and international level include:

- Problem or issue management. Many, if not all sustainability issues apply not just to industry, but to human society as a whole. Dialogue between nongovernmental organisations, local communities and industry is seen by the aviation industry as 'more than ever necessary' to address common NGO questions that apply to the human society as a whole, such as: how much travel is necessary to meet basic access needs? Isn't it time for society to

adjust mobility trends to environmental requirements? Will people in about 50 years have to make energy choices between housing and travel?

- Developing the appropriate public policy framework for sustainability. All sector reports highlight the crucial role of governments in providing the appropriate framework in which industry operates, at national and international levels. Basic regulatory standards, effectively enforced, are seen as important in providing a equal playing field, particularly in industries consisting of a large proportion of small and medium-sized enterprises (SMEs). Even with the best regulatory framework possible, however, other approaches are also needed. Appropriate and consistent economic signals and market mechanisms (tax credits, pollution charges, emission trading programmes, etc.), voluntary initiatives and other measures are necessary to complement (not replace), an effective regulatory framework. As neither government, industry or non-governmental organisations can claim to have all the knowledge needed in developing an effective public policy framework for orienting society towards more sustainable development, a multi-stakeholder approach is called for to help governments, and business, in taking decisions.

> *'I appreciate the (chemical) industry's effort in taking into consideration the views of stakeholders. I share with the industry the belief that there is much more to be done by all parties concerned with regards chemical safety, health and environmental issues.'*
> *Dr Lynn R Panganiban, Pesticide Action Network, The Philippines*

- Improving the effectiveness and credibility of voluntary initiatives by involving civil society in determining their objectives,

measuring their effectiveness, and verifying that all signatories are doing their best to implement them. The coal industry is among those that recognise the importance of involving civil society groups in setting standards and verifying the industry's performance. The chemical industry now has considerable experience with different types of stakeholder engagement in its Responsible Care programme in different socio-economic and cultural contexts, and uses labour and other stakeholder concerns in defining its priorities for improving Responsible Care.

• Global stakeholder engagement. Most, if not all of the reporting industry sectors found the UNEP-facilitated multi-stakeholder consultation extremely useful in getting a better understanding of different global stakeholder perspectives and perceptions, and many have stated in their reports their intention to continue such global stakeholder consultation.

Public-private partnerships

Multi-stakeholder dialogue may lead to new public-private partnerships, an increasingly important tool for sustainability. Public-private partnerships may be partnerships between one or more companies and intergovernmental organisations, national or local governments, non-governmental organisations and/or community groups. Public-private partnerships will increasingly be needed in diverse areas, such as:

• Discouraging the use and transfer of older and less efficient, polluting technologies in developing countries will require more than the efforts of industry, although industry could take more of a leadership role. The International Petroleum Industry Environmental Conservation Association (IPIECA), for example, is working with the auto industry and several intergovernmental organisations to encourage governments around the world

to phase-out leaded gasoline in those areas where it still exists.

> *'Industrial pollution is from point sources, and therefore relatively easily corrected. However, most of the worst situations today come, in fact, from diffuse sources of pollution, often related to consumption rather than production. In other words, industry alone can only do so much. Industry should certainly be ready to look at the life cycle of its products, but without co-operation from everyone involved throughout the life cycle, only so much can be accomplished.'*
> *Kristen E Sukalac, International Fertilizer Industry Association*

• Promoting sustainable use and consumption of products. Companies and industries are beginning to understand that society increasingly expects them to take responsibility for their products after they leave the factory gate. However, industry alone cannot ensure that their products are used in a sustainable way. This requires new forms of partnership between industry, governments and other stakeholders. To promote the safe and efficient use of pesticides, for example, CropLife International, representing the plant science industry, established in 1991 the Safe Use Initiative, providing education and training in developing countries and involving the industry, national and local government authorities, international donor organisations, NGOs and farmers co-operatives. The fertilizer industry also recognises that farmers must receive better training in the use of fertilizers, asking the questions of how this is best done and by whom.

> *'Solutions will come from a combination of new technologies, changes in human behaviour and institutional capacity.'*
> *Automotive sector report*

> *'One of the most promising initiatives today to link social development and private enterprise is the proposed Clean Development Mechanism under the Kyoto Protocol. Given the longevity of power generation investments, emission reduction targets set by the Kyoto Protocol will most likely not be achieved by the electric power industry without flexible mechanisms.'*
>
> *Electricity sector report*

- Meeting infrastructure needs. The Air Transport Action Group bases its 'Strategy for Aviation in a Sustainable World' on three partnership principles - partnerships to develop infrastructure and links with other transport modes; partnerships to improve the industry's efficiency and environmental performance; and partnerships with local communities and other interest groups around airports. In the automotive industry, new public-private and/or private-private partnerships will be needed to develop the infrastructure that will be needed to distribute hydrogen for fuel cell or other hydrogen-driven vehicles, and/or for other alternative fuels.

- Expanding access to electricity to the two billion people currently without and de-coupling rising electricity production from greenhouse gas emissions. Public policies and governance systems, and private technical expertise and entrepreneurial skills are needed in developing and propagating low- and zero-carbon emitting systems including off-grid renewable power systems for the rural poor.

- Combating the digital divide: The information and communication technology industry points to a regional action plan that is being developed by the Association of South-East Asian Nations (ASEAN) to combat the digital divide. Private investment will be focused on creating infrastructure while public policy will aim to create the best legal and regulatory environment.

Voluntary codes and initiatives

Achievements
Voluntary industry initiatives have multiplied since 1992, when only the International Chamber of Commerce's Business Charter for Sustainable Development, the chemical industry's Responsible Care programme and a handful of national initiatives were being developed. These have taken various forms, for example, codes of conduct, voluntary commitments, quantified targets.

By the end of the 1990s, the OECD reported the existence of over 30,000 local initiatives in Japan, more than 300 in the EU and 42 in the United States. The Global Compact, a personal initiative of United Nations Secretary General Kofi Annan, providing a value-based set of business operating principles on the environment, labour and human rights, has effectively contributed to raising awareness of the broader business community.

Chapter 30 of Agenda 21
Strengthening the Role of Business and Industry

'Business and industry, including transnational corporations, should be encouraged to adopt and report on the implementayion of codes of conduct promoting best environmental practice.'

The chemical industry's Responsible Care programme, for example, has grown from 13 countries in 1992 to 46 today, accounting for 85% of global chemical production. Nevertheless, the industry is the first to recognise that the programme suffers from some inconsistent implementation, performance and verification around the world due to variations in the understanding or lack of resources and places a priority on working with stakeholders to improve the quality of Responsible Care in all countries.

Included in the Responsible Care initiative, are three other voluntary programmes on product stewardship, high production volume chemicals, and long-range research all of which aim to broaden knowledge and safe management of chemicals. The fertilizer industry was also an early pioneer, developing a voluntary initiative with the assistance of international organisations to promote Best Agricultural Practices to Optimise Fertilizer Use for different regions of the world.

The electricity sector has developed 'Guidelines for Best Practices', based on the E7's 1994 Sustainable Energy Charter, to provide support in developing countries and economies in transition on sustainable energy-related issues. It has also developed a set of 'social trust' principles, in consultation with stakeholders, on essential aspects of the corporation-stakeholder relationship. Automotive associations have signed a voluntary agreement with the European Union (EU) to reduce average CO_2 per-kilometre emissions for new car fleets by 2008/9 that represents a 25% reduction compared with 1995 figures.

Only a handful of bankers had joined UNEP to launch the Finance Institutions Initiative in 1992; today, the initiative includes over 180 participants from forty countries. Similarly more than 80 insurance companies are involved in the initiative. Consulting engineers, building on a 1990 policy paper, recently published their Business Guidelines for Sustainable Development in Consultancy Services.

Public awareness, combined with the threat of liability, has also made impact in the tourism sector. One example is the cruise industry. Recently, for the first time an association of international vessel operators has adopted mandatory waste management practices and procedures. The Cruise Industry Waste Management Practices and Procedures were adopted by members of the International

Council of Cruise Lines (ICCL) in June 2001. A growing number of hotels have also been involved in the creation of codes of conduct. Tour operators have joined UNEP, the WTO and UNESCO in the development of a voluntary initiative. Other sectors that have since been involved in the development of international voluntary initiatives with UNEP are the advertising, information and communications technology, mining, metals and automotive industries.

Key gaps and stakeholder concerns

* Few voluntary initiatives are directly linked with government policy and regulatory framework in a way that would complement the strengths and weaknesses of both.
* Many sectors still have not developed such codes of best practice to guide their members.
* Many often remain just good intentions, with little effective implementation, monitoring and verification programmes to ensure their effectiveness and credibility.
* No effective sanctions can be applied to those not adhering to the voluntary initiative. Even the best voluntary initiatives can be publicly harmed by 'free-riders', companies which do not effectively apply the industry's voluntary standards.
* Many voluntary initiatives focus on the environmental aspects of sustainable development only.

Environmental management systems

Achievements
Since 1992, the number of companies that have established corporate environmental policies and environmental management systems to put such policies into practice has dramatically increased. International certification of environmental management systems have provided companies with a certified environmental management system a competitive edge and public recognition.

Environmental management systems have also driven 'supply chain management' where larger companies work more closely with their suppliers - often small and medium-sized enterprises (SMEs) - to reach common environmental objectives.

The automotive industry reports that most international car manufacturers now have ISO 14000 and/or the European Union Eco-Management and Audit Scheme (EMAS) certification. Environmental management systems are an integral component of the chemical industry's responsible Care programme, and many member companies have the European Eco-Audit and/ or ISO 14000 certification. ISO certification in food and drink industry has increased from under 300 certification in 1998 to over 800 in 2000.

Most companies in the telecommunications industry have also developed environmental management systems based on ISO 14000 standards; the first company to ever receive worldwide ISO 14001 certification for its worldwide manufacturing and non-manufacturing operations was a major telecommunications company.

Key gaps and stakeholder concerns

- in many parts of the world, environmental management systems remain to be implemented, in particular by small and medium-sized enterprises (which, in most countries, account for a large proportion of environmental impacts) but also by large, national companies, especially those that do not compete in international markets;
- although multinational corporations may strive to apply the same high environmental standards wherever they operate, actual practice of subsidiaries, suppliers and contractors still raises many questions, particularly in different socio-economic and cultural contexts;
- environmental management certification schemes, such as ISO 14000, do not

automatically mean good environmental performance or that a company is in compliance with a country's regulations;
- environmental management tools - such as environmental accounting - still need to be further developed.

Environmental and sustainability reporting

Achievements
Since Agenda 21, more than 2,000 companies worldwide now issue reports on their environmental performance. Among the 250 largest companies in the world, more than a third now produce environmental reports in a wide diversity of industries such as chemicals, telecommunications, mining, minerals and metals, tourism, food and beverage, aviation, railways and automotive industries, and consumer products.

More recently, some companies have expanded their reporting efforts to cover all three facets of the sustainable development triangle: environmental, social, and economic impacts. Building upon other reporting initiatives worldwide, the Global Reporting Initiative has achieved broad based stakeholder consensus on emerging generally accepted practices of sustainability reporting.
The aluminium industry reports on global greenhouse gas emission data, energy consumption and global safety data, and sends out benchmarking reports so that individual plants can compare their performance with other plants using the same technology.

In the chemical industry, most, if not all, the multinational corporations publish environmental or sustainability reports, with some leading the way in applying the Global Reporting Initiative framework. The International Council of Chemical Associations (ICCA) has set itself the goal of developing indicators to compile worldwide chemical industry performance reports and to publish data showing the impact of the industry on all

areas of society and the environment. Although environmental reporting is not yet a wide-spread practice in the food and drink industry, environmental performance indicators to measure water consumption, energy consumption, waste water generation, air emissions and waste generation are being used by some companies and associations.

Virtually all the members of the information and communications technology sector's Global e-Sustainability Initiative (GeSI) publish environment, health and safety reports, and the European Telecommunications Network Operators Association (ETNO) uses both qualitative and quantitative indicator s to biannually report on the performance of its Charter signatories. In the financial industry, a working group of the UNEP Finance Initiative is currently developing internationally accepted environmental management and reporting guidelines under the GRI framework. Similarly, in the tourism industry, reporting indicators are being developed by tour operators under the aegis of the UNEP Tour Operators Initiative. The automotive industry is doing the same.

Key gaps and stakeholder concerns

- Corporate environmental or sustainability reporting is still a minority practice in many industries and countries, particularly where legal frameworks or public pressure is weak.
- Where environmental reporting has gained ground, what is measured and reported still varies widely from company to company, making it difficult to distinguish between good and poor performers, and to aggregate industry-wide data.
- Reports often illustrate only the positive news, failing to mention shortcomings or give negative case studies from which one can learn a lot about the companies' approach and capability to change.
- Reports focus predominately on environmental issues. Where social aspects

are addressed, they are often limited to charitable contributions to the community (corporate philanthropy) rather than addressing broader social issues and impacts of a company's role and activities.

> *'While there are some drivers for sustainable reporting, they are not sufficient. Once standardised formats have been developed and tested, only government regulation will increase their use The fact that only 65 out of 60,000 transnational corporations have signed the Global Compact is indicative of how far we have to go. Hopefully, at least those 65 will begin (or continue) to use the GRI reporting format.'*
>
> *Lorraine Ruffing,*
> *United Nations Conference*
> *on Trade and Development (UNCTAD)*

Environmentally sound technology and R&D

Achievements
Environmentally sound technology is increasingly seen as an element of good business, enabling companies to avoid or reduce costs, and gain new market share. The globalisation of information and communication technologies has facilitated the transfer of best practices and technologies, catalysed by industry networks and international organisations such as UNEP's International Cleaner Production Programme and OzonAction.

Globalisation of markets has also helped in transferring environmentally sound technologies to rapidly industrialising countries through joint ventures and the practices of multinational corporations that apply the same standards of performance wherever they operate. Leadership companies, anticipating new global markets to meet emerging global needs and requirements (e.g. greenhouse gas reductions and the Kyoto Protocol) are

investing a portion of their research and development (R&D) budgets in developing the cleaner and alternative technologies needed for sustainable development.

In the coal industry, cleaner coal technologies have been developed to reduce the volume of coal consumed and emissions produced per unit of energy generated and minimise waste residuals. R&D of cleaner coal technologies is shared through international bodies such as the International Committee on Coal Research. This has helped lead to growing momentum for greater adoption of cleaner coal technologies in developing countries. In China, for example, the development and application of cleaner coal technologies is a national priority, and integrated into law under the 1996 Coal Law.

The electricity sector reports on R&D accomplishments in improving the efficiency and reducing emissions of combined cycle gas turbine, new and existing coal-fired technologies, wind turbine, hydroelectric installations and small-scale and existing nuclear reactors.

The automotive industry is heavily investing in new alternative engine systems such as hydrogen driven vehicles, in the aim of reducing CO_2 emissions.

Key gaps and stakeholder concerns

- Environmentally sound R&D accounts for only a fraction of most industry sector's R&D budget, often more geared to developing new products that sideline sustainable development needs.
- More R&D is imperative in order to achieve sustainable development goals.
- Most R&D is still carried out in the developed countries. More R&D needs to be invested in providing technologies that meet the particular needs of developing countries.
- More needs to be done to assist small and medium-sized enterprises to do technology audits, to select appropriate technology, to acquire it and develop the skills to master it.

2.5 Integration for sustainability

- Social, environment and economic integration
- Integrating sustainability criteria into mainstream decision-making
- Cross-sector integration for sustainability
- Global integration

In brief

Clearly, the sustainability agenda has evolved since the Earth Summit. There has been slowly but steadily growing appreciation that, in the words of Nelson Mandela, ' if globalisation is to create real peace and stability across the world, it must be a process benefiting all.' In 1999, at the World Economic Summit, United Nations Secretary-General Kofi Annan challenged business leaders 'to help build the social and environmental pillars required to sustain the new global economy and make globalisation work for all the world's people.' This will require four types of integration:

- **social, environmental and economic integration** - moving from a fragmented approach that deals with environmental, social and economic aspects separately to a holistic approach (triple bottom line, or people-planet-profits) that unites them;
- **integrating sustainability criteria into mainstream business decision-making** rather than a separate, niche operation;
- **cross-sector integration for sustainability**- moving from a sector-specific approach to sustainable development towards a cross-sector approach to better meet sustainability needs;
- **global integration**- helping to establish the global framework of rules and institutions needed to protect global commons, and to meet the particular needs of developing countries.

Social, environment and economic integration/societal integration

Up until now, economic, environment and social impacts of a company's or industry's impacts on society have largely been dealt with individually. Even leadership companies that have produced sustainability reports have generally dealt with economic, environment and social performance separately. Industry is not alone on this; policy makers and stakeholders have also approached sustainable development in a fragmented way.

Companies and industry associations need to be able to take a more holistic approach (triple bottom line), integrating the social, environment and economic dimensions of their business and use this to help society meet its sustainable development challenges. Some industries have begun to use a more integrated approach to better understand the life cycle impact on society of its products and services, and to envision solutions it can offer

'To my mind the rightly promoted integration within industry can only happen if it is fundamentally linked to wider societal integration. But if a company's stakeholders are pulling it in multiple directions it's not surprising that the company finds an integrated approach difficult.'
Dr Chris Tuppen, GeSI

to meet global challenges. The tourism industry, for example, one of the fastest growing industries, is beginning to take an integrated approach in identifying ways it can help solve sustainability challenges ranging from employment of unskilled labour and AIDS education to environment and cultural preservation.

Social, environment and economic integration within companies is directly linked to broader societal integration. Many of the sustainability challenges facing industry are complex, extending beyond a company's sphere of

influence, and can not be resolved by industry alone. All the sector reports explicitly or implicitly refer to the need for better integration with society, calling for closer co-operation or partnerships with societal actors.

The electricity sector, for example, differentiates the roles of its key stakeholders: 'Governments have the authority to establish policy priorities, legal structures and governance systems necessary for electrification.... The financial world plays a key role in leveraging the capital resources necessary for large-scale investments typically associated with electrification.... Technology developers have access to options for energy conversion that can provide fuel flexibility and pollution control, and lead to efficient use of resources.... Non-governmental organisations can provide knowledge of local needs related to electrification and sustainable development.'

Cross-sector integration for sustainability

Clearly, industry sectors are inter-linked economically, socially and environmentally. Consequently, the scale of social and technological innovation that will be needed for sustainability will not be achieved solely by improvements made inside any one specific sector alone. Sustainability will require integration within and between diverse industry sectors. Examples of the types of cross-sector integration that will be needed for sustainability are provided in the reports of the information and communication technology industry and the finance and insurance sector.

The information and communications technology industry, while acknowledging the need to continue improving its own internal performance, sees itself as an 'enabler' of sustainability. It enables other industries, for example, to reduce their carbon dioxide emissions (through video conferencing, tele-working, smart energy efficiency) and enables

global society to meet social objectives, such reducing the digital divide and improving education in developing countries through long distance learning.

> 'It is important that each industry looks beyond its own boundaries to examine its impact on society as a whole. Industries must look beyond their direct contribution to employees, shareholders and other stakeholders and understand their contribution to economic and social development as a whole.'
>
> Information and communications technology sector report

In the ten years since the Earth Summit, sustainable finance has shifted from being a niche, activist concern to a mainstream issue. The UNEP Financial and Insurance Initiatives and the socially responsible investment (SRI) movement have helped broaden awareness among the finance and insurance sectors. Evidence that sustainability has reached the mainstream financial community was provided by the launch of the Dow Jones Sustainability Group Index in 1999 and of others since.

> 'Financiers are the pump primers of the global economy - they can withdraw funds or give their full support to any enterprise. They can therefore uniquely and powerfully influence the course of industrial development so that it is compatible with the sustainable development agenda.'
> The Rio Resolution submitted to the 1992 Earth Summit by the international social investment community.
>
> Finance and insurance sector report

In developing countries, public sector financial institutions have also helped lead the way towards sustainable finance. The World Bank (IADB) and the International Finance Corporation (IFC), the European Bank for Reconstruction and Development (EBRD), the

Inter American Development Bank and others are all implementing environmental criteria in their loans or investment projects.

Some multilateral development banks are also beginning to move from traditional government and subsidy-centred approaches to more creative, consumer financing or fee-based services to help meet sustainable energy needs in developing countries and economies in transition, providing bank financing to help cover start-up costs of renewable energy, water management, and mass transit systems.

National governments are also beginning to take creative steps to further the sustainable finance agenda. Public and private pension funds in the United Kingdom and Germany are now required to state their policy on socially responsible investment while the Swedish government applies environmental criteria to government-controlled funds.

Also Export Credit Agencies, providing services from export credits to guarantees, have started to set up special screening systems when assessing requests from exporters in order to limit environmental and social impacts of their operations.

However, although sustainable finance has reached the mainstream over the last ten years, it is still a long way from being a mainstream practice. Only an estimated 2% to 3% of investments are made taking into account environmentally and socially responsible criteria. Key priorities for the sector include:

- the development of standardised, internationally recognised sustainability metrics, accounting and reporting protocols (linked to the Global Reporting Initiative);
- the inclusion of sustainability objectives into mainstream asset management policies and practices;

- broader adoption of voluntary standards for environmental performance;
- developing new and creative financial solutions and tools to address new societal challenges stemming from resource depletion, pollution of global commons, excessive inequality, etc.;
- transferring knowledge to asset management, insurance and lending industries in developing countries;
- taking into account expectations of a growing family set of stakeholders, which have up to now mainly focused on stock markets and socially responsible investing, to link sustainable development performance in other areas such as foreign direct investment and export risk guarantees.

Global integration

Business and industry will see their activities and 'social license to operate' increasingly contested if they fail to recognise that the new, global opportunities of globalisation carry new, global responsibilities, including helping to meet social needs that cannot be met by the market alone. Establishing a global framework of rules, institutions and established practices to protect the global commons, such as atmosphere, international waters, bio-diversity, and forests, requires not just the diplomatic and legislative roles of government and intergovernmental organisations, but also the expertise, insight and perspectives of business and civil society representatives.

The chemical industry has been working with governments and United Nations organisations towards sound chemical management worldwide. The chemical industry supported the development of the Rotterdam Convention on the Trade in Hazardous Chemicals (PIC Convention) and the Stockholm Convention on Persistent Organic Pollutants. The industry also supports the role of UNEP in chemicals management, and the work of the Intergovernmental Forum on

Chemical Safety (IFCS) and the Inter-Organisation Programme on the Sound Management of Chemicals (IOMC).

> 'While ICCA members are in favour of free and fair trade, they fully acknowledge the need for trade and production controls for certain chemical that pose severe health or environmental hazards, or chemicals that can be misused for illicit purposes.'
>
> *Chemicals sector report*

Global sustainability now depends upon the world's ability to reduce the gap between developed and developing countries that has widened rather than narrowed since Agenda 21. In a world in which the private sector has increasing influence, business and industry should expect to have an increasing role to play in helping meet the particular needs of developing countries such as human and institutional capacity building, technological development and assistance, and financial resources.

> 'Issues relating to developing countries require urgent action because of the magnitude of the problems and because they do not have the capacity to address these problems unilaterally.'
>
> *Coal sector report*

The World Coal Institute (WCI) sees bridging the health, safety and environment gap between developed and developing countries as one of its key challenges in moving forward. It combines the need for a global mining code with a suggested 'mentor system' in which mining companies with relatively sound performance on environmental, health and safety issues provide expertise and experience to poor performing mines in the same region.

The International Council of Chemical Associations has been an active partner of UNEP's APELL programme, helping developing countries in the safe management of chemicals, and is looking at how the industry can help build the capacity of developing countries in providing safety information, educating and training governments and users of chemicals, and raising resources for capacity building projects.

Nearly 60% of the USD1.3 billion spent by the Multilateral Fund of the Montreal Protocol is used in the refrigeration sector, to transfer ozone-friendly technologies to developing countries. Refrigerant Management Plans (RMPs) have been set up in many developing countries through collaborative efforts like UNEP's OzonAction Programme and the International Institute of Refrigeration's World Wide Networks of Experts. Each RMP involves an initial diagnosis phase that is an essential prerequisite to actions and training initiatives designed to achieve sustainable development; implementation of training programmes addressing refrigeration technicians' and custom officers' needs.

Since 1992, the electricity sector's E7's Network of Expertise has completed more than 30 human capacity building and technical assistance projects in developing countries. In 1998, the industry established the E7 Fund for Sustainable Energy Development that has since initiated sustainable energy projects in Bolivia, Ecuador, Zimbabwe and Western Africa.

Part 3: Industry challenges, goals and commitments

All the participating industries identify in their reports future challenges and goals for their sector. Some make specific commitments, such as:

- further reductions in greenhouse gases, toxic releases, energy use, waste, etc;
- improving the quality of voluntary initiatives;
- spreading best practices to countries that are not yet a part of a global industry association;
- developing and investing in promising technologies;
- improving the social dimension of their business;
- helping to build capacity in developing countries to improve health, safety and environment standards;
- developing partnerships with stakeholders.

Table 3 summarises each industry's view of its sector's future sustainable development challenges and goals, as well as its past achievements and unfinished business. Stakeholders, including those that participated in the consultation process, will not always agree with industry's analysis and views.

The reports nonetheless move one step further in providing greater transparency needed for more informed multi-stakeholder discussions and better mutual understanding. Stakeholders are thus encouraged to consult specific sector reports for more details and to encourage industry, not only to meet future challenges, but to continually improve its environmental and social performance.

It needs to be noted, however, that while many of the industry organisations, associations and voluntary groups were able to report on progress, many are not currently constituted to make specific, all embracing global commitments on behalf of their industry. This represents a new kind of governance that could evolve during the 21st century, with the involvement of stakeholders.

'The structure of our industry's representation created some real challenges for gathering data. Where data exists, it is in the form needed for national or regional requirements and is not necessarily comparable with information from another country. Additionally, some good data exists, but has not yet been cleared by internal political processes.'

Kristen E Sukalac,
International Fertilizer Industry Association

'We are agreed on the aspiration (sustainable development), but we also know that achieving this is certainly not easy and there are no automatic answers. Like everything else in business, objectives have to be clearly defined, targets must be set, and activities have to be managed in the midst of surprises.'

Finance and insurance sector report

Table 3: Industry perspective of key achievements, unfinished business, future challenges and possible commitments

Industry	Achievements	Unfinished business	Future challenges and possible commitments
Primary/extractive industries			
Aluminium	- Through the International Aluminium Institute (IAI), the industry has adopted a global approach to sustainable development. - Smelters in the 1990s used a third less electricity per tonne of aluminium produced than the equivalent plan in the 1950s and that trend of energy efficiency continues today. - The replacement of 2kg of conventional heavier materials by 1kg of aluminium, in the construction of an automobile, saves the equivalent of 20kg of CO_2 per kg aluminium, over the vehicle's lifetime.	- IAI's Life Cycle Committee is working to complete a full, four-year analysis of the effects of aluminium production and its key applications on the environmental and economic well-being of the world's population. - The preliminary results of the IAI Perfluorocarbon (PFC) emissions surveys indicate a declining trend, with PFC greenhouse gas emissions, as CO_2 equivalents, reduced by 60% per tonne of production since 1990. - Since 1997 IAI has collected comprehensive benchmarking data on safety performance in the industry, which shows a fall in average accident rates in the area of mining, refining and smelting.	- IAI is involving Chinese and Russian producers in its activities, which will increase the Institute's coverage from 60% to around 90% of the world's primary aluminium production. - The introduction of inert anodes and the replacement of carbon anodes over time could eventually eliminate PFC emissions. - More than almost any other material, aluminium satisfies the requirement for a fair distribution of resource utilisation between generations and the industry is committed to increasing global recycling rates.
Coal	- The development and deployment of higher combustion efficiency technologies that reduce emissions of polluting gases. - Full Life Cycle Analysis (LCA) shows that electricity generation from other fuels such as gas may have similar or even higher GHG	- The coal industry is striving to reduce its environmental footprint from the production and use of coal and minimising coal production impacts on the biosphere (land, water) and on local communities. - Continuing reductions in emissions through	- Furthering the development and deployment of cleaner coal and carbon capture and sequestration technologies worldwide. - Improving the standards of health, safety and environmental reporting and increasing the rate of reporting. - Increasing the understanding of

Table 3: Industry perspective of key achievements, unfinished business, future challenges and possible commitments

Industry	Achievements	Unfinished business	Future challenges and possible commitments
Primary/extractive industries			
Coal (continued)	emissions than coal-based generation. - Transnational mining companies have made great advances in improving their transparency and public accountability, building relationships with local communities and becoming engaged in local community programmes and bringing environmental impacts into the forefront of mine management.	accelerated technology improvement and transfer are the key to effective, least cost solutions to sustainability and climate change issues, and is the industry's major priority for the future. - The World Coal Institute (WCI) has developed a set of sustainability principles to provide a framework for industry initiatives and guide individual action by member companies. WCI will be conducting a series of regional stakeholder workshops to help to give effect to the principles.	health, safety and environmental reporting and increasing the rate of reporting. - Increasing the understanding of the principles of sustainable development within the industry and among local communities.
Iron and steel	- Dramatically reduced releases to the environment from steel manufacturing operations, including a reduction of air emissions by up to 80% over the last 20 years. - Introduced new production technologies and steel products to meet demanding applications, including advanced lightweight steel automobiles that contribute to a more sustainable society.	- Continued improvement in steel production technologies and development of new products and services to meet evolving societal needs. - Continued integration of economic, environmental, and social sustainability throughout the world steel industry.	- Operation of the world steel industry in an increasingly globalised economy, particularly the economic success of companies. - Social change, including employment and community development, as the world steel industry transforms.

Table 3: Industry perspective of key achievements, unfinished business, future challenges and possible commitments			
Industry	Achievements	Unfinished business	Future challenges and possible commitments
Primary/extractive industries			
Oil and gas	- Increased supplies of safer, cleaner, economically viable and more reliable fuels for transport, light, power, and heat. - Implemented management systems that have significantly improved safety, health and environmental performance and provide an ongoing pathway to continuous improvement. - Innovated and deployed advanced technologies that increased the size of viable recoverable resources, improved product quality and enhanced both environmental and end-use performance. - Contributed to countries' efforts to develop their natural resources and improve their own communications, transport, health and education systems through technology co-operation and capacity building.	- Developing and investing in advanced technology to meet growing demand for affordable energy products while improving security of supply and reducing environmental impacts. - Enhancing our contribution to sustainable development through a greater integration of economic, environmental and social dimensions. - Conducting our operations with better understanding (by all) of our roles and responsibilities and finding ways to work efficiently, in consultation with others, to improve decision-making processes that relate to our industry.	- To ensure the continuous availability of affordable, secure, environmentally sound and socially acceptable energy products and services for a growing world population. - To improve the social dimension of our business in order to broaden the benefits of wealth creation and thereby contribute to the alleviation of poverty. - To demonstrate a balance in consideration of security of supply, environmental, economic and social issues in meeting growing energy demand.
Secondary/intermediary industries			
Chemicals	- Responsible Care has spread from six countries in 1992 to 46 countries today, representing 85% of global chemical production. - The chemical industry has contributed to achieving many of the Agenda 21 goals, particularly Chapter 19 dealing with the environmentally sound management of chemicals. - Technological innovation	- Extend Responsible Care along the supply chain. - Develop improved implementation assurance process for Responsible Care. - Provide more understanding and information of chemicals and their potential effects. Two recent voluntary initiatives, the Long-Range Research Initiative (LRI) and	- Improve the quality of Responsible Care initiatives worldwide. - Build capacity in developing countries (in partnership with intergovernmental organisations, governments and societal actors). - Enhance internal and external communication with stakeholders.- Develop and implement a core set of quantitative indicators of performance towards

Table 3: Industry perspective of key achievements, unfinished business, future challenges and possible commitments			
Industry	Achievements	Unfinished business	Future challenges and possible commitments
Secondary/intermediary industries			
Chemicals (continued)	and capacity building have contributed to continuous improvement in chemical safety, health and environmental protection.	the High Production Volume programme (HPV), will help meet these needs in the future. - Extend Responsible Care to all countries that manufacture chemicals (Russian Federation, China, Saudi Arabia, and some emerging European economies).	achievement of sustainable development.
Construction	- Developing countries' share of total construction output worldwide has increased from about 10% in 1965 to about 29% in 1998. - Mature economies have uncoupled the growth in the production of CO_2 emissions in the built environment, as well as in construction and demolition waste through increased recycling, from GDP growth. - Third industrial sector holding ISO 9000 and fifth holding ISO 14000 certificates.	- Reducing CO_2 emissions through raising the energy performance of existing buildings. - Improving health and safety on construction sites. - Promoting increased training.	- Further reducing CO_2 emissions in the built environment through the development and integration of renewable energy technologies. - Promoting the integration of environmental technologies in construction. - Agreeing a realistic set of performance indicators against which the construction sector can benchmark its progress.
Electricity	- Contributions to environmental protection include displacing primary fuel combustion in factories and households, powering water sanitation systems, developing, demonstrating and applying air pollution reduction technologies, actively minimising wastes, recycling by-products and wastes, remediating impacts and improving the efficiency of generation, transmission and distribution.	-Electricity is not available, accessible and affordable to everyone; this constrains environmental protection, social progress and economic development. - Regulatory frameworks to create markets and reduce costs of distributed and centralised generation do not exist in all countries. - Efficient transmission networks to pool demand and supply do not exist in all regions of the world.	- Electric power companies should implement Guidelines for Best Practices to improve their operations and reduce their environmental impacts. - Governments and non-governmental organisations, financial and development institutions, technology providers and the sector should focus their partnerships on expanding access to electricity for two billion people living without electricity today.

Table 3: Industry perspective of key achievements, unfinished business, future challenges and possible commitments			
Industry	Achievements	Unfinished business	Future challenges and possible commitments
Secondary/intermediary industries			
Electricity (continued)	- Contributions to social progress include improving quality of life by supporting infrastructures such as telecommunications, health care, agriculture and education. - Contributions to economic growth include powering industry and commerce and enabling revolutionary improvements in productivity and efficiency.		- Nations should have the right to use their indigenous energy resources, including fossil fuels. - Efficient technologies should be employed to convert primary fuels into usable electricity.
Food and drink	- The food and drink (F&D) industry has experienced a steady and robust economic growth and has become a major contributor to local, national and regional economies and is one of the world's largest employers. - The F&D industry has introduced eco-efficiency improvements throughout the food supply chain. - Significant contributions have been made to society at large by helping to provide more and more people with safe, high-quality food products.	- The availability, quality and safety of the food supply will continue to remain a high priority for the F&D industry. - As part of its focus on the continuous improvement process, the F&D industry will ensure progress in resource management, particularly for water and energy. - Increased dialogue with all partners in the food supply chain will be pursued to identify concerns and to respond to them in an open, effective manner.	- Better global co-ordination needs to be developed within the F&D industry in order to share best practices and to facilitate progress on sustainability. - The F&D industry should take an active role in identifying, developing and facilitating acceptance of emerging technologies that will benefit consumers and the environment. - Sustainable agricultural practices need to be fully supported so that they become increasingly systematic and globally widespread.
Fertilizer	- The industry has made significant efforts to develop and adopt new technologies that have significantly reduced emissions from fertilizer production. - The industry has been instrumental in getting distributor and adviser certification schemes off the ground in some countries.	- Internal knowledge and technology transfer will help all fertilizer production facilities come up to the levels set by industry leaders. - The fertilizer industry's safety record is among the best of the chemical-related sectors, but continual improvement is an absolute imperative.	- As commodity products, most fertilizers currently have little in-built technology to enhance the efficiency of nutrient uptake. - More research is needed on removing naturally occurring impurities from fertilizer raw materials. - The fertilizer industry faces the challenge of more fully engaging its traders and retailers in efforts to address sustainability issues.

Table 3: Industry perspective of key achievements, unfinished business, future challenges and possible commitments

Industry	Achievements	Unfinished business	Future challenges and possible commitments
Secondary/intermediary industries			
Fertilizer (continued)	- Leading fertilizer associations and research organisations are involved in research and training to improve the efficient use of plant nutrients.	- The industry's community and stakeholder relations have developed significantly in recent years, but more can be done globally.	
Refrigeration	- A marked reduction in the production and consumption of CFC and then HCFC refrigerants, a process involving all refrigeration stakeholders, has since 2000 been reversing the previously ever-rising stratospheric chlorine concentration, responsible for ozone depletion. - Major developments in the cold chain - equipment design optimisation, traceability of foods, consumer information are enabling sustainable preservation of foods in industrialised countries. - In the health field, refrigeration is making a major contribution to sustainable health policy, notably in the immunisation of populations against infectious diseases thanks to refrigerated vaccine storage in the developing countries.	- The refrigeration sector's energy efficiency and alternative refrigerant development initiatives must continue: they are protecting the environment and preventing global warming. - Actions designed to reduce refrigerant emissions leakage throughout the plant life cycle must be expanded. - Heat pump technology, which is an efficient tool enabling reductions in energy consumption, must be more widely diffused.	- To develop more environmentally-friendly, energy-efficient vapour compression systems with ambitious objectives: reduction of energy consumption by 30% to 50 %, and reduction of refrigerant leakage by 50%. - To further develop promising non-vapour compression refrigeration technologies and applications including absorption and adsorption, solar refrigeration, desiccant technology, trigeneration, cryogenics and many others. - To make refrigeration widely available in developing countries to set up viable cold chains, reduce food losses, and encourage environmentally friendly technology through technology transfer and increased training provided by developed countries.

Table 3: Industry perspective of key achievements, unfinished business, future challenges and possible commitments			
Industry	Achievements	Unfinished business	Future challenges and possible commitments
Transport industries			
Automotive	- The automobile manufacturers have made substantial progress in minimising adverse effects of vehicle use on environment and society. This includes enhanced fuel efficiency, reduction of exhaust emissions, reduction of noise, and improved safety. - Proactive initiatives have moved the automobile manufacturer's technological, environmental, and social standards towards best practice. Engagement in global initiatives for sustainable development clearly shows the automobile manufacturer's commitment to assume global responsibility.	- The development of vehicles using alternative fuels in order to further minimise greenhouse gas and other emissions has come close to maturity. - However, the broad introduction of clean fuels has yet to overcome difficulties concerning issues of fuel distribution and legal framework.	- Further enhance the ecological efficiency of vehicles throughout the entire life cycle. This includes efforts to further streamline the production process, refine and disseminate new propulsion technologies using alternative fuels and develop and apply new concepts for providing sustainable mobility.
Aviation	- Highest demand rate of all transport modes. - Access to world markets for developed and developing nations. - Leadership in eco-efficiency.	- Infrastructure development to meet market growth. - Communication and participation. - Promotion of air transport in the developing world.	- Aviation and global warming. - Safety and security. - Air/rail intermodality.
Railways	- Rail systems - whether passenger or freight - contribute to sustainable development by having a high efficiency concerning capacity, energy, space, and time. - The railway sector worldwide has undergone a significant 'greening' during the last decade showing commitment and actions towards the needs of sustainable development.	- Collection of appropriate environmental data on a global level is lacking. Thus the sector needs to strengthen its work related to data gathering, processing, and communication. - The railway sector should reach the breaking point where new technical solutions in rolling stock, infrastructure, and procedures will give	- The challenge of the railway sector is to accommodate the influx of transport due to the future modal shift in favour of rail. This implies conquering technical and organisational obstacles as well as a level playing field among the transport modes. - The railway sector will maintain and develop its environmental and social advantages by continued research and proper

Table 3: Industry perspective of key achievements, unfinished business, future challenges and possible commitments			
Industry	Achievements	Unfinished business	Future challenges and possible commitments
Transport industries			
Railways (continued)	- The high standard of rail safety sparing life and many accidents is still improving, while the railway sector's contribution to public health problems is declining.	significant environmental improvements. - This calls for better education and training, visible management, and focused campaigns. It also requires more incentives for the sector, for example, through sensible and coherent policy frameworks or economic rewards.	exploitation of the results in the sector. - Robust rail systems for the developing countries will be crucial due to the current dramatic growth of their populations and urban areas. This requires sustainable urban planning with rail as a backbone for the infrastructure.
Road transport	- IRU, representing the road transport sector, made striving for sustainable development a constitutional obligation. - The road transport sector has a comprehensive strategy, a standardised assessment and a knowledge transfer system to promote sustainable development. - The road transport industry was able to decouple growth in road transport from its environmental impact.	The road transport sector will continue to follow its three 'i' strategy - Innovation - 'at the source measures' are the most efficient and cost effective means for improving environmental performance. - Incentives - road transport needs real business incentives by governments to reward implementation of Best Industry Practices. - Infrastructure - improved traffic flow is a sine qua non condition for sustainable development and that requires more investment in road infrastructure.	- Although the road transport industry has improved its environmental performance, the increase in energy consumption and CO_2 emissions remains a great challenge. - A great challenge remaining in satisfying the objective of sustainable development is to persuade governments to provide incentives to accelerate penetration of best industry practices and technology.
Service industries			
Accounting	- Drawing on the same conceptual framework that underpins financial reporting, the accounting profession has contributed significantly to all key social, environmental and sustainability reporting initiatives. - The leading accountancy bodies have established national and regional	- To date there are no international financial reporting or auditing standards dealing directly with social, environmental or sustainability accounting, reporting or auditing issues. - Small and medium-sized accounting firms seldom work with corporate clients on social, environmental and sustainable development	- The accounting profession should commit to introducing social, environmental and sustainable development issues into the standard educational curriculum. - International accounting and auditing standard setters should acknowledge the importance of social, environmental and sustainable development issues

Table 3: Industry perspective of key achievements, unfinished business, future challenges and possible commitments			
Industry	Achievements	Unfinished business	Future challenges and possible commitments
Service industries			
Accounting (continued)	sustainability reporting award schemes, which have contributed to both improved reporting and the establishment of consistent reporting benchmarks. - The major trans-national accounting firms have contributed significantly to the development and application of the verification methodologies needed to add credibility to social, environmental and sustainability reporting initiatives.	issues - to date, only the major transnational accounting firms are involved with this type of activity. - The accounting profession could play a more prominent role in promoting sustainable development as a major strategic issue for the financial community.	by putting them on their core work agendas. - The accounting profession should work with the international academic community to develop standardised techniques of full-cost accounting and to explore the increasingly wide variety of environmental finance opportunities that are being developed.
Advertising	- Much broader implementation of effective self-regulation systems. - Trend from global to consumer-sensitive 'glocal' advertising campaigns. - Funding of greatly increased media diversity, availability and independence worldwide.	- Creation of wider awareness of sustainability opportunities within the business. - Greater understanding of the benefits of corporate social responsibility in communications. - Encouragement of consumers to turn interest in sustainability into lifestyle changes.	- Find brand champions for sustainability. - Increase funding for large-scale campaigns on sustainability topics. - Develop more sustainable products to advertise.
Consulting engineering	- The industry responsible for planning the infrastructure needed to meet the ever-increasing demand for services has successfully mainstreamed sustainability into business practice. - Efforts to date have focused on management tools that integrate the social and environmental dimensions into project delivery. - The industry has also recognised the importance	- An assessment of the industry's Agenda 21 outcome indicates that the further development of means to implement sustainability requires greater attention to stakeholder participation in project delivery. - Meeting infrastructure needs in developing countries also requires harnessing the resources of smaller firms that will have to expand their capabilities. - Finally, the industry's	- The industry's skills will be able to make significant contributions to the priority programme areas and sectors that have been identified by the United Nations Secretary-General. - However, delivering sustainable infrastructure in developing countries requires new methods for procurement and project delivery. - They must be supported by ongoing initiatives that generate confidence and trust from all stakeholders, both public and private.

Table 3: Industry perspective of key achievements, unfinished business, future challenges and possible commitments

Industry	Achievements	Unfinished business	Future challenges and possible commitments
Service industries			
Consulting engineering (continued)	of the enabling environment by promoting initiatives that enhance business integrity, quality of construction and capacity building.	performance needs to be continually assessed with respect to international commitments, and local and regional sustainability agendas.	
Finance and insurance	- The finance and insurance industry has made steps toward sustainability through the development and adoption of internal codes of conduct and environmental regulations, and by becoming signatories to voluntary initiatives (such as ISO 14000) and industry organisations (such as UNEPFI). - Socially responsible investment (SRI) has experienced strong growth in funds under management over the last decade, and there has been a steady increase in both the number and types of SRI products offered. - Asset managers, insurance companies and banks have responded to the challenges of sustainable development by introducing innovative products like micro-finance unit trusts, mileage tariffs in motor insurance, and environmental loans.	- Sustainable development principles must be incorporated into all asset management decisions throughout the finance and insurance industry, not just for niche SRI products. - The industry should continue to adopt voluntary standards and environmental management systems (EMS), and to transfer knowledge to developing countries. - Efforts to attain a universally accepted reporting standard through the Global Reporting Initiative (GRI) - including the Environmental Performance Indicators (EPI) and Social Performance Indicators (SPI) should continue.	- Challenges facing the finance and insurance industry include: constraints on the investment universe as SRI screening is more widely applied; gaps between the interests of developed and developing countries; culture clashes if attempts are made to apply western standards globally. - The industry must face new risks including climate change, depletion of resources, excessive inequality and technological risks created through biotechnology and sub-molecular chemistry. - Issues surrounding human resources, risk information, capital formation, internal processes, public policy formation and expectations of society will all play important roles in the future of the industry.
Information and communications technology	- Telecommunications are at the heart of the global knowledge economy and will continue to play a critical role in economic development in the 21st century. - In the last ten years there has been growing	- Getting the commitment of more ICT companies to actively engage in and promote sustainable development. - Extending access to ICT services. through extensive partnership between private and public sectors.	Covered under unfinished business.

Table 3: Industry perspective of key achievements, unfinished business, future challenges and possible commitments			
Industry	Achievements	Unfinished business	Future challenges and possible commitments
Service industries			
Information and communications technology (continued)	awareness of environmental and social issues by the sector. During this period there have been significant reductions in resource consumption per bit of data transmitted. - Telecommunications has made a significant contribution to raising standards in health, education, employment and empowerment of local communities.	- Better integration of ICT solutions into company and public policies on climate change and economic development. - Measuring and publicly reporting environmental and social impacts on a regular basis. - Extensive promotion of the use of ICT as a key to environmental and social improvements.	
Tourism	Travel and tourism, one of the world's foremost industries, recognises its vital link to the environmental, social and cultural assets of the planet and has taken a lead in awareness raising, standards setting, certification, accreditation and voluntary initiatives.	Travel and tourism's enormous potential to benefit host communities in developing regions through economic growth and job creation can only be fulfilled if all stakeholders work together.	As one of the major stakeholders, the industry will do its part to ensure that travel and tourism works for everyone and is environmentally, socially and economically sustainable, now and in the future.
Environmental industries			
Waste management	- Improved environmental and technical performance. - Awareness among decision-makers and consumers.	- Integrated research on effects of waste management on soil, air, water and climate. - Waste management in developing countries.	- Decouple the link of economic growth and waste generation. - Improve communication, education and training.
Water management	- During the last decade water became firmly established on the international political agenda. - Significant progress has been made in providing water supply and sanitation services to developing communities in many regions. - Wide-ranging innovative technologies and strategies were developed in the water field.	- Serving the unserved. - Converting the concepts of integrated water resources management into practice. - Turning the tide of water-related diseases and environmental degradation.	- Developing practical procedures and strategies for sustainable water management. - Meeting the water-related needs of mushrooming urban environments in developing countries. - Dealing effectively with the problems of internationally shared water resources.

Part 4: Conclusions and recommendations

Each of the 22 sector reports in this series presents numerous efforts developed by industry in reducing their environmental footprint and addressing other sustainability challenges, despite the difficulties of reporting on a global level for the first time. However, there is a widening gap between the efforts they have made and the worsening global environmental situation. It is evident that we are still confronted with worrying, global trends related to biodiversity, air pollution, land degradation, chemical emissions and wastes, freshwater and the regional seas, as demonstrates the Global Environmental Outlook 2002, published by UNEP.

The two main reasons for this widening gap are:

- **In most industry sectors, only a small number of companies are actively striving for sustainability.** The majority of companies are still doing business as usual. It is in industry's own self-interest to do more to spread best practice and raise the performance levels of all its members everywhere. But in reality, different socio-political-cultural and economic contexts across borders mean that what works in one country, may not be applicable in another. Also, there are limits to voluntary action and industry self-regulation. All sector reports highlight the crucial role of governments, combining regulatory, economic and voluntary instruments, in spurring social and technological innovation, and in ensuring that laggard or negligent companies do not benefit at the expense of those investing in best practices. Public and consumer pressure also play an important role in providing market incentives that are needed to motivate corporate change, and reward it. Government and media should work more to raise public awareness.
- **The improvements are being overtaken by economic growth and increasing demand for goods and services (rebound effect).** Future projected growth in most industry sectors will only further widen this gap. The reports also call

for governments to develop long-term policies. It is in this context that private sector voluntary initiatives, in co-operation with non-governmental organisations and labour, will be able to develop. It is also in this context that the private sector needs to join the public sector and develop innovative financing schemes, technology co-operation, education and capacity building.

To move forward, UNEP has identified five priority areas, and has provided recommendations for business and industry, governments, civil society groups and international organisations. The five priority areas are:

1. **Mainstream decision-making.** Integrate environmental and sustainability criteria into mainstream business decision-making at all levels in the company, building local capacity worldwide to spread best practice from the leaders to the rest of industry, worldwide.
2. **Improve voluntary initiatives.** Make voluntary initiatives more effective and credible as a complement to government measures, and assess improvements in environmental and social performance through reporting.
3. **Reporting.** Help ensure transparency, assess performance improvements and spread environmental and sustainability reporting practices beyond the pioneering companies to the silent majority.
4. **Integration of social, environmental and economic issues.** Move from the current approach of dealing separately with environmental, social and economic aspects of sustainable development, to an integrated approach to global challenges.
5. **Global responsibilities and opportunities.** Help build the global framework of rules, established practices and institutions needed to protect the global commons and to develop the new responsibilities that lead to new global opportunities.

Priority 1: Mainstream decision-making

Goal: To integrate environmental and social criteria into mainstream business decision-making, building local capacity worldwide to spread best practice from the leaders to the rest of industry, worldwide.

UNEP recommends:

Business and industry to:
- strengthen the mandate, resources and capacity of their associations to address sustainable development issues and to spread best practices throughout the industry, especially among small and medium-sized companies;
- provide more leadership and effort in raising performance standards of all member companies, particularly those which are still a long way behind;
- consider establishing industry-sector funds not just for cleaning up industry spills and accidents - such as maritime oil spills - but also for helping members in poorer countries to invest in cleaner production;
- ensure that sustainability criteria are considered in all decisions taken at board level.

Governments to:
- Focus more on integrating environmental issues into economic development policies and programmes to ensure that major environmental damages are avoided at the new development and investments stage (reinforcing and applying environmental impact and life cycle assessment tools in decision-making processes of all levels).
- Review government policies, regulatory and market mechanisms that act as disincentives to industry in becoming more energy or resource efficient. An integrated, cleaner production approach should be the preferred option over single-pollutant or single-medium approaches.
- Work on mainstreaming all environmental management tools (EIAs, life cycle assessments, management and thinking, environmental technology assessments) into assessment of environmental impacts of economic and fiscal measures, and into university and college criteria.
- Provide financial and human resources to establish or strengthen cleaner production centres in their own or in developing countries.

Civil society groups to:
- do more to publicly recognise companies that have done the most in adopting best practices and to help local and national government authorities in identifying those that are doing the least.

International organisations to:
- make sure that environmental best practices are an integral component of all industrial development assistance.

UNEP is committed to:

Submit to its Governing Council proposals for developing a sustainable production and consumption programme which, among other things: (i) promotes environmentally sound practices at the industry sector level; and (ii) provides assistance to developing countries and economies in transition in building their own local capacity for providing cleaner, safer production patterns.

Priority 2: Improve voluntary initiatives

Goal: To make voluntary initiatives more effective and credible as a complement to government measures.

UNEP encourages:

Business and industry to:
- adopt, effectively implement and monitor sector-wide voluntary initiatives and codes of conducts that will improve the industry's overall environmental management and performance, in support of and beyond regulatory requirements;
- more pro-actively and systematically involve stakeholders in all stages of voluntary initiatives, including design, monitoring and review;
- include revision and some form of sanctioning provisions in all voluntary initiatives, with a view to continuously improve their performance and the credibility of the initiatives.

Governments to:
- seek ways to integrate voluntary initiatives into their policy and regulatory framework, or develop agreements with industry sectors to set emission performance targets;
- encourage use of certification schemes by industry, in co-operation with non-governmental organisations;
- monitor implementation of voluntary initiatives and focus regulatory inspections on non-signatories.

Civil society groups to:
- encourage and assist industry associations in developing voluntary codes;
- ask company signatories for reports on how they are meeting the goals of the voluntary initiative, using common criteria that enables comparison among companies and over time;
- publicly recognise those companies that are making real progress and implementing codes and those not making any effort;
- work with public authorities to integrate voluntary initiatives into their policy and regulatory framework so that they are mutually complementary;
- insist on stakeholder participation in the negotiation of negotiated agreements between government and industry.

International organisations to:
- determine and disseminate the lessons learnt (positive and negative) from the use of voluntary initiatives with a view of integrating them into policy advice and industrial development projects.

UNEP will:

- catalyse the development of global voluntary initiatives and partnerships[1] that bring together industry, public authorities and civil society for improving industry sector performance worldwide;
- continue encouraging industry to report annually on their sustainability progress at UNEP's annual industry/trade consultation;
- continue to actively contribute to the UN Secretary-General's Global Compact.

[1] Such as: UNEP Financial and Insurance Institutions Initiatives, Tour Operators' Initiatives for Sustainable Tourism Development, Global e-Sustainability Initiatives (GeSI), Mobility Forum (automotive industry), Advertising and Communication Forum, International Code for the Safe Management of Cyanide in Gold Mining, Sustainable Agrifood Production & Consumption Forum.

Priority 3: Reporting

Goal: To help transparency, and assess improvement in environmental and social performance by spreading environmental and social reporting practices beyond the pioneering companies.

UNEP encourages:

Business and industry to:
- develop industry consensus on the indicators and parameters to be used for measuring and reporting progress, involving stakeholders for a better understanding of societal expectations;
- develop sector-specific reporting guidelines based on the Global Reporting Initiative (GRI), as the tourism, finance, automotive, and information and communications technology sectors are doing or planning to do.

Governments to:
- require public companies to use the Global Reporting Initiative (GRI) to annually report on their sustainability performance;
- look for ways to integrate GRI indicators and reporting frameworks into their industry enforcement and compliance programmes;
- encourage greater transparency in public reporting (for example, by publishing annual Pollutant Release and Transfer Registers - PRTRs - for example, like the NAFTA Commission for Environmental Co-operations Taking Stock Report, or by listing the names of companies not reporting).

Civil society groups to:
- ask local or multinational corporations whether they follow the GRI framework and if not, why not.

The finance sector and, in particular, rating agencies to:

- score companies' financial, environmental and/or social performance and incorporate into their rating system whether the enterprises produce a GRI report.

UNEP is:

- supporting the establishment of the Global Reporting Initiative (GRI), an independent, multi-stakeholder initiative which is being adopted by numerous multinational corporations;
- encouraging more publicly available corporate and industry environmental and sustainability reporting;
- supporting the publication of regular benchmark surveys to follow-up the use of reporting.

Priority 4: Integration of social, environmental and economic issues

Goal: To move from the current approach of dealing separately with environmental, social and economic issues to a more integrated, holistic sustainability approach to global challenges.

UNEP encourages:

Business and industry to:
- recognise that it does not always have the right answers, or is always asking the right questions to sustainable development challenges, and to improve dialogue with its internal and external stakeholders;
- understand that industry-led stakeholder consultations, however well intentioned, cannot provide the neutrality and credibility needed in building mutual understanding, trust and responsibility;
- design internal processes and procedures to make sure that sustainability criteria are embedded at all levels of decision-making.

Governments to:
- take steps to progressively integrate environmental considerations into mainstream economic and social policy measures and decision-making (for example, finance and tax policies, social housing development, education, transport, trade and export promotion, etc.), so as to better orient industry decision-making towards sustainability.

UNEP is :

- Committed to continue the global, multi-stakeholder dialogue of this WSSD global sector reporting process. This provides a neutral platform in which industry and global stakeholders can address complex issues emerging from the reports - for example, expectations of corporate social responsibility (CSR) in different socio-political and cultural contexts.
- Work with governments, industry and stakeholders in moving from the current approach of dealing separately with environmental, social and economic aspects of sustainable development, to a more holistic, integrated approach to sustainability.

Priority 5: Global responsibilities and opportunities

Goal: To help build the global framework of rules, established practices and institutions needed to protect the global commons and to develop the new responsibilities that lead to new global opportunities.

'Let us choose to unite the power of markets with the authority of universal ideals. Let us choose to recognise the creative forces of private entrepreneurship with the needs of the disadvantaged and the requirements of future generations'

Kofi Annan,
United Nations Secretary-General

UNEP encourages:

Business and industry to:
- follow the examples of proactive companies and associations in shifting from reactive, obstructionist modes to more co-operative partnership approaches to meet global, national, regional and local environmental governance needs and sustainability goals;
- understand and identify the opportunity that proactive changes will bring.

Governments to:
- make ratification of international conventions or protocols to which the country has become a signatory a leadership priority;

- allocate the resources needed to help build the global framework of rules, established practices and institutions to meet the sustainability challenges that cannot be met unilaterally;
- help countries with less resources to participate in international meetings on global governance needs.

Civil society groups to:
- broaden public understanding of the need to take national and local measures to meet global environmental needs and sustainability goals;
- be engaged constructively in the dialogue with business and industry and with governments.

UNEP is committed to :

- continue working with governments, industry and stakeholders for more effective international environmental governance and implementation of multilateral environmental agreements;
- encouraging more business leadership and responsibility in meeting global goals through voluntary initiatives and partnerships such as the Global Compact.

Part 5: What people have said about the reporting process

Industry:

'This exercise has been a very valuable learning experience for everyone involved. While not without its challenges, it has provided a new focus on and a feasible framework for tackling the multi-faceted and complex issues of sustainable development.'
International Aluminium Institute

'Thank you for the opportunity to comment on the UNEP overview report. I found it extremely thought-provoking and quite easy to read, which is no mean feat when compiling a lot of data. I also found your treatment of the process quite open and fair, and I hope that the critiques you receive will have the same constructive tone.'
Kristen E Sukalac, International Fertilizer Industry Association

'I think this was a very valuable exercise which has provided GeSI with a useful initial benchmark analysis, albeit incomplete in both data and geographic coverage. As always there was never enough time - especially for such a young organisation as GeSI... I would particularly like to thank UNEP for facilitating the very helpful stakeholder consultation session in Paris ... We must find ways of continuing those relationships and the dialogue. On the summary report I would say it presents a very helpful, balanced and constructive overview. Congratulations on masterminding such a massive undertaking.'
Dr Chris Tuppen, GeSI

'UNEP has become a respected broker between various stakeholders. But the process is fragile and UNEP's own leadership must be built on trust.'
Dr Philippe Rochat, Air Transport Action Group

'The UNEP process provided a unique opportunity for sectors to review and report on their achievements towards sustainable development. The report now provides a sound basis for considering specific commitments to meet the challenges, which were identified through the process.'
International Council of Chemical Associations

Stakeholders:

'The initiative of bringing together the industry sector reports is an important step which has multiple benefits. It gives the opportunity to have a comprehensive view on progress and to compare different industrial sectors even though they may be very different with respect to organisation and products. The comparison shows, where substantial progress is made and where there are only relatively modest steps towards sustainability.'

Dr Thomas Schauer, Research Institute for Applied Knowledge Processing, Germany

'UNEP has taken an important project initiating industry partnership in sustainable development.'
Asian Development Bank

'HELIO has reviewed the (draft) UNEP Overview and Recommendations paper... It is an excellent paper. It is not easy to prepare such a paper that reviews the findings of a wide range of reports from different industrial sectors. The writers should be commended for this effort.'
Rod Janssen, HELIO International

'Greenpeace International welcomes UNEP's initiative in conducting this review. As a general proposition, Greenpeace agrees that the business community has crucial role and responsibility in helping move the planet towards sustainability, both in ecological and other senses. As the UNEP overview clearly reveals, however, ten years after the 1992 Earth Summit, business remains more of a problem than the solution. In most respects, the planet seems further away from sustainability than ever. Why 'business as usual' remains the dominant paradigm requires closer study. Many observers, including Greenpeace, believe that the overarching issue has been the failure by governments to provide more effective legislative framework to ensure 'profit, planet and people' remain in balance. ... Industry has a record of 'leading from behind'. The question for it in the 21st century will be to prove that it can learn from history. Greenpeace encourages UNEP to continue this process.'
Rémi Parmentier, Political Director, Greenpeace International

'Over the past few years, the UNEP and the Division for Sustainable Development had worked closely on the issue of promoting action by industry on sustainable development and taking the feedback we have received into the policy-making process. This close partnership has contributed to progress on implementation of Agenda 21 by industry. It is clear from the UNEP paper that considerable progress has been made in some areas ... we must not dwell too much on the pace of change and the failure to address the problems on the scale required. Rather, we should focus on the lessons and the challenges ahead.'
Ms Joanne DiSano, Director, Division for Sustainable Development, United Nations Department of Economic and Social Affairs

'I give my praise for the ability to digest so much material in such an even-handed way. It is a considerable achievement and so to make any kind of criticism would be churlish at best. However, I must record my doubts and concerns by focusing on one comment which seems to me to reflect a generic problem with letting industry speak about itself. ...Businesses under capitalism will continue to produce larger footprints - that is what they are good at - until such time as either the rules are significantly changed or a new form of (as yet unimagined) capitalism is created. For me, this is the starting point of addressing sustainability and I am afraid it is very much a minority view.'
Rob Gray, Centre for Social and Environmental Accounting Research, University of Glasgow, United Kingdom

'This is a voluntary initiative, whose credibility relies only on the co-operation of those companies that are willing to report on their environmental performance. Experience has shown that only those companies that are doing well in environmental performance have the capacity and interest to go public. The 'free-riders' are therefore left out of this initiative, and in most cases these industries are the ones that pollute most. How then does UNEP hope to rope these 'non-volunteers' into future reporting initiatives?'
Dr C Olver, Director General, Department of Environmental Affairs and Tourism, South Africa

UNEP contribution to the World Summit on Sustainable Development

The mission of the United Nations Environment Programme (UNEP) is to provide leadership and encourage partnerships in caring for the environment by inspiring, informing, and enabling nations and peoples to improve their quality of life without compromising that of future generations. **The UNEP Division of Technology, Industry and Economics (DTIE)** contributes to the UNEP mission by encouraging decision-makers in government, business, and industry develop and adopt policies, strategies and practices that are cleaner and safer, make efficient use of natural resources, ensure adequate management of chemicals, incorporate environmental costs, and reduce pollution and risks for humans and the environment.

This report is part of a series facilitated by UNEP DTIE as a contribution to the World Summit on Sustainable Development. It provides recommendations for sustainable business practices, building on a multi-stakeholder process facilitated by UNEP. This process resulted in 22 industry-driven reports on performance towards sustainable development at the sectoral level.

The full set of reports is available from UNEP DTIE's web site (http://www.uneptie.org/wssd/), which gives further details on the process and the organisations that made it possible. The following is a list of related outputs from this process, all of which are available from UNEP both in electronic version and hardcopy:

- industry sectoral reports, including

  - accounting
  - advertising
  - aluminium
  - automotive
  - aviation
  - chemicals
  - coal
  - construction

  - consulting engineering
  - electricity
  - fertilizer
  - finance and insurance
  - food and drink
  - information and communications technology
  - iron and steel

  - oil and gas
  - railways
  - refrigeration
  - road transport
  - tourism
  - waste management
  - water management

- a compilation of executive summaries of the industry sectoral reports above;
- this overview report by UNEP DTIE;
- a CD-ROM including all of the above documents.

UNEP DTIE is also contributing the following additional products:
- a joint WBCSD/WRI/UNEP publication entitled *Tomorrow's Markets: Global Trends and Their Implications for Business*, presenting the imperative for sustainable business practices;
- a joint WB/UNEP report on innovative finance for sustainability, which highlights new and effective financial mechanisms to address pressing environmental, social and developmental issues;
- two extraordinary issues of UNEP DTIE's quarterly *Industry and Environment* review, addressing key regional industry issues and the broader sustainable development agenda.

More generally, UNEP will be contributing to the World Summit on Sustainable Development with various other products, including:
- the Global Environmental Outlook 3 (GEO 3), UNEP's third state of the environment assessment report;
- a special issue of UNEP's *Our Planet* magazine for World Environment Day, with a focus on the International Year of Mountains;
- the UNEP photobook *Focus on Your World*, with the best images from the Third International Photographic Competition on the Environment.