



TECHNICAL REPORT N°24

Company Environmental Reporting

A Measure of the Progress
of Business & Industry Towards
Sustainable Development

"Business and industry should be encouraged to report annually on their environmental records, as well as on their use of energy and natural resources". CHAPTER 30, AGENDA 21

COMPANY ENVIRONMENTAL REPORTING:

**A Measure of the Progress of Business & Industry
Towards Sustainable Development**

SustainAbility .||||

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This is the 24th publication in the Technical Report Series published by the UNEP Industry and Environment office (UNEP IE). The Technical Report Series aims to meet the needs of a wide range of government officials, industry managers and environmental protection associations by providing information on the issues and methods of environmental management relevant to various industrial sectors.

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First edition 1994

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UNITED NATIONS PUBLICATION	
Sales N°	94-III-D3
ISBN	92-807-1413-9

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FOREWORD

Corporate environment reports are quickly becoming a key channel for companies to communicate their environmental performance. Just as important, corporate environment reports are also becoming an effective tool to demonstrate company-wide integrated environmental management systems, corporate responsibility, and the implementation of industry voluntary codes of conduct.

There are many reasons why increasing numbers of companies are issuing corporate environment reports. Faced by an ever-growing and ever-widening environmental challenge, industry has usually pushed initiatives designed to promote greater corporate responsibility and self-regulation. There is, however, a growing public demand for access to adequate information on the environmental performance of companies. Increasingly, banks, investment groups, and employees are asking for companies' environmental performance data.

The action plan for sustainable development *Agenda 21* – adopted by the world community in Rio in June 1992 – has been a key factor in driving industry and business to “*recognize environmental management as among the highest corporate priorities and as a key determinant to sustainable development*”. Chapter 30 encourages business and industry to communicate their environmental performance and to report “*annually on their environmental records, as well as on their use of energy and natural resources*” and “*on the implementation of codes of conduct promoting best environmental practice*”.

With this Technical Report, prepared in consultation with a number of industry associations and NGOs, UNEP IE continues to promote the use of environmental management tools in industries worldwide. It is clear that the survey of 100 environmental reporting pioneers presented in this Report is not exhaustive. Nor is the survey aimed at giving good or bad marks. All those who have embarked on environmental reporting must be congratulated. The survey is intended to show that reporting is a step-by-step process which companies have to initiate and improve over time.

The Report also demonstrates how companies can use environmental reporting as one tool for building dialogue and cooperation with their various partners: employees, shareholders, bankers, customers, neighbours, environmental groups, and government officials. It demonstrates that environmental reporting is a tool for companies in all countries in all regions of the world.

Certainly, there is no environmental reporting ‘ready-made recipe’ or ‘blueprint’. Each company, depending on its sector and size, has to develop its own reporting framework. However, this report highlights a number of ‘ingredients’ for reporting that decision-makers in industry might wish to consider when initiating or pursuing environmental reporting and publishing an environmental report as part of this process.

This document is a first step. Our hope is that it will stimulate individual companies to begin reporting, and industry associations to help their members in this endeavour. UNEP also intends, with SustainAbility Ltd and other stakeholders, to continue to follow up the progress in environmental reporting and develop networking and information sharing in this area.

If this Report has provided both information and inspiration for action, then it has fulfilled its goal. Let us know what you think and what you are doing.

ACKNOWLEDGEMENTS

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UNEP IE gratefully acknowledges the contributions of the following people who took part in a Roundtable meeting held in December 1993 which reviewed a draft of this Report.

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Mr Francis Altdorfer
Econotec Consultants (Belgium)

Mr Ken Beecham
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Ms Hilary Thompson
Head, Environmental Management Unit, National Westminster Bank (UK)

Mr Harvey Yakowitz
Environment Directorate, OECD (France)

Many of the organizations discussed in the report were contacted during the course of the project - and we are grateful to them for their contributions. A number of additional people took part in the project at various stages and we are particularly grateful to: Wayne Carlson of Bristol-Myers Squibb; Professor Rob Gray at the University of Dundee; Ed Mayo of the New Economic Foundation (NEF); and Masuo Ueda and Kazue Harako of the Valdez Society.

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EXECUTIVE SUMMARY

We see evidence of an emerging 'new order' in the world of corporate environmental disclosure. Corporate environmental performance is in the process of becoming both a competitive and a strategic issue for business. As a result, the public reporting of corporate environmental performance is now emerging as one of the most pressing environmental challenges for business. It is closely tied to basic environmental issues, such as regulatory compliance and pollution control, as well as to emerging concerns such as liability and product stewardship. External reporting is also closely associated with the expanding range of environmental management tools such as auditing, life-cycle assessment (LCA) and full-cost accounting.

The objective of the report is to help companies – wherever they may be based and operate – to decide whether, to whom and how they should report on their current environmental performance and on what their future targets should be.

Survey of 100 Pioneers in Environmental Reporting

The report focuses on the first wave of reports from 100 companies operating - for the most part - in Europe, North America and Japan. The results of the survey can be found in Appendix 1, which - for each reporting company - identifies the country of origin, the sector, the year of the latest report considered, the industry reporting agreements the company has signed, the extent to which reporting occurs in the company's annual report or in a free-standing environmental report, and key areas covered.

Company Environmental Reporting looks at the interplay between three core themes of corporate environmental management: responsibility, accountability and sustainability (see Chapter 2). Five levels of corporate environmental disclosure are identified (see Figure 2, page 19) - and these have been used here to assess the annual and free-standing environmental reports. This embryonic grading system is used to assess the reports of the 100 pioneering corporate reporters in Appendix 1.

- Many of these report makers (39%) are still at Stages 1 or 2.
- A quarter (25%) of the companies surveyed are at Stage 3, with a further 11% making the transition to Stage 4.
- Only 5% have reached Stage 4
- Stage 5, which will be based on the extensive use of quantitative methods (such as life-cycle assessments and mass balances) and on strong links with industry-wide and national sustainable development reporting against pre-agreed targets, remains largely unexplored territory.

Environmental Reporting Worldwide

The status of reporting in different world regions is covered in Chapter 3 and in Appendix 2. The key international reporting agreements and frameworks are discussed in Chapter 4 and in Appendices 3, 4 and 5.

Reporting 'recipes' and 'ingredients'

Chapter 5 then identifies some 50 key areas of corporate environmental performance which are covered, at least to some extent, by some of the current corporate environmental performance reports. Readers might like to think of these 50 reporting areas as a list of ingredients, with the different corporate environ-

mental reporting frameworks offering recipes on how to pull together different mixtures of these ingredients in such a way as to satisfy the growing appetite for environmental performance data - and to meet the tastes of different stakeholder groups. Appendix 5 shows how these 50 'ingredients' relate to the main reporting frameworks or 'recipes', while Appendix 6 provides examples of how some companies have reported their performance against some of these yardsticks.

Recommendations are made in Chapter 6 on a 'core reporting set' of indicators which could be used by small and medium sized companies. Chapter 7 focuses on some key reporting requirements for a range of industry sectors. Chapter 8 briefly reviews some of the practical issues which corporate reporters need to address in developing their broader stakeholder communication activities. Chapter 9 then looks ahead to the next challenge: sustainable development reporting. Selected references are listed in Appendix 7 and some useful contacts in Appendix 8.

**A primary channel
for environmental
communications**

Corporate environmental reporting is rapidly becoming a primary channel for companies to communicate their thinking, objectives, practices and achievements in relation to traditional as well as new and emerging environmental management issues. These include such basic themes as regulatory compliance and pollution control, along with more recent concerns such as product stewardship and environmental liabilities.

External reporting is also integrally linked with the expanding range of environmental management tools such as auditing, life-cycle assessment (LCA) and full-cost accounting. As a result, it appears highly likely that such reporting will play a key role in driving the transition of companies, industries and, indeed economies towards the ultimate goal of sustainable development.

Two points are worth making here, however. First, corporate environmental performance reports represent just one dimension of the broader challenge of corporate environmental communications (see 1.2, below). And, second, corporate environmental reporting is only one aspect of the much wider challenge of sustainable development reporting. If nations and world regions are genuinely to move towards environmental sustainability, corporate reporting must become part of industry sector reporting against declared targets - which in turn must become part of national or regional reporting against national and regional environmental goals.

1.1 Environmental Reporting: The Challenge

There now exists a limited, but rapidly growing, body of environmental reporting experience. In recent years, over 100 pioneering companies in North America, Japan and Western Europe have published environmental reports on a voluntary basis. This is in addition to an increasing amount of environmental information included in some annual financial reports. These reports vary considerably in terms of scope and quality, however, making evaluation of progress and intercompany comparisons problematic.

Alongside these individual company efforts, some industry associations have begun to consider whether they should issue reporting guidelines for member companies - and, the logical next step, how best to communicate environmental performance at the industry sector level. A range of other groups, most notably the accountancy profession, standards organizations and the ethical investment community, are contributing to this fast-moving debate.

In the pages that follow, we reproduce a range of comments from early corporate environment reports. The year stated generally applies to the year covered, but - because of the absence of internationally accepted reporting conventions - in some cases applies to the year the report was published.

**Inter-company
comparisons still
difficult**

Governments, too, are developing policy frameworks to encourage greater levels of environmental disclosure, while environmental campaigning organizations are continuing to demand greater access to corporate environmental information. The *Agenda 21* action programme adopted at the June 1992 "Earth Summit" included specific recommendations for companies to report on their environmental performance and on the implementation of industry codes of conduct. It called on industry to adopt the principle of community 'right-to-know', with a specific focus on the preparation and publication of chemical release inventories.

An Agenda 21 requirement

These proposals now need to be implemented. Given the very different circumstances facing companies in different sectors and regions of the world, firms should be encouraged to experiment with different styles and approaches at this early stage in the evolution of corporate environmental reporting. Nevertheless, a continuing absence of agreement about what companies should report - and about how (and to whom) they should report - could increasingly become a major barrier to the wider adoption of corporate environmental reporting. The lack of shared reporting criteria and frameworks will also make it difficult to evaluate corporate progress in meeting environmental targets and commitments.

A primary goal will be to bring the vast majority of business into the reporting community.

"Unlike the laws regulating a company's annual economic and financial report, there is, as yet, no legislation standardizing the preparation of an environmental report.

"Nor is there yet a definitive definition of the concept of 'environmental reporting', so the expression can be interpreted in as many different ways as there are environmental goals to be achieved."

Fiat, S.p.A., 1992
Environmental Report on Manufacturing Processes.

It is clear that business, government agencies and environmental groups need to work together at the national and international levels to harness the lessons learned by reporting pioneers and to mobilize the resources of leading industry associations to develop, distill and disseminate best practice.

1.2 Questions of Definition

The production of free-standing corporate environmental performance reports is a relatively new phenomenon. But for many years, companies have developed a number of internal and external communications tools to meet changing requirements for environmental performance information. Consider the case of Canada's Ontario Hydro. In addition to the publication of an annual corporate environment report, Carole Burnham, Director of the energy utility's environment division, lists six ways in which her company 'reports' on the environment:

Reports versus reporting

- Compliance reporting to Federal and Provincial authorities.
- Due diligence reporting to senior management and the Environmental Committee of the Board on a quarterly basis, and immediate reporting of significant spills, fines and charges.
- *Environmental Update*, produced three times a year to keep senior management up to date on emerging environmental issues and regulation.
- Project-specific consultation with local communities and stakeholders associated with environmental impact assessments for new generating stations and transmission lines.

- Ongoing consultation with community liaison committees around nuclear stations.
- Inclusion of a section on environmental performance in the annual report.

One tool in a tool-kit

Clearly, there is a fairly wide spectrum of different techniques and channels that companies can use to reach the full range of stakeholder groups, whether they be employees, investors, local communities or environmental non-governmental organizations (NGOs). As Andrew Mastrandonas put it, speaking as Executive Director at the Global Environmental Management Initiative (GEMI), "companies report their practices and performance in many forms, including the development of case studies on environmental management, 'town meetings' with communities, discussion sessions with regulators and so on. Reporting is just one method of communicating with stakeholders."

The focus of the present study, however, is on the publication of verifiable information on corporate environmental performance, contained either in annual reports or in stand-alone reports. Currently, no hard and fast definition of the practice or scope of corporate environment reporting is possible. Indeed, some companies are even reluctant to use the word 'report' to describe their communications activities, preferring the more neutral 'review' instead. The line drawn between environmental performance reporting and corporate communications is at best arbitrary - and is likely to remain blurred. For example, the US Allied-Signal corporation regards its efforts to develop a case study with the Harvard Business School, which described its activities to manage hazardous waste liabilities, as a form of 'reporting'.

A critical feedback mechanism

So it is clear that the corporate environment report can represent the tip of a very large corporate communications 'iceberg', both within and outside the firm. At the Swiss Ciba corporation, to take another example, the corporate environment report is seen as just one output of the company-wide Safety, Energy and Environmental Protection (SEEP) reporting system. It is therefore important not to separate reporting from environmental management as a whole. Indeed, current best practice suggests that reporting can act as a critical feedback mechanism - vital to the success of any management initiative, environmental or otherwise. By no means finally, the relationships between environment reporting and other management practices, such as environmental auditing and environmental accounting, have also yet to be defined.

That said, this study is intended as a contribution to the wider debate on the future of environmental management. While there is greater agreement concerning best practice in other areas of environmental management, the relative novelty of environmental reporting justifies a special focus as a way of stimulating international dialogue and consensus-building.

Company Environmental Reporting has five main aims:

Five main aims

- to provide a state-of-the-art review of international environmental reporting practice and trends;
- to identify both comprehensive and core reporting elements, common to most industry sectors;
- to identify specific sectoral reporting elements;
- to suggest ways for companies to make the links in their environmental reports between their progress to date and the commitments they have assumed by adopting voluntary codes of conduct; and
- to highlight key reporting issues which business, governments and society at large will have to tackle in the remaining years of the 1990s.

1.3 Report Structure

The rest of the report is organized in eight chapters:

Why report?

- Chapter 2 asks the question: Why report? It then outlines the context for corporate reporting by discussing the three waves of environmental improvement, driving companies from responsibility through accountability to sustainability.
- Chapter 3 asks the question: Who wants what reported? It reviews the current state of environmental reporting (see also Appendix 1, which profiles a sample of 100 pioneering report-makers, and Appendix 2, which provides a regional review of reporting trends).
- Chapter 4 discusses some of the 'recipes' currently being proposed for environmental reports. Appendix 3 reviews a number of the leading reporting frameworks.
- Chapter 5 runs through 50 key reporting 'ingredients' which intending reporters may want to consider using when devising their own reporting recipes.

Who wants what reported?

50-point checklist

In support of this discussion, Appendix 4 focuses on the PERI (Public Environmental Reporting Initiative) and CEFIC (European Chemical Industry Council) reporting guidelines, Appendix 5 analyses the extent to which the 50 ingredients are covered by some existing reporting frameworks, and Appendix 6 provides some examples of how companies are already reporting in some of these areas.

- Chapter 6 outlines a 'core set' of 20 reporting ingredients which should be included in all corporate environmental performance reports - and are recommended as a template for small- and medium-sized enterprises considering producing their first report.
- Chapter 7 briefly outlines some reporting requirements for a number of key industrial sectors, including the financial sector.
- Chapter 8 reviews some of the issues that will need to be faced in attempting to introduce a core set of reporting elements.

20 core reporting requirements

Follow-up

- Chapter 9 concludes with suggestions on some of the next steps needed to take the debate forward - particularly in respect of involving non-reporting large, medium and small companies, and extending the corporate disclosure debate to other world regions. Appendix 7 gives some ideas for further reading, while Appendix 8 provides a shortlist of contacts for further information and advice.

"The three biggest environmental issues for Noranda Forest and for the Canadian forest products industry remain forest management practices, the use of chlorine and chlorine compounds in bleaching processes and the use of recycled fibre. Our progress in each of these areas goes beyond meeting regulatory requirements. Evolving demands of the consumer increasingly favour products derived from sustainable managed forests and products which contain at least some recycled fibre."

1992 Noranda Forest Inc. Environmental Report

Why should companies report on their environmental performance? Why should the pioneers continue reporting when it is clear that disclosure sometimes invites attack — and most companies still have no plans to report? Is this really the best use of scarce corporate resources? Are the reports actually wanted - or being used - by the stakeholder groups they have been aimed at? And, by no means finally, what relevance does the reporting process have to the broader goals of sustainable development?

Are the reports wanted?

Questions like these are being asked by reporting and non-reporting companies alike. But the difference is that some of the reporting companies feel that the process of reporting is helping them to develop a clearer sense of where the future will take them. The benchmarking of corporate environmental performance, they suspect, will emerge as a high priority issue. So they are using what they see as a period of grace, when reporting is still primarily a voluntary activity, to experiment with methods and styles of reporting which will put them in a stronger position for the time when disclosure and reporting become mandatory requirements.

Some corporate leaders also foresee the corporate 'responsibility' agenda of the 1970s and 1980s evolving into a more demanding 'accountability' agenda in the early 1990s - and are aware that evolutionary process is likely to continue - moving towards a 'sustainability' agenda as we approach the 21st century.

2.1 Responsibility: Codes, Charters and Agreements

Faced by an ever-growing and ever-widening environmental challenge, industry has usually pushed initiatives designed to promote greater corporate responsibility rather than new regulations or tougher enforcement. So, for example, industry associations have been leading promoters of voluntary environmental agreements, codes of conduct and charters. The crop protection chemical industry was an early enthusiast during the 1960s, but the idea has since spread rapidly as high profile industry sectors have pushed towards a 'beyond compliance' approach to environmental affairs.

Moving beyond compliance

When the agenda was largely driven by NGOs, the media and regulators, industry associations played a largely defensive role (see Figure 1). Like convoys, their speed was usually dictated by the speed of their slowest members. Increasingly, however, some industry associations - like the chemical industry associations with their "Responsible Care" programme - have begun to play a more proactive role.

Business-to-business pressures

An example of a voluntary initiative designed to promote corporate environmental responsibility in all industry sectors was the 1991 Business Charter for Sustainable Development, launched by the International Chamber of Commerce (ICC). The Charter is important in that it encourages companies to act responsibly but also, unlike the Responsible Care initiative, calls on them to report on their progress in improving their environmental performance (in Recommendation 16). This reflects the growing attention now paid to corporate accountability.

The willingness of normally conservative industry associations to put a certain amount of pressure on their own members has been spurred by the emergence of competition in the shape of an array of 'green business networks' and related initiatives, among them Germany's BAUM, the Geneva-based Business Council for Sustainable Development (BCSD), North America's Global Environmental Management Initiative (GEMI) and, in Britain, a profusion of such organizations, among them Business in the Environment (BiE), the Advisory Committee for Business in the Environment (ACBE) and the Prince of Wales' Business Leaders Forum (PWBLF).

Sustainable development consortia

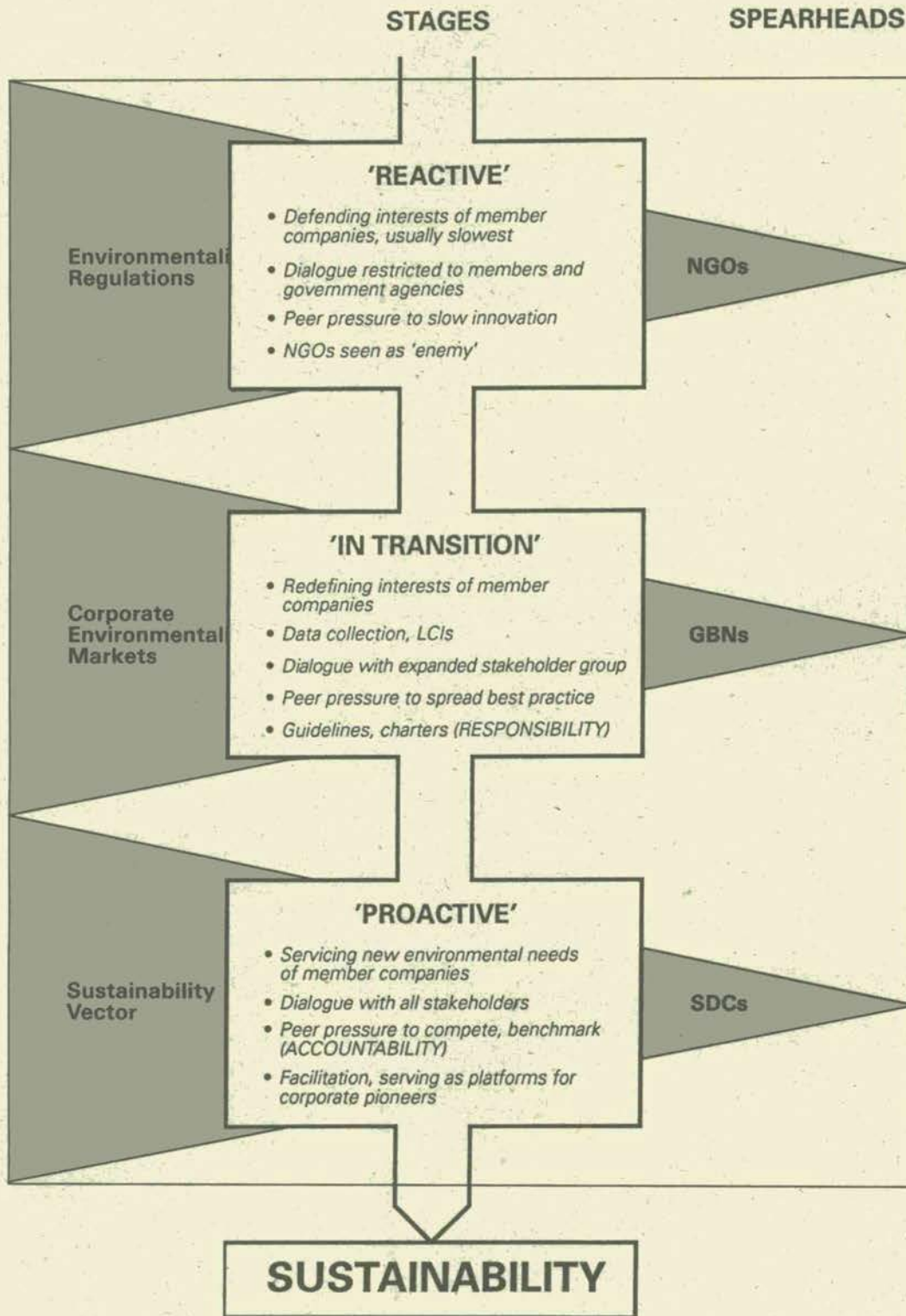
As Figure 1 suggests, in the longer term we are likely to see the evolution of a wide range of 'sustainable development consortia', bringing companies and other organizations together to achieve tasks that would be beyond the resources of their individual members. This is another area where industry associations will almost certainly find that there is a growing demand for new types of service in the coming years. In the meantime, however, the associations and reporting framework organizations will need to do a great deal more to ensure that expressions of corporate or business responsibility are based on real targets and real accountability.

2.2 Accountability: Corporate Environmental Reporting

An unnecessarily intrusive trend?

The late 1980s and early 1990s saw the concept of environmental auditing spreading from North America to Europe - and from a few pioneering corporations to the agendas of a growing number of regulatory agencies. However, even some of the companies that have embraced the environmental audit have worried that the logical (if undesirable) next step would be for industry to be pressured to release the data assembled for internal use by in-house audit teams. As the notion of corporate environmental accountability has taken root, many companies and industry associations have therefore resisted what they see as an unnecessarily intrusive trend.

Figure 1: The changing role of industry associations



NGOs = Non-governmental organisations

GBNs = 'Green business networks' (e.g. ACBE, BAUM, BiE, BCSD, WICE)

SDCs = Sustainable development consortia

That said, expressions of responsibility can be largely meaningless unless performance against agreed indicators is assessed and publicly reported. Now new legal elements like America's Toxic Release Inventory (TRI), which dates from 1986, and the voluntary reporting initiatives launched by companies (e.g. Monsanto and Norsk Hydro), industry groupings (e.g. GEMI, PERI and WICE) or international government bodies (e.g. the European Commission), are helping to break the disclosure log-jam.

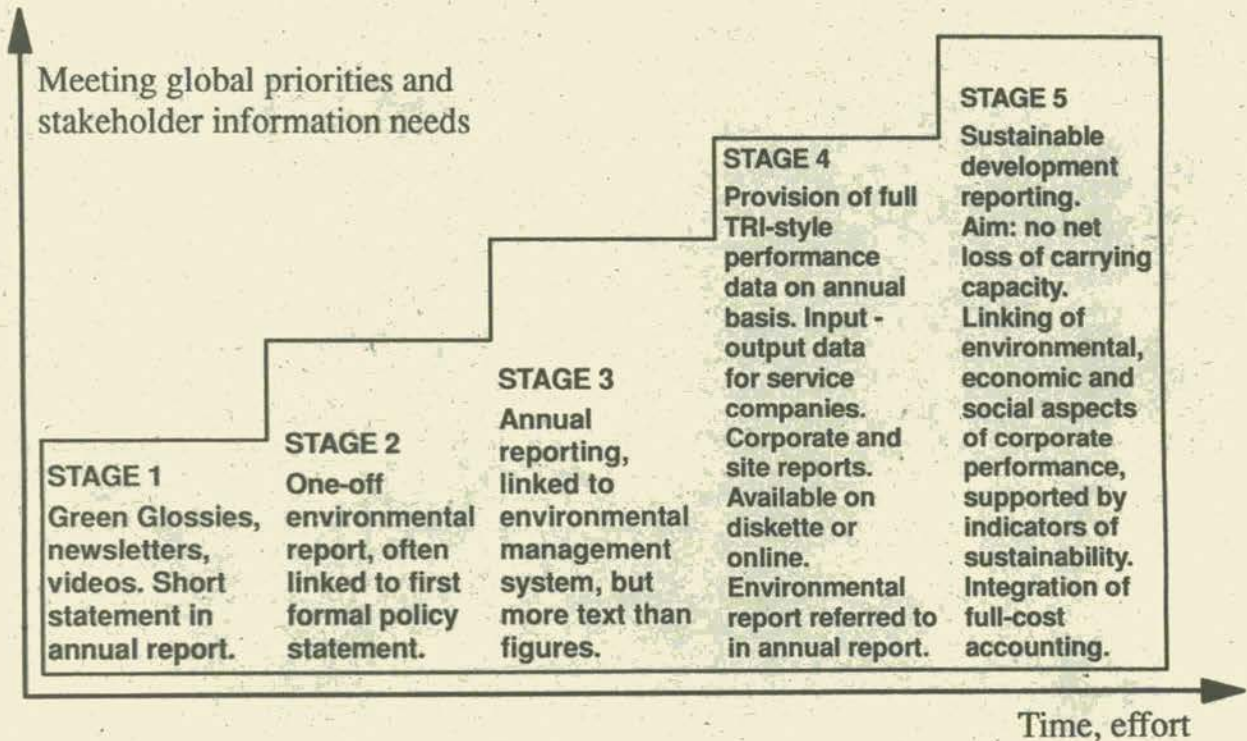
A proliferation of guidelines

As a result, there has been an international proliferation of frameworks and guidelines for reporting. Companies that sign up with these charters and frameworks often agree at the same time to report their performance. These reporting frameworks were first surveyed in *Coming Clean* (DTTI, IISD & SustainAbility, 1993).

Five stages of disclosure

Five levels of corporate environmental disclosure were identified - and these have been used here to assess an even larger group of annual and free-standing environmental reports (see Figure 2). Some changes have also been made to the definition of Stage 5, or sustainable development reporting. This embryonic - but evolving - grading system is used to assess the reports of the 100 pioneering corporate reporters in Appendix 1.

Figure 2: Stages in corporate environmental reporting



"Shell Canada is committed to the integration of economic and environmental decision-making to promote Sustainable Development. We will:

- *apply Sustainable Development principles to all Shell activities.*

- *implement Sustainable Development self-monitoring mechanisms.*

- *evaluate public opinion on Sustainable Development.*

- *participate in consultative processes on Sustainable Development."*

1991 Shell Canada Limited Progress Towards Sustainable Development.

Many of these report makers (39%) are still at Stages 1 or 2. A quarter (25%) of the companies surveyed are at Stage 3, with a further 11% making the transition to Stage 4. Only 5% have reached Stage 4, while Stage 5 is totally unoccupied territory. Stage 5, which will be based on the extensive use of quantitative methods (such as life-cycle assessments and mass balances) and on strong links with industry-wide and national sustainable development reporting against pre-agreed targets, remains largely unexplored territory.

The business case for reporting at each successive level clearly has to be established for each company and each industry sector. The total number of companies which are producing environmental reports and discussing sustainable development remains very small, but Stage 5 looks set to become the next goal of the international business community.

Defining the business case

2.3 Sustainability: Benchmarking for Sustainable Development

Among this small but growing group of reporting companies, and among key stakeholder communities, the case for reporting is established. The US experience, for example, suggests that companies that are forced - or encouraged - to publish sensitive performance data soon begin to launch emission reduction programmes. This trend is accelerated by the activities of NGOs and ethical investment groups, which increasingly use the published data to benchmark the environmental performance of companies operating in key sectors.

An accelerating trend

International agreements increasingly require - and depend for their ultimate success on - increased reporting both by industry and by governments. The *Agenda 21* action programme, adopted at the June 1992 UN Conference on Environment and Development (UNCED), will very likely set the context for international efforts on corporate environmental reporting during the 1990s. Chapter 30, on 'Strengthening the Role of Business and Industry', concludes that companies should be encouraged to:

- *report annually on their environmental records, as well as on their use of energy and natural resources;*
- *adopt and report on the implementation of codes of conduct promoting best environmental practice, such as the Business Charter for Sustainable Development of the International Chamber of Commerce (ICC) and the chemical industry's Responsible Care initiative.*

Agenda 21 mandated the new UN Commission on Sustainable Development (CSD) "to receive and analyze relevant input from competent non-governmental organizations, including the scientific and private sectors, in the context of the overall implementation of *Agenda 21*". The CSD Secretariat is working with major international industry associations and multinational corporations to evaluate the business follow-up to UNCED as part of its programme of reviewing the implementation of *Agenda 21*.

Who will be shut down?

But would-be Stage 5 reporters should think carefully before embarking on this path. There are already grounds for suspecting that the transition towards sustainability will need to involve a great deal more than the more efficient running of existing industrial operations. Longer term, some products, processes and even entire industries may prove to be unsustainable - even when run efficiently. Forward-looking nations will recognize the need to develop transition strategies to move their economies into more sustainable industries and technologies. As US businessman Paul Hawken put it recently in his book *The Ecology of Commerce*, the world needs to move towards a "restorative economy" - which actively addresses past environmental problems and where companies are rewarded for increasing indicators of environmental health, such as biodiversity.

The data collected and reported by the companies discussed in this report, and in *Coming Clean*, will help to establish which products, processes and industries will become building blocks for a more sustainable economy - and which will need to be phased out in the interest of environmental sustainability.

3.0 WHO WANTS WHAT REPORTED?

Companies face a range of different audiences with different needs for environmental performance information. Consequently, corporate report-makers have learned to use an array of different tools and channels to communicate environmental information to internal and external stakeholders. These communications vehicles range from public relations brochures through summary information contained in annual financial reports to the latest addition, the stand-alone environment report. To date, most corporate information has placed the emphasis on communicating 'good news' stories.

Mostly 'good news'

"We have responsibilities to our investors and employees; our retail, professional, and institutional customers; the consumers who use our products; and the communities in which we operate. On the issue of the environment, our direction is clear: the only way for us as a company to meet our financial, legal, and ethical responsibilities is to be a steward of the environment."

1993 Bristol-Myers Squibb Report on Environmental Progress.

3.1 Identifying the Audiences

Companies need to be very clear about their reasons for reporting and about how they will meet the needs of different audiences. As Canadian consultant Pat Delbridge notes, one of the key questions should be: Who are your environmental stakeholders - and what do they really want?

Employees are top target

The main target audience for most of today's report makers was their own *employees*. *Local communities* are another prominent group, as are a company's *shareholders* (especially in North America). *Trade and industry customers* are also increasingly demanding environmental information, as are final *consumers* to a lesser extent. Since reporting is part of a company's communications activities, reports clearly need to reach the *media*. Companies are also using their environmental reporting efforts to enter into - and extend their - dialogue with *regulators*. Finally, *environmental campaigners* have been seen as a second order, but nonetheless critical audience.

Most environmental groups have yet to define their response to the explosion in voluntary environmental disclosure. Nevertheless, for Beatrice Olivastri, consultant with the International Institute for Sustainable Development in Canada, the publication of a corporate environment report is "evidence of an ongoing dialogue" with its stakeholders: it is thus a tool and not an end in itself.

Wayne R. Carlson, Issues Manager at Bristol-Myers Squibb, describes well the care that companies need to take in targeting their reporting efforts: "Our primary goal in publishing a report was to develop a single report capable of providing the broadest spectrum of stakeholders with an objective basis for evaluating the environmental challenges we face and our efforts to manage them. To meet this challenge, we decided to segment our report on the basis of how our stakeholder "think" about the issue of environmental management. We identified three distinct stakeholder groups: those who think verbally; those who think in terms of management systems; and those who think in terms of quantitative measures. Our report is segmented accordingly."

3.2 The Main Types of Reporting

In addition to identifying the different target audiences, effective environmental reporting is based on an open recognition of the different types of reporting. Three main types of reporting are highlighted below:

- reporting on a mandatory or voluntary basis;
- reporting at the level of the individual firm or the industry sector; and
- reporting at the site or corporate level.

In each of these reporting categories, there are positive synergies to be found between the different levels. It is therefore not a question of having *either* mandatory *or* voluntary reporting, but finding the right *balance* between government-mandated disclosure and corporate-driven environmental communications. Similarly, to get a complete picture of industry progress towards sustainable development, both individual companies and key industry sectors need to publicly report their performance. And finally, companies need to be able to publish information on a site-by-site basis and then to aggregate this information to provide a picture of overall corporate performance.

The rest of this chapter deals in turn with different types of environmental reporting. Brief descriptions of the reports from 100 companies are contained in Appendix 1, while Appendix 2 presents a regional overview of international reporting practice.

3.3 Mandatory and Voluntary Environmental Reporting

Mandatory reporting of environmental information is currently limited to a few countries. In the USA, companies are required to include information on material environmental liabilities in their 10-K and 10-Q filings for the Securities Exchange Commission (SEC) and to submit data on their emissions of several hundred materials for the Toxic Release Inventory (TRI).

"We publish data on our HSE (Health, Safety, Environment) performance voluntarily. Naturally, we are concerned that the facts that we publish could be misinterpreted, subjected to inappropriate comparisons or even misused by our critics, but we accept that to some extent this is inevitable. Our aim is to promote constructive dialogue."

1992 BP Group New Horizons Report.

Getting the right balance

10-K and 10-Q filings

Companies in Sweden have also had to report their environmental performance in relation to government regulations since 1989, while in The Netherlands, there are moves to make the publication of an annual environmental report a legal requirement. In a related development, in 1992 India became the first country in the world to require environmental audits by law, insisting that the results be reported to state Pollution Control Boards.

India takes early lead

Clearly, mandatory reporting obligations play a crucial role in promoting cleaner production and ensuring corporate accountability. Looking ahead, governments are now examining how to implement the recommendations contained in *Agenda 21*, particularly within Chapter 19 (Environmentally Sound Management of Toxic Chemicals), which calls for an extension of US experience with "community right to know" and toxic release inventory legislation. The International Programme on Chemical Safety (IPCS) and the Organization for Economic Cooperation and Development (OECD) are preparing a guidance document for governments which are considering establishing a national pollutant release and transfer register.

Corporations affected by mandatory reporting requirements have found that these can serve as a useful foundation for their wider communications efforts, and in particular can help to give some credibility to the performance data contained in company reports. However, it is also clear that mandatory reporting is not always the best way for companies to reach target audiences. Thus, a number of companies in the USA have built on their legal requirements to report through the TRI programme, and published separate corporate environmental reports. Swedish companies have also found that the reporting they make to the authorities is not reaching the public, and so are considering the development of additional, voluntary reporting tools.

Swedish reports miss public

Since the late 1980s, voluntary reporting has moved from the margins to the centre of the corporate environmental strategies of a number of leading corporations. Within this broad trend, however, there are considerable differences between sectors and between regions. Environment-intensive sectors such as energy and chemicals are in the forefront: all of the global Top 10 chemical manufacturers have now produced at least one environment report. By contrast, little progress can be observed in other areas of manufacturing, such as the textiles or tanning industries. More positively, a few companies in service sectors – such as finance, retailing and tourism – are also beginning to publish their first reports.

Next, banks and tourism

Voluntary reporting is largely confined to North America and Western Europe. Within these regions, the most advanced countries include Canada, Germany, the UK and the USA. In Japan, only a few companies have yet produced free-standing environmental reports, but many more are incorporating general environmental information in their annual report (Valdez Society, 1992). In the developing regions of Africa, Asia and Latin America, the inclusion of environmental factors in annual reports is growing thanks to the stimulus of the UNCED Conference, but remains limited.

Private companies remain reluctant

The geographical coverage of reports from these multinationals has for the most part been limited to their home country, although companies such as **BP, Ciba, ICI** and **Rhône-Poulenc** have provided global inventories of their emissions. Privately-owned companies have shown a marked reluctance to release environmental reports, however, because of their generally more closed corporate cultures.

A number of companies have developed a considerable track record in the production of environmental reports. Ahead of the pack are **BASF** and **Dow Canada**, which have both published five annual environment reports. Behind these pace-setters are a growing number of companies that have released at least two reports, including **AT&T, Bayer, Body Shop, British Telecom, BSO/Origin, Danish Steel Works, Eastman Kodak, Kunert, Monsanto, Noranda, Ontario Hydro, Polaroid, Shell Canada** and **Waste Management**. In most cases, a clear progression can be identified: the scope of reports is invariably enhanced, and data quality refined.

34,900-plus non-reporting TNCs

By the end of 1993, well over 100 companies had issued stand-alone environmental reports and many more had included some environmental information in their annual reports. But this figure should be compared with the 35,000-plus companies that now operate on a transnational basis, and the millions of small- and medium-sized companies that represent the bedrock of all the world's economies.

3.4 Company and Sector Reporting

Codes and charters

One of the main drivers of voluntary environmental reporting has been the desire of companies to demonstrate how they are performing against the goals of their own internal environmental policy. However, an increasing number of such companies have also supported industry codes of conduct at the international, sectoral and national levels. To be credible, companies also need to show in their reports how they have integrated these codes into their day-to-day practice.

"Work continues toward integration of Responsible Care's management practices with existing (Health, Safety and Environment) procedures. The resulting written framework for worldwide operations... will be Union Carbide's most comprehensive to date. Under this framework, company programs that go beyond Responsible Care, such as our system of internal plant safety audits, will continue. Areas that do not measure up, such as product risk characterization, will be strengthened. This will help us implement all Responsible Care management practices at all sites by 1996."

1993 Union Carbide Responsible Care Progress Report.

The International Chamber of Commerce's *Business Charter for Sustainable Development*, is one of two codes of conduct referred to directly in *Agenda 21*. The Charter now has over 1,200 supporting companies and organizations, a third of which are from developing countries. Two of the Charter's 16 principles refer to promoting openness and reporting: Principle 16 in particular states that supporting companies should "periodically provide appropriate information to the Board of Directors, shareholders, employees, the authorities and the public".

At the sectoral level, the chemical industry's Responsible Care initiative has gone furthest in stimulating reporting, both by companies and national chemical industry associations. From the outset, the Responsible Care initiative has had the dual goal of improving real performance and demonstrating this to a sceptical public, applying the "don't trust us, track us" principle.

A number of national codes stand out for their impact on corporate reporting. In the UK, the Confederation of British Industry (CBI) launched in 1992 an "Environment Business Forum", based around an eight-point "Agenda for Voluntary Action" - to which over 200 companies have now subscribed. The agenda is the first industry code of conduct which stipulates that signatory companies should "report publicly on progress in achieving the objectives". By November 1993, 75 of the original supporters had published a report. Interestingly, although the CBI will maintain copies of each of these reports as they are published, this collection is not open to the public. In Japan, the Global Environmental Charter issued by the Japanese Keidanren industry association in April 1993, stands out for the breadth of the issues it addresses, including specific principles on technology transfer, the management of overseas operations and corporate involvement in global environment and development problems. However, it is less explicit on reporting and disclosure issues.

In the developing world, collective industry initiatives could help to stimulate greater levels of reporting. Prominent amongst these will be the diffusion of the Responsible Care programme, as well as national schemes such as the Confederation of Indian Industry's "Environmental Guidelines for Industry" (Principle 8, on Communication: "Silence is not always golden") and the Industrial Environmental Forum of Southern Africa's Code of Conduct (Principle 9: "We are committed to share information on the principles of environmental management").

Responsible Care

Japanese less explicit

The inclusion of information showing how companies are meeting the commitments of their codes of conduct is one of the 50 key ingredients for effective reporting identified in Chapter 5. Indeed, these codes have played a significant role in accelerating wider reporting. Public perceptions of industrial performance is tied to both the activities of individual companies and to sectors as a whole. One poor performer can spoil an entire sector's reputation. Industry associations therefore have a critical role to play in aggregating corporate information and in presenting it to the public.

**The coming trend:
sectoral reports**

A number of chemical industry associations have already issued aggregate performance reports. The German Chemical Industry Association (VCI) has published sector-wide reports on environmental expenditures and emission levels for a number of years: In fact, the VCI's recommendations to member companies on environmental costs were first published in 1973. As part of the Responsible Care programme in the USA, member companies are required to report on a confidential basis to the Chemical Manufacturer's Association (CMA) their progress in implementing the six codes of management practice. In 1992, the CMA published a report summarizing overall sector performance. In the UK, the Chemical Industry Association (CIA) published a first assessment of performance in June 1993; thereafter, annual progress reports will be released.

In 1993, as part of its long-term "Strategies for Today's Environmental Partnership" (STEP) initiative, the American Petroleum Institute (API) published the first of a series of annual reports on its sector's environmental performance. The report contains aggregated data on chemical releases, oil spills, workplace safety and environmental expenditures. In the coming years, the number of environmental indicators used to measure performance will be increased.

3.5 Corporate and Site Reporting

A crucial distinction needs to be made between site and corporate-wide reporting. Corporate environmental reporting is clearly easier for single-site companies with high environmental profiles, such as **Danish Steel Works**. Most large companies, however, operate from more than one site, and their corporate performance will need to be built up from information at site and business levels across the full-value chain. For such corporate-level aggregations to have some meaning, it is vital that common reporting standards and methodologies are used throughout the company.

To date, few companies have published details of both site and corporate performance. **Monsanto** (1992) includes data of environmental releases and transfers off-site for its major plants worldwide. **Dow Europe** (1993) and **Rohm and Haas-Europe** (1993) provide site-by-site data for all their European factories in their corporate-wide reports. A number of **Akzo**, **Ciba**, and **ICI** factories have also issued separate site reports. To assist cross-referencing, companies that publish separate site reports should give contact points for each site. To help cross-referencing, companies should list separate site reports in their corporate report.

At both the site and corporate levels, companies need to state both their environmental outputs in terms of emissions and effluents, and the impacts these are likely to have on the receiving environment. While a number of company reports contain details of the impacts on chemical oxygen demand (COD) of their water effluents, fewer contain indications of ambient air quality surrounding their plants: **BASF** (1992) gave details of air quality in the Mannheim/Ludwigshafen complex where its central production complex is located.

Once companies have evaluated who they are reporting for, and what sort of report they are going to produce, the next step is to decide what information should be contained and in what format. Some of the central issues relating to the 'recipes' and 'ingredients' for environmental reports are addressed in the next two chapters.

**What information,
which format?**

4.0 WHICH REPORTING RECIPE?

From CERES to WICE

Before focusing on some of the specific areas and indicators included in the current crop of corporate environment reports in Chapter 5, it is worth briefly reviewing some of the reporting 'recipes' that have been issued. Appendix 3 discusses those offered by such organizations as CEFIC, CERES (Coalition for Environmentally Responsible Economies), GEMI, PERI and WICE (World Industry Council for the Environment). Summaries of the CEFIC and PERI guidelines can be found in Appendix 4.

Looking across the range of current international practice in environmental reporting, a number of shared patterns begin to emerge. In September 1993, *The Economist* identified two distinct regional trends in corporate environmental reporting: the 'Anglo-Saxon' and the 'Rhine' models. The first of these might also be called the 'inventory' model and the second the 'life-cycle' model.

'Anglo-Saxon' vs 'Rhine' models

The *Anglo-Saxon* model, favoured by most North American and UK companies, has at its core a statement of environmental policy, description of management practices and an inventory of emissions. By contrast, the *Rhine* model - used by many Scandinavian and German companies - is based on an eco-balance of environmental inputs and outputs across the life-cycle of the reporting company's operations.

These two models usefully illustrate two lines of thinking in this area, but do they fully capture the approaches of such southern European companies as Elf-Atochem, Fiat, Rhône-Poulenc or Solvay? It is also our judgement that the accelerating penetration of the life-cycle ethos into corporate management, coupled with the extension of public emissions reporting requirements, will drive a convergence between these two styles of reporting.

4.1 The Coming Convergence

Stephen Archer, manager of environmental communications at Monsanto, sees a process of 'automatic standardization' in reporting practice as companies learn from their own experience and emulate best practice in the marketplace.

A number of reports from 'Anglo-Saxon' companies, notably P&G Europe and Thorn-EMI, already show a move towards a balance-sheet approach based on a review of life-cycle impacts. As reporting moves from heavy industries, such as chemicals, into the service sector, a life-cycle approach becomes even more appropriate than simple inventories of direct emissions and impacts.

"In 1993 we expanded our efforts by subscribing to the International Chamber of Commerce's Business Charter for Sustainable Development, which recognizes a community of goals between environmental protection and economic development. In endorsing this global charter, we have made a strong public commitment to environmental stewardship and improved safety performance throughout our operations worldwide."

1993 United Technologies Environment, Health and Safety Progress Report. (The company is also involved in the PERI initiative).

Financial blind-spot

The Table Appendix 5 compares the 50 reporting 'ingredients' with five current 'recipes', or international industry codes of conduct: the CERES Principles (to which both General Motors and Sun are committed), the ICC Business Charter for Sustainable Development, the Keidanren Global Environment Charter, the World Travel and Tourism Centre's Environment Charter, the World Travel and Tourism Centre's Environmental Guidelines and the International Iron and Steel Institute's Environmental Principles. The purpose of the table is to highlight the areas of overlap and the gaps between the 50 reporting elements and the five codes of conduct.

What is immediately striking is the lack of attention paid in the current generation of industry codes to the financial implications of environmental management. Some guidance on this area is offered in the next Chapter, under items 31-36.

Meanwhile, the different reporting frameworks continue to offer their various members a diversity of perspectives and support which is likely to be valuable for some years to come. We are still very much at the experimental stage in environmental reporting, so that such diversity is to be encouraged - where it does not simply degenerate into confusion or into warring factions. In the right circumstances, competition fuels innovation.

5.0 WHICH REPORTING INGREDIENTS?

50 reporting ingredients

Based on a combination of the reporting frameworks discussed in Chapter 4 and a review of actual reporting practice, we have identified a set of 50 reporting ingredients - and grouped them into five broad clusters. These are as follows:

- (1) management policies and systems (Section I: items 1-13);
- (2) an input/output inventory of environmental impacts of production processes and products (Section II: items 14-30);
- (3) the financial implications of environmental actions (Section III: items 31-36);
- (4) relationships with environmental stakeholders (Section IV: items 37-46); and
- (5) the sustainable development agenda (Section V: items 47-50).

5.1 The 50 Reporting Ingredients

The reporting ingredients were identified on the basis of an analysis of what companies are currently reporting on and of what they may need to report to meet emerging stakeholder expectations.

Not a reporting standard, but a set of basic building blocks

These 50 ingredients should *not* be viewed as a reporting standard, but rather as a set of basic building blocks which companies can use to construct their reports according to their own priorities. It is likely to take time for a single reporting model to emerge, and it is possible - at least at the international level - that a diversity of reporting approaches will be inevitable. Nevertheless, the 50 ingredients provide a solid framework within which the development of common reporting frameworks can take place. Appendix 5 compares the 50 ingredients with the principles contained in five industry codes of conduct, while Appendix 6 contains examples of innovative reporting practices from a range of companies.

I. MANAGEMENT POLICIES & SYSTEMS

This first cluster of reporting ingredients (1- 13) should set the tone and strategic direction of the report.

Setting the tone and strategic direction

1 Top Management Statement

As a minimum, the first report in a series should include a strong statement of commitment from the very top of the company. Such commitment can be effectively communicated by opening the report with a statement from the chief executive officer (CEO), and/or from the director or vice-president responsible for environmental affairs. Such statements help place environmental matters in a strategic context.

Thus the **Kunert** (1992) Board of Directors conclude their introduction by stating 'in the long-term, eco-balances can play a significant part in the stability of the company'. The foreword can also be inspirational, like the message from **Merck's** chairman and chief executive Roy Vagelos (1993), which draws on chaos theory to stress the importance of action by all Merck's employees: 'Each of us has a role to play in this effort. Even actions that appear insignificant can have a significant effect.'

But CEO statements often tend towards the rhetorical, so would-be reporters should aim for openness and candour. For example, I. MacAllister Booth, chairman of **Polaroid** (1992), admits 'the difficulty of maintaining full compliance with all federal and state regulations'. Finally, the CEO statement can reach out to the company's stakeholders and draw them into the process of environmental improvement. A good example of this comes from **Eastman Kodak** (1992), where company chairman Kay R. Whitmore closes with, 'please take a few minutes and get acquainted with our measurable results for 1992.'

[Indicators: Strategic direction; inspiration; honesty; involvement; statement of personal objectives; evidence of coverage of environmental issues at board meetings.]

'I aim to ensure that everyone in the company is aware of, and involved in achieving our environmental improvement targets. I have taken personal charge of this major challenge.'

John Baker, Chief Executive, 1992 National Power Environmental Performance Review.

Policy sets performance measurement framework

2 Environmental Policy

A core requirement is for the corporate environment report to include the latest version of the company's environmental policy, since this sets the framework for measuring performance against objectives. In many ways, a company's environmental report is only as good as the policy on which it is based and the commitment that ensures that the policy is put into practice.

Examples of the inclusion of such policy statements include **The Body Shop** (1993), **British Gas** (1992), **British Telecom** (1993), **Browning Ferris** (1992), **ICI** (1992), **Noranda Forest and Minerals** (1992), **Rhône-Poulenc** (1992) and **Shell Canada** (1992). **Waste Management** organizes its entire report (1992) around the 14 environmental principles of its policy and philosophy.

[Indicators: Inclusion of environmental policy; date of introduction and revision; measurable goals to meet policy principles; measurement of performance against policy principles; improvement requirements.]

3 Environmental Management System

A core requirement. Every company has developed a different way of managing its environmental responsibilities. This system needs to be described briefly in the report, together with the company's commitments to any relevant standards.

A clear organigram

British Telecom (1993) outlines the three main internal groups driving environmental issues, as well as the company's views on the emerging British Environmental Management Standard (BS 7750). **GE Plastics** (1991) offers a snapshot of the status of the company's environmental management activities. **Ontario Hydro** (1991) contains an extensive description of the company's environmental management system (including its issue identification method) and is also noteworthy for the inclusion of a clear environmental management organigram.

[Indicators: Description of corporate environmental decision-making bodies; scope of environmental organization and line management duties; numbers of environmental staff.]

"We are now aiming to cultivate a new corporate culture with a global vision which emphasizes harmonious coexistence on earth."

1992 Kansei Electric Power Co., Inc.,
A Well-Balanced Environment.

4 Management Responsibilities

A core requirement. An important ingredient in corporate accountability is knowing who in the company is responsible for environmental matters. This is not simply a question of knowing who to blame: think of it as identifying your customer service contact in this area. Some companies include an organigram, or organizational chart (see 3, above). **AT&T** (1992) goes further, providing the names and phone numbers of key environmental executives. **Landesgirokasse** (1992) lists the members of the company's Eco-Team, while **Du Pont** (1992) names its "Environmental Leaders".

Names and phone numbers of key environmental executives

[Indicators: Names; addresses; phone numbers.]

5 Environmental Auditing

Concern over the quality and reliability of corporate management systems has been a driving force behind the introduction of environmental audits in recent years. Public disclosure of the results of these audits has become a controversial issue. Whatever your decision on whether to include audit findings in your report, the data are likely to be vital in preparing any serious report.

Some companies are starting to include statements from external auditors testifying to the quality of the company's environmental management systems, including **Du Pont** (1992) and **Waste Management** (1992). A number of companies, including **British Gas** (1992), **Browning Ferris** (1992), **Henkel** (1992), **National Westminster Bank** (1993) and **Texaco** (1992), describe their auditing programmes in some detail.

[Indicators: Audit scope/subjects; schedule and sites; results; areas for improvement; external verification.]

6 Goals and Targets

Environmental progress is driven by companies establishing and pursuing ambitious improvement goals and targets. In addition to legal compliance, performance against these internal goals should form a central feature of the corporate environment report. Wherever possible, the targets should be quantitative, so performance is measurable.

Public disclosure of environmental audit results is controversial

"Each site in the world has a goal of having a trained and certified Environmental Leader. In 1993, 83% of all sites have Environmental Leaders. The training process can take anywhere from three to six months, which ends in an oral exam conducted by environmental staff. By 1994, we expect that at least 90% of all sites will have fully trained and certified Environmental Leaders."

Undated (published 1993), Procter & Gamble: The Environment

List targets for the year ahead

AT&T (1992) tracks the company's results against its five environmental goals (phasing out CFCs, eliminating toxic air emissions, recycling paper, reducing paper use and improving safety). **British Telecom** (1993) gives a comprehensive report back against the previous year's targets, and also sets targets for the coming year. **National Power** (1993) is among a number of companies listing targets for the year ahead.

[Indicators: Quantifiable targets; measured performance against targets; future goals.]

7 Legal Compliance

A core requirement. Compliance with all environmental legislation is a fundamental corporate responsibility. Added to this, the credibility of a corporate environmental report can be judged to the extent it tells the bad news as well as the good. However, reporting on legal compliance is a complex and difficult issue, and few companies are yet responding to this challenge.

Report prosecutions and fines

Phillips (1993) stresses the complexity of the compliance issues, but nevertheless presents a compilation of federal and state notices of violation and resulting fines for the company. **ICI** (1992) contains the number of fines and prosecutions from all operating regions, while **Noranda Minerals** (1992) measures the company's percentage compliance for water discharges and air emissions. The **Noranda Minerals** report includes a section detailing the legal issues in which the company was involved during 1992. **Waste Management** (1992) contains a set of internal and external compliance indicators, refers to the **IRRC Compliance Index** as a benchmark and identifies key areas for progress.

[Indicators: Reported incidents; percentage compliance; numbers of prosecutions; levels of fines; corrective action.]

8 Research and Development (R&D)

Commercially sensitive?

Environmental factors have to be integrated into a company's research and development efforts if it is to rise to both existing and emerging challenges. You may feel that R&D is commercially sensitive, but even an outline of your thinking can help stakeholders to understand the depth of your commitment. **Bristol-Myers Squibb** (1993) highlights how less hazardous materials have been replaced in their products and processes following breakthroughs by its R&D staff. **Rhône-Poulenc** (1992) provides a useful overview of the company's short-, medium- and long-term research activities, while **Eastman Kodak** (1992) examines research both undertaken within the company and supported in other institutions.

[Indicators: Number and costs of research projects; research results; time-frames; research partners.]

9 Programme and Initiatives

Throughout the report, a company should complement hard facts with descriptions of some of the noteworthy developments during the past year (even though these are less susceptible to hard measurement). These should avoid standard public relations statements: report openly on what went right - and the lessons learned from what went wrong.

What went right - and wrong?

Environment has become an integral part of each product and packaging design project. Together with performance, cost and supply feasibility, environmental quality now helps to determine P&G product development strategies."

Undated (published 1993), Procter & Gamble Europe Environmental Report.

The **Ford** Environmental Quality supplement (1992) summarizes the company's actions on both process and product issues. For each of the key themes of the **Ciba** report (1993), examples from the corporation's worldwide operations are provided. **Procter & Gamble Europe** (1993) gives a case study of the application of life-cycle analysis to its detergents range. **The Body Shop** (1993) provides a helpful summary review of events, both on the global stage and within the company, while **Rhône-Poulenc** (1992) gives illustrations of how it has been putting its environmental plan into action.

[Indicators: Range of initiatives described; cleaner technology investments; partner organizations; results achieved.]

10 Awards

The purpose of award schemes is to stimulate companies - and individuals within them - to new levels of achievement. The mention of external environmental awards in the report can help to give credibility to some of the company's claims and spur employee commitment. We all like our efforts to be recognized - and we can all benefit from models of success.

Spur employee commitment

The **BP** report (1993) contains a whole page of health, safety and environment awards won by the company across the world, while **Ecover** (1993) chooses to focus exclusively on its Global 500 award from UNEP. The profiling of winners of internal award schemes in a company's environmental report can also be a way of rewarding employees for their achievements. **Monsanto** (1992) contains photographs of the 1991 recipients of its performance, innovation, marketplace and community service awards, while **United Technologies** (1993) lists the first winners of the company's four awards, for excellence, continuous improvement in health and safety, innovation in safety and innovation in environmental management.

[Indicators: Details of external and internal award schemes.]

11 Verification

Linked to the issue of the external auditing of a company's management systems is the question of whether environmental reports should themselves be verified independently. This debate is being driven by the requirement included in the European Unions' (EU) Eco-Management and Audit Regulation (EMAS) for third-party verification of audit statements made by companies. Do not assume that verification is a guaranteed route to credibility. Talk to companies that have gone this route - and to some that have not.

A few companies have taken the initiative in this field, starting with **Norsk Hydro (UK)** (1990), although verification was not repeated in its latest report. **The Body Shop** (1993) includes a Verifier's Statement which concludes that the report "gives an accurate description of the environmental activities" at the company's production site. The verification statement included in **National Power** (1993) adopts the language of accountants when it states that the report gives a "correct, true and fair view of their policy, programme, practices and procedures", and adds a list of proposed improvements. **Thorn-EMI** (1992) contains a verifying statement which recognizes that "this report reveals the need for more detailed data quantifying the environmental impact of the Group's operations".

[Indicators: Results of verification; description of "the good and the bad"; precision of language used; description of verification scope; methodology and areas for improvement.]

"ECOVER recognizes that progress depends upon a few unreasonable people. Those who never question or challenge the status quo deserve no patience or attention."

1994 ECOVER
Environmental
Report.

EU Eco-
Management and
Audit Regulation

Correct, true and fair

12 Reporting Policy

Why did you decide to report? How often do you intend to report? What is your position on verification? Stakeholders would like to hear your answers. A brief description on the methods and calculations used to put together the report should also be presented. **Fiat** (1992) describes its reporting methodology and provides definitions of key performance indicators, while **Solvay** (1993) explains the categories used in its report, and the weighting factors applied.

"Using the Total Quality Process, Cargill works with employees, customers, suppliers and other groups to assure understanding of its EHS policies, practices and expectations. To help performance meet these expectations, Cargill provides employees with training and support and also works with its suppliers, customers and contractors on the same objectives."

1993 Cargill
Environmental
Health and Safety
Report.

Companies should make clear to its audience the frequency of its reports, so that its stakeholders can keep track of corporate performance. Some of the first environmental reports not only omitted to give a publication date - thus undermining the value of much of the information contained - but failed to give an indication of when the next report was due. A number of companies incorporate a pledge to annual publication in their reports, either explicitly like **British Telecom** (1993) and **Waste Management** (1992) or implicitly like **BASF** (1992) and **Dow Canada** (1992).

[Indicators: Explanation of methodology; definition of key terms; name of executive responsible for the report; date of report; definition of reporting regularity.]

Where is the
publication date?

13 Corporate Context

To be useful, the information contained in corporate environmental reports needs to be accompanied by a brief profile of the company's operations to enable the reader to place performance in context. The PERI guidelines recommend that reports should include: "the size of the company, number of locations and employees, the countries in which the company operates, its major lines of business and the nature of the environmental impacts of company operations."

Setting the corporate context is particularly important for multi-sector corporations, where the environmental impacts from different businesses will be inherently different. **British Gas** (1993) contains a map showing its global operations, along with key facts and figures. **Bristol-Myers Squibb** (1993) includes a breakdown of the company business into different sectors, while **Elf-Atochem** (1993) gives a snapshot of the company.

Include a map

II. INPUT/OUTPUT INVENTORY

Compare with national totals and industry averages

Any worthwhile corporate environmental performance report will provide data on all key inputs, process management approaches and outputs. Such an inventory should also aim to identify the consequences of existing performance (eg. stating not only tonnes per year of emissions to air, for example, but also the resultant ambient air quality). The information should also be put into context by comparing with national totals and industry averages.

INPUTS

14 Material Use

A core requirement is for an inventory of the environmentally significant materials used, with an indication - where appropriate - of which materials are hazardous, toxic or associated with significant potential environmental impacts. The scope and practice of materials recycling on- and off-site should also be addressed.

Mass balances

In terms of the volumes of materials, the use of mass balances by such companies as **Danish Steel Works** (1991/92) and **Dow Europe** (1991/92) indicates the way ahead. Dow Europe's 1992 report provides percentage losses for a range of materials. In addition, some companies, for example **AT&T**, are setting specific material reduction goals.

[Indicators: Tonnes by type of renewable and non-renewable used per year; consumption of toxic or hazardous substances (e.g. Red List, TRI).]

15 Energy Consumption

Energy efficiency is critical

A core requirement. Given the links between such major environmental issues as acid deposition and global warming on the one hand and the sources of energy, the supply technologies and patterns of demand on the other, the reporting of energy consumption and of energy efficiency measures is obviously critical. Is your company part of any sectoral or national energy efficiency schemes?

"Manweb is currently undertaking the largest Demand Side Management project ever in the United Kingdom. The premise... is that utilities should try to manage demand for their product by investing in energy efficiency as an alternative to, in Manweb's case, reinforcing the distribution network."

1993 Manweb Environmental Report.

3M UK (1991) provides energy indexes and reduction targets. **Dow Chemical Canada** (1992) provides an index of energy efficiency performance between 1973 and 1991. **British Gas** (1992) sets a 15% internal energy cost saving target by the end of 1997. **GE Plastics** (1991) reports on its agreement, as part of a broader industry agreement, to achieve energy savings of 20% over 10 years by saving 2% every year.

[Indicators: Kilowatt-hours; tonnes of oil equivalent; tonnes of carbon emissions.]

16 Water Consumption

A core requirement. With water supply and quality issues moving to the top of the environmental agenda in various parts of the world, inputs of water - either for incorporation in products or for cooling and other process needs - should be recorded. Do you meter water consumption? Are water efficiency measures in place?

Water supply and quality issues

Water consumption is covered by **Kunert** (1993) and by **Ciba** (1992) - which breaks down water usage into cooling, process, sanitary and other. **British Airways** (1993) provides both the background data and focuses on such specific applications as aircraft washing.

[Indicators: Cubic metres per year for process, cooling, sanitary uses; efficiency measures and goals for water use reduction.]

PROCESS MANAGEMENT

17 Health & Safety

A core requirement. Some companies integrate their health, safety and environmental reporting (e.g. **GE Plastics**, Holland), but most do not. For obvious reasons, the nuclear power generation, oil and chemicals industries have been leaders in health and safety reporting. Many companies have debated whether health and safety should be included. Generally, we advise including them.

Integrate health, safety and environmental reporting

Safety features strongly in the **BP** "New Horizons" report (published 1993), with trend data on lost time injury frequency (LTIF) for chemicals, oil refining and marketing, and exploration & production operations. **Monsanto's** 1992 report shows the total injury/illness rate per 200,000 hours worked. **Ciba** (1992) discusses its standardized Safety, Energy and Environmental Protection (SEEP) reporting system.

[Indicators: LTIF; total accidents per year; accidents per man-year worked; reportable injuries or ill-health.]

"Our fundamental goal is to advance United Technologies into a true leadership position in every area of health, safety and environmental protection."

1992 United Technologies Environment, Health and Safety

18 EIAs & Risk Management

Very few reporting companies give details of the environmental impact assessments (EIAs) or risk/hazard assessments they have carried out for projects - or which have been conducted independently for sites owned and/or operated by the company. The exceptions tend to be major energy companies. If such assessments are carried out, give at least some details on why, where, how and by whom.

Few details of EIAs given

British Gas (1992) lists five environmental assessments and refers requests to view them to the company's Safety and Environment Directorate. The company also reports on coverage of its environmental auditing programme. **British Nuclear Fuels** (1992) discusses the environmental aspects of feasibility work done for a new nuclear power station. **Ciba** (1992) focuses on risk, among other issues. And **Ontario Hydro** (1991) provides details of socio-economic impact studies carried out alongside major energy projects.

[Indicators: EIAs or other assessments performed; major projects overseas for which no assessment was prepared, even though one would be required in home country.]

19 Accidents & Emergency Response

A core requirement. In some cases, reference may be made to reporting of emergency planning activities in a separate health and safety report, e.g. **British Nuclear Fuels** (1992). **Texaco** (1992) provides a useful overview of emergency response activities and training, but offers no indicators. More specific is the listing provided by **Ontario Hydro** (1991). If your activities involve significant risks, report on what you are doing to minimize them - and to cope with the unexpected.

[Indicators: Number and type of accidents per year; results of subsequent inquiries; accident prevention measures; emergency planning and results of emergency response tests.]

20 Land Contamination & Remediation

A highly sensitive issue. The growing cost of land contamination and site remediation makes this a critical area of interest for financial stakeholders such as institutional shareholders, lenders and insurers. But few companies so far report their holdings of contaminated land in any detail. Do not ignore this area, however. It will grow rapidly in prominence in the next few years.

"In Lyon (France), during excavation work on the Boulevard Urbain Sud, a former storage depot of dry urban waste and commonplace industrial waste, representing no threat of toxicity, was unearthed on land formerly owned by Rhône-Poulenc. A plan to eliminate this waste was drawn up... and specialized companies were brought in to complete the clean-up operation for a total cost of FF7m."

1992 Rhône-Poulenc Environment Report.

"We believe WMI's biodiversity program is unique. In 1992, each of our WMNA groups screened its properties to identify larger sites with biodiversity potential where some land development is planned. The groups are launching biodiversity inventories at the 54 sites identified. Management plans will be prepared to ensure no new loss of biodiversity."

Waste Management Inc., 1992 Annual Environmental Report.

"One of IBM's most substantial -and successful -recycling projects involved a complete eight-storey office block at its Hursley laboratory."

1993 IBM UK Environmental Progress Report.

British Gas (1992) has carried out a comprehensive survey of its contaminated land holdings - and has categorized them according to their potential for off-site pollution. U.S. waste management companies - e.g. **Browning-Ferris Industries** (1992) and **Waste Management** (1992) - have featured Superfund clean-up and leachate minimization programmes. **Texaco** (1992) raises questions about the Superfund, but fails to identify how many Superfund sites it is involved with. More helpfully, **Shell Canada** (1992) profiles a number of site clean-ups and relevant technologies.

[Indicators: Number and scale of contaminated sites; area subject to specific clean-up terms and conditions; area of land decontaminated per year to specified standards.]

21 Habitats

Given the areas of sensitive habitats neighbouring major industrial facilities, and the often substantial areas of land under management as industrial buffer zones, appropriate habitat management priorities, objectives and initiatives should be reported. Use the process to involve NGOs and consider whether there are further ways to green your site(s).

Waste Management (1992) has prepared site management plans to ensure that there is no net loss of biodiversity. **Wessex Water** (1991/92) highlights its work in ecologically sensitive areas.

[Indicators: Area(s) protected; areas affected by development activities.]

OUTPUTS

22 Wastes

A core requirement. The report should cover total waste generation, waste reduction and recycling initiatives. Wherever possible, mass balances should be used to classify waste streams.

Monsanto is working towards "Zero Waste" and its 1992 annual environmental review reports on progress in this direction. The report gives data on releases of potential pollutants to air, water, injection wells and to land, in addition to identifying transfers of waste. **Rhône-Poulenc** (1992) details total waste generation, the amount treated in the group and the amount sent externally for the previous six years. Both **Dow Europe** (1993) and **Rohm and Haas** (1993) identify waste generation by site.

[Indicators: Tonnes per year by category; disposal routes; number of waste contractor audits; total number of contractors; off-site waste disposal liabilities; waste reduction initiatives; raw material-to-product conversion efficiencies.]

Superfund clean-up programmes

Green your buffer zones

No net loss of biodiversity

"Zero waste"

23 Air Emissions

A core requirement. The report should cover all environmentally significant emissions. In the United States, for example, these would include SARA Title III (TRI) data. Even companies that are not subject to TRI, or TRI-style, requirements should consider using the TRI framework in their reporting.

Process emissions and fugitive losses

In the **3M UK** (1991) report, emissions to air are determined by inventory mass balance - after correction for stock changes and waste disposal. They therefore include all main process emissions and fugitive losses. **Dow Europe** also reports air emissions by site and in considerably more detail.

[Indicators: Tonnes per year of key emissions, including greenhouse gas emissions and ozone-depleting substances; impacts on ambient air quality; % of throughput lost to atmosphere.]

24 Water Effluents

Ecological effects of discharges

A core requirement. The report should cover all significant emissions to water, including discharges to sewer and to deep injection wells. As for air emissions, the SARA Title III list provides a sound basic framework for reporting. This is an area where it would be particularly helpful to have an indication of the ecological effects of discharges.

Useful examples include **Monsanto** (1992), which identifies discharges to water generally and to injection wells, and **Dow Europe** - which identifies emissions by site. **ICI** (1993) breaks down its discharges of non-hazardous wastes to water into dissolved solids, marine disposal, organic carbon content and suspended solids.

[Indicators: Tonnes/m³/litres for each material per year; effects on receiving water (BOD/COD); % of throughput lost to water.]

25 Noise & Odour

Reporting remains relatively patchy

Reporting of noise and odour remains relatively patchy, but both can be major concerns for local communities. Do not be tempted to ignore such issues just because they are not global. Your credibility may turn out to depend on what local communities think of your activities. Among those reporting on noise measurements and noise reduction programmes are **British Airways** (1993) and **GE Plastics** (1991). Unusually, **BASF** (1992) covers odours.

[Indicators: Hours for which given noise standards are exceeded; number of complaints.]

26 Transportation

"... around half of IBM's 11,500 employees in the UK have company cars and a further 1,000 use their own cars regularly on company business. Between them, they travel a total of approximately 64 million miles on business every year.

"... IBM employees are strongly encouraged to consider video conferencing as an alternative to travel."

1993 IBM UK
Environmental
Progress Report.

"Our customers tend to be other manufacturing or distributing companies. We work with them to help them make best use of our products, for example, through exercises in 'design for demanufacture'."

1993 Norsk Hydro
Environmental
Report.

With transport-related impacts becoming more significant, we expect to see more reporting of transport planning and management initiatives. To date, however, the main reports in this area have been produced by airlines. One area which will need to be covered in future chemical industry reports is the release of intermediate or final product while in transit, either accidentally or as fugitive emissions.

The Swiss retail group **Migros** (1992) is one of the rare companies which covers the environmental aspects of transport and logistics in its annual report. It focuses on the transfer of freight from road to rail. In the chemical sector, **Olin** (1992) reports on the safety of chemicals in transit. **IBM UK**, in its 1993 report, discusses the environmental aspects of the operation of its company car fleet.

[Indicators: Spills per year or per 1,000 km travelled; tonnes per annum; tonnes per annum moved by category (road, rail, sea, air).]

PRODUCTS

27 Life-cycle Design

Surprisingly few companies yet cover life-cycle assessment and life-cycle design either in their annual reports or their free-standing environmental reports. Most companies that do include products do so on a part-promotional basis. But products can be responsible for a major proportion of a company's 'environmental shadow'. Make sure that they are properly covered.

Companies like **Eastman Kodak** (1992) list product innovations which have brought environmental benefits. **Hewlett-Packard** (Germany, 1992) mentions environmental aspects of product design in its annual report. **Thorn-EMI** (1993) stands out from the pack, however, by adopting a life-cycle framework for its entire environmental performance report - although the approach clearly needs refinement. **Procter & Gamble's** first European report (1993) has a strong product focus, too.

[Indicators: Number of life-cycle assessments completed; value: impact analysis results; materials and energy per unit of product; volume/weight of packaging materials used per volume/weight of product; % of output recycled; % of secondary materials used in products; involvement in waste reduction and recycling initiatives.]

Road to rail

Products included on
a part-promotional
basis

28 Packaging

Not handled systematically

Given the priority of packaging waste management in Europe, it is perhaps surprising that this item is not featured more prominently - and handled more systematically - in corporate environmental performance reports. But raw material producers, manufacturers and retailers alike are waking up to the challenge. Consider reporting on any LCA work you have been involved in on materials, and on waste reduction and/or recycling initiatives.

Companies featuring packaging issues in their reports include **The Body Shop** (1992), **Carlsberg** (1992), **Eastman Kodak** (1992), **Migros** (1992), **PepsiCo** (1992), **Polaroid** (1991), **Procter & Gamble** (Europe, 1993) and **SmithKline Beecham** (1992).

[Indicators: Tonnes of packaging per annum by type (glass, carton, aluminium, steel, recyclable and non-recyclable plastics); volume/weight of packaging materials used per volume/weight of product; % of output recycled; % of secondary materials used in products; involvement in waste reduction and recycling initiatives.]

"Of the 740 million pounds of packaging materials shipped to our customers in 1992, 230 million pounds or 30 percent was returned for reuse and recycling, avoiding disposal in landfills."

1993 Du Pont Corporate Environmentalism Progress Report.

29 Product Impacts

Around the life-cycle

A core requirement. The safety and health effects associated with products have been much researched and discussed, whereas their environmental effects remain, for the most part, under-researched and under-discussed, particularly for environmentally-intensive products, such as automobiles. Consider including a discussion of the life-cycle impacts associated with key products.

Ford (1993) briefly describes the emissions and fuel economy of its vehicles. **Kodak** (1992) describes some of its environmental initiatives to introduce mercury-free batteries and recycling bleach used for film processing.

[Indicators: Emissions for each significant substance used in each product line.]

30 Product Stewardship

Major rethinking being forced

First developed to help manage the production, use and disposal of high-impact products such as pesticides, product risk management techniques are now spreading to other sectors - driven forward by the growing interest in life-cycle assessment (LCA). Given the structure of industrial economies, with different stages of a product's life-cycle handled by industries or companies in different ownerships, the 'end of life' phase has been difficult for manufacturers to handle. But initiatives like Germany's **Duales System Deutschland (DSD)** material recovery programme are forcing major rethinking in this area.

Companies which have featured product stewardship, product life-cycle management or similar perspectives in their environmental reports include **Dow Canada** (1992), **Dow Europe** (1992), **IBM UK** (1991/1992), **Merck** (1992), **PepsiCo** (1992), **Texaco** (1992), **Thorn-EMI** (1993) and **Union Carbide** (1992).

[Indicators: Percentage of products covered by full product stewardship programmes; toxic and carcinogenic components; involvement in waste reduction, safe disposal and recycling initiatives; volume/weight of products recovered and/or recycled; % of output recycled.]

"At Rohm and Haas, we have a long-standing tradition of environmental stewardship because it is the right thing to do. It also makes sound business sense that will promote greater efficiency, less waste and higher quality products for our customers."

1993 Rohm and Haas in Europe Environmental Report.

III. FINANCE

One of the central themes of sustainable development is the need to integrate environmental factors into economic decision-making. To date, the vast majority of environmental reports have not presented performance data in ways that can be used easily by investors. In future, corporate environmental reports should seek to explain the full financial implications of a company's environmental impacts, so that investors can make more balanced decisions on the allocation of capital resources.

31 Environmental Spending

A core requirement. Reporting on environmental costs is mandatory in some countries. In Germany, the Chemical Industry Association publishes annual figures of both capital and operating expenditures, using standardized definitions. But at an international level there are still no common definitions of what constitutes an environmental cost: this will become more - not less - difficult as companies introduce integrated improvements, rather than 'end of pipe' technologies to existing production processes or products. Keep track of this area of the debate, perhaps by encouraging your industry association to launch an initiative.

What constitutes an environmental cost?

Hoechst (1992) includes capital and operating costs data stretching back to 1965. **Monsanto** (1992) includes capital, operating and remediation spending figures, while **Ontario Hydro** (1991) presents estimates of environmental spending for each environmental issue (waste, water, air and land use management).

[Indicators: Definition of environmental spending; year-on-year capital expenditures; operating expenditures; expenditure as proportion of earnings; return on environmental investments; remediation and research spending, with definition of terms.]

32 Environmental Liabilities

A core requirement. Liability for accumulated pollution is a greatly contested issue. In many cases, it is difficult to assess accurately the level of liability, since the studies on the level of site contamination have not yet been undertaken. In certain countries, such as in the USA, companies are required by law to declare environmental matters that could have a bearing on their economic performance in their annual reports. However, very few reports, whether in the USA or elsewhere, describe these liabilities. **Bristol-Myers Squibb** (1992) is one of the exceptions, itemizing the company's Superfund sites, while **British Gas** (1993) describes its risk management approach for its acquisitions and divestitures.

[Indicators: Net present value of known liabilities from sites, processes and products; identification of potential liabilities; actions to rectify estimated costs.]

"Total fees paid by the Swedish units - for product control registration, permits, supervisory charges and special studies - amount to SEK 3.6 M. In addition, Berol Nobel has paid SEK 12.9 M in environmental taxes."

1992 Nobel Industries and the Environment Report.

33 Economic Instruments

Environmental fees

As governments turn increasingly to the use of economic instruments, companies need to report, particularly to their investors, the amounts of environmental taxes and charges that they are paying. **Nobel Industries** (1992), now part of the Akzo Group, was probably the first company to include in its annual report a statement of the environmental fees it paid in the previous year. It will be interesting to see whether Akzo adopts - or suppresses - the Nobel approach.

[Indicators: Amounts paid in pollution charges and taxes by category (air, water, waste; amounts paid in resource and energy taxation.)]

34 Environmental Cost Accounting

Where is the bottom line?

Although much has been written on the need to internalize environmental costs into business practice, there are few working examples of companies assessing the financial implications of their environmental performance, and including the result in the calculation of their bottom line. As for items 31 and 32 above, this is an area where industry associations could have a key role to play. The real pressure, however, is likely to come from leading corporate reporters.

Realizing financial benefits

BSO/Origin (1993) stands out for the development of an environmental accounting methodology, which estimates the monetary costs of the air emissions, waste water and waste costs the company generates and the value of its environmental expenditures - and then calculates the "Net Value Extracted" from the environment, which it subtracts from the company's overall "value added" total.

[Indicators: Calculation and allocation of external costs.]

35 Benefits and Opportunities

Increasing numbers of companies are realizing financial benefits from cleaner production and waste minimization programmes. A number of companies, such as **AT&T** (1992), **Bristol-Myers Squibb** (1993) and **Monsanto** (1992), refer to specific project savings. But few have yet established rigorous methodologies for integrating these savings into their accounting practices and project planning. This is an important area in terms of 'selling' environmental management to internal stakeholders. Do not neglect it.

[Indicators: Financial benefits from process - and product - related environmental improvements; return on environmental investments.]

36 Charitable Contributions

Donations should be described in reports

Most large companies have a programme for charitable giving, and increasingly these programmes contain a budget designed to support not-for-profit environmental activities. The type of activities range from the purely altruistic to investments in academic research where the company is likely to receive some benefits. A number of companies describe their donations in their reports, including **Eastman Kodak** (1992) and **United Technologies** (1993). More should.

[Indicators: Amounts and recipients of donations.]

"The cost of the environmental impact less the environmental expenditure results in the net value extracted: this amount corresponds to what the company withdraws without making any sort of compensation."

1992 BSO/Origin Annual Report.

"[Following the publication of the company's first report] we organized... an Environmental Forum at our London headquarters where our Chief Executive and other senior managers listened to views from environmental public interest groups, government and academic bodies, consultants and the media.

1992 BP Chemicals Health, Safety and the Environment Update.

IV. STAKEHOLDER RELATIONS

Sound, two-way stakeholder communication is at the very heart of effective environmental management. Many of the companies whose reports are analyzed in Appendix 1 have consciously targeted their reports at specific stakeholder groups; others have gone for the random approach. A few, among them **BP Chemicals**, have held stakeholder meetings to review published reports in preparation for later reports in the series. And at least one company, Denmark's **Novo Nordisk**, has carried out a series of stakeholder meetings before launching its reporting series.

Random approach

37 Employees

A core requirement. As with Total Quality Management (TQM) programmes, corporate environmental management programmes depend for their success on employee awareness, commitment, training and incentive schemes. Keep close track of what employees are thinking - and wanting to do.

Relatively few companies report having carried out - and reported - employee surveys in this area. An exception is **British Airways Holidays** (1993). Others mention running employee suggestion schemes, among them **GE Plastics** (1991). **BT** (1992) provides useful information on employee training, while **Eastman Kodak** (1992) reports on efforts to ensure that employees adopt the same health, safety and environmental targets at home that they use at work.

Few companies report having carried out or reported employee surveys

[Indicators: Results of employee surveys; numbers of employees trained; results of employee suggestion schemes or environmental quality circles; internal awards schemes.]

38 Legislators & Regulators

A core requirement. Most companies take this aspect of their operation for granted, simply mentioning any key new items of legislation likely to affect their businesses. Many comments relate to compliance with existing standards, the cost of compliance and any court cases brought or fines imposed for failures to comply.

Compliance

More positively, a few companies have reported on their efforts to involve legislators and/or regulators in their environmental management and/or reporting initiatives. Examples include **British Airways** (1992), **BP Chemicals** (1992) and **Dow Canada** (1992). Look at what they have done and see if you can improve on it.

[Indicators: Discussion of government relations, including position in any lobbying; position on key policy or regulatory agenda items; listing of participation in covenants or voluntary agreements.]

39 Local Communities

Greater transparency at site level

A core requirement. Community relations represents a long-established area of corporate public affairs activity, but the corporate environmental reporting pressure - coupled with initiatives such as the chemical industry's 'Responsible Care' programme - is also encouraging greater levels of transparency at the site level. Don't forget the vital importance of 'open door' initiatives in building community awareness and confidence.

Companies like **Dow Canada** (1992) have been highly pro-active in this area. Others, among them **ICI** (1992) and **National Power** (1992), have been developing site level reporting formats which integrate into their overall corporate reporting activities.

[Indicators: Reporting of site emissions, impacts and improvement programmes; community liaison activities; open days and 'open door' initiatives.]

40 Investors

Send corporate report to all shareholders?

A core requirement. In principle, most corporate environmental reporting initiatives should treat institutional and individual shareholders or investors as target audiences. In practice, the linkage between reporting (e.g. of Section III Finance data, see above) in annual reports and free-standing environmental performance reports remains poorly developed in many companies. Consider briefing key financial analysts on your performance and targets.

Very few companies have sent their corporate environmental report to all shareholders. One exception has been **ICI** (1991/1992), which has sent copies of its reports to all 300,000 - plus shareholders. Other companies - among them **Ford**, **MoDo** and **Nobel** - have included environmental performance inserts in their annual reports and accounts.

[Indicators: Briefings of shareholders/investors; company's reputation/image in the investor community; details of 'environmentally responsible investors' with holdings in the company.]

41 Suppliers

Need to work closely with suppliers

Few single companies can tackle the environmental challenge throughout their product's life-cycle on their own. Most will need to work closely with suppliers and customers to ensure continuous improvement. They will also need to develop performance indicators to ensure that progress can be reported on a quantitative basis.

One of the best reports in this respect is that produced by **BT** for 1992, which covers the company's efforts to improve the environmental performance of suppliers. Another worth looking at is that by **Thorn-EMI** (1993).

[Indicators: Supplier challenges mounted during the reporting year; membership and results of supply-chain initiatives; new targets and specifications.]

"We understand we are part of the supply chain, and that our environmental impact extends beyond our own operation. One goal of our new policy is to make a positive contribution to our customers' environmental performance."

42 Customers & Consumers

Most early reporters have been in high-impact, high-profile industry sectors like oil, chemicals and waste management. Typically, they are not in direct contact with consumers, but they are with their own customers. Some reporting companies have targeted their customers, seeing their reporting activities as a form of reassurance for customer business which are in direct contact with consumers. In addition, a few retailers and fast moving consumer good (FMCG) companies have begun to report - and the momentum should build. Whatever you do, be sure you take your customers with you.

1992 DHL Own Environment Report.

Value: impact analysis

1993 saw 1992 environmental performance reports from a number of companies which are in close contact with consumers, among them **BT, The Body Shop International, Dow Canada, Eastman Kodak, Ford, Migros, PepsiCo, Procter & Gamble and Thorn-EMI**. The European end of Procter & Gamble, in particular, is highlighting its life-cycle management and value-impact approaches, designed to ensure that consumer value increases while environmental impact is reduced.

[Indicators: Eco-labels awarded during reporting year; results of existing consumer-focused initiatives; objectives of consumer communication initiatives; results of consumer attitude surveys.]

43 Industry Associations

A core requirement. Companies should report on their participation in collective industry activities, and identify the various codes of conduct that they support. Be careful not to assume that your industry association's position is the right one. In a fast-moving field they often end up bringing up the rear.

Of the 100 companies reviewed in Appendix 1, 54 are supporters of the ICC Charter, but only 22 referred to the Charter in their annual or environmental reports. Peter Bright, head of environmental issues at **Shell International** and the leader of the ICC working party that produced the Charter, comments: "Most corporate environment reports are all about the implementation of the Charter, even though the Charter may not be mentioned explicitly".

Taking reporting on the ICC Charter seriously

Nevertheless, two companies - **Bristol-Myers Squibb** (1993) and **Thorn-EMI** (1993) - have taken reporting on the implementation of the Charter seriously. Bristol-Myers Squibb describes how the company's pledge and policies perform against the 16 charter principles, while in the Thorn-EMI 1993 report, chairman Colin Southgate states "having reviewed the Group's progress against the 16 principles of the ICC Charter for Sustainable Development, there is no question in my mind that we must now move up a gear if we are to meet all the elements of this important commitment."

Nearly all of the corporate environment reports published by chemical companies have described, often in some detail, their activities under Responsible Care (eg. **BP Chemicals**, **Dow Canada** and **Dow Europe**, **Du Pont**, **Hoechst**, **Monsanto**, **Nobel**, **Rhône-Poulenc** and **Shell Canada**). **Union Carbide** (1993) has made Responsible Care the framework for its environmental management and reporting efforts. After producing two "Environmental Progress Reports" in 1989 and 1991, Union Carbide released its first Responsible Care Progress Report in 1992. The report measured the company's performance against the six Responsible Care codes and tracked its record against the 106 individual Responsible Care elements, giving targets for full implementation, where this had not yet occurred.

Show support by printing charter logos on report

To highlight its commitments to a number of industry initiatives - including the ICC Charter, Responsible Care and the petroleum industry STEP programme - **Phillips** (1993) prints their logos on the back-cover of the report - a simple, but effective way of showing support.

[Indicators: Clear indication of which reporting frameworks/protocols company is reporting within/against (e.g. CERES, PERI, Responsible Care, WICE); nature and scale of involvement in industry association initiatives.

44 Environment Groups

A small number of reporting companies have recognized the need to try to turn environmental NGOs into 'customers'. This can involve NGOs behaving in radically new ways, but there is no reason why more of them should not recognize this as a legitimate, necessary area of activity. Give them a chance to give it a try.

Green companies like **The Body Shop** and **Ecover** have featured their relationships with NGOs, reporting on their efforts to turn customers into environmentalists. Now companies like **BP Chemicals** and **Manweb**, in effect, are reporting on how they are trying to turn environmentalists into customers. **Dow Chemical**, **Dow Canada** and **Dow Europe** have pioneered in this area. **British Airways** has invited NGOs to its internal Environmental Fairs.

[Indicators: Involvement in environmental panels, round-tables and other initiatives; reactions of NGOs to performance data reported.]

"Environmental fairs"

"Phillips sees a natural link between our work in environmental protection and educational assistance. Thus, many of our financial grants have an education purpose - trying to promote informed, critical thinking on environmental issues at all age levels."

1993 Phillips Petroleum Company Environmental Report.

45 Science & Education

Corporate environmental performance reports represent one response to the science community's evaluations of current - and projections of future - environmental problems. Few reporting companies yet identify environmental scientists as a key target audience, however. Some business schools and other educational institutions are just beginning to use environmental performance reports as an educational resource. More should. The **BP Group** (1992) was unusual in featuring several individuals drawn from the scientific and educational communities. **Dow Canada** (1992) also featured these areas.

Business schools beginning to use reports as education resource

[Indicators: Environmental science and education programmes supported.]

46 Media

Help key journalists to understand what you are trying to do - and why. An increasing number of local, national and international newspapers and magazines are beginning to track corporate environmental performance. For example, early in 1993 the US magazine *Fortune* published a list of its "Toxic 10" corporations based on the Council on Economic Priorities' (CEP) Cleaner Production Campaign. CEP was also an important source of information for *Fortune's* first "Environmental Scorecard" published in July 1993, which listed "The 10 Leaders", "The 10 Most Improved" and "The 10 Laggards" among the largest US corporations. Specialist environmental newsletters (e.g. *ENDS Report*) and magazines (e.g. *Tomorrow*, *EcoDecision*) have also published reviews of some of the early reports.

Fortune "Toxic 10" and "10 Laggards"

Very few company reports currently pay much attention to what the media are saying about their environmental objectives and performance. Most (e.g. **Texaco**, 1992) confine themselves to discussion of emergency response planning, including their training programmes on how to deal with the media in a crisis. A few companies have held 'hearings', focusing on their environmental performance, including such German chemical companies as **BASF** and **Bayer**.

[Indicators: Overview of reporting of company's environmental performance; proportion of 'good' versus 'bad' articles or programmes; media briefings.]

V. SUSTAINABLE DEVELOPMENT

Almost by definition, corporate environmental reporting has been confined to purely environmental performance, corresponding to the first four stages of environmental reporting (see Figure 2). No company has yet achieved the more challenging "Sustainable Development Reporting" of Stage 5.

In essence, sustainable development reporting would demonstrate how a particular company is helping to meet present generations' needs for goods and services, while minimizing environmental impacts and resource use so that future generations can meet their own needs. A key insight of sustainable development is that environmental performance cannot be separated from the wider goals of relieving poverty and promoting improved standards of living in developing countries. "It is not enough for companies to report just on their environmental performance," notes Richard Tapper, Industry Officer at WWF UK. "They must also start reporting on their commitments towards sustainable development, including social and economic factors."

"We will devote increasing efforts to establishing non-exploitative trading arrangements with communities in less developed countries as a means of protecting their cultures and their environments."

Social and economic issues

Sustainable development reporting thus embraces all the ingredients of the previous four clusters, but goes on to address social and economic issues. A number of companies are now beginning to move in this direction, however. **Shell Canada** (1992) calls its environmental report "Progress Towards Sustainable Development", although its contents differ little from many other company reports.

1992/93 Body Shop International Environmental Statement.

The broad sustainable development agenda can be broken into four key ingredients: global environmental issues, global development issues, technology cooperation and global operating standards. Companies with global operations and impacts have a particular obligation to start reporting against emerging expectations in these areas.

47 Global Environmental Issues

Companies whose operations and products have a significant impact on the global environment should make a special effort to describe the measures taken to improve their performance. Key issues include: ozone depletion, global warming, biodiversity, the export of toxic products or wastes and tropical deforestation.

"Solutions to global problems"

IBM (1992) contains a section outlining its efforts to support "Solutions to Global Problems", while **Kansai Electric** (1991) devotes a section to climate change and energy efficiency issues, and **Merck** (1992) profiles its pioneering biodiversity agreement with INBio in Costa Rica.

[Indicators: Assessment of contribution of processes and products to main environmental issues; description of key initiatives to reduce impacts; indication of net balance of effects.]

48 Global Development Issues

Poverty and population

Global development issues include slowing population growth, meeting basic human needs, promotion of health, and respect for cultural diversity. While few in business have addressed how they can contribute to meeting the needs of a world of 8 billion people in the early part of the next century, some companies are already engaged in practical projects to assist developing countries. Consider asking someone who knows this field to provide an overview of the issues - and of their implications for your business.

"No single corporation or single country can solve global environmental problems. The only real solution is action on a global scale. Responding to calls for an international effort, Nippon Steel is making available worldwide its entire inventory of technologies and know-how concerning environmental protection and energy and resources conservation."

1992-93 Nippon Steel Annual Report.

"Many of our acquisitions are in partnership with other companies - not always as the majority stakeholder. As a minimum requirement we must operate under the laws and standards applicable in the host country. Beyond this it is always our aim to encourage partners and clients to adopt environmentally responsible policies, equipment and procedures."

1992 British Gas Environmental Review.

The Body Shop (1993) touches on its fair trade arrangements with developing country suppliers, while **Johnson and Johnson** (1993) describes its contributions to world health needs. **Monsanto** (1992) highlights a training programme it undertook with a Kenyan researcher to introduce virus-resistant food crops.

Natural resource companies which explore and operate in lands belonging to indigenous peoples should aim to show in their reports that they are protecting the cultural integrity of these peoples. Unfortunately, there are few examples of such reports to date, except **Ontario Hydro** (1991). Similarly, as outlined in the W TTC Environmental Guidelines, tourism companies need to report on the actions they are taking to maintain cultural diversity in the areas affected by their operations.

[Indicators: Efforts to address the range of objectives and activities outlined in *Agenda 21*]

49 Technology Cooperation

Technology cooperation between companies was identified at UNCED as one of the critical mechanisms for promoting sustainable development. While a number of reports from multinational corporations make general references to technology transfer and cooperation, few contain explicit cases of particular deals being struck to share technologies for mutual benefit. This is a key area which successful future reports by international companies will have to address.

[Indicators: Types and amounts of technology transferred or jointly developed; terms on which cooperation was based; technology assessments undertaken.]

50 Global Operating Standards

Leading multinational corporations have already adopted common environmental standards applied throughout their global operations. But this remains a tricky area for many, particularly those that grow by acquiring existing businesses. Whatever your approach, say how you intend to ensure a convergence between your various sites and the best current industry practice.

Examples of application of these standards are contained in **Ciba** (1993), **Johnson & Johnson** (1993), **ICI** (1992) and **Shell Exploration and Production** (1992). Some global companies, such as **BP** (1993), **Ciba** (1993), **ICI** (1992) and **Monsanto** (1992), are providing aggregated global environmental performance data. This information also needs to be accessible on a disaggregated site-by-site basis in both developed and developing countries.

[Indicators: Provision of complete input/output inventory for all operations; site-by-site information.]

Clearly, reporting annually against all of these benchmarks represents an extremely demanding task even for the best-resourced companies. To make the task more manageable for those starting the process, and for small- and medium-sized enterprises (SMEs), Chapter 6 extracts a 'core set' of performance indicators designed to facilitate "reporting on a shoestring".

World health needs

Few explicit cases

A tricky area

6.0 REPORTING ON A SHOESTRING FOR SMALL- AND MEDIUM-SIZED COMPANIES

A big company affair

"Free Rider" problem

Corporate environmental reporting has to date been a big company affair. Few small companies have either the public profile or the resources to embark on the preparation of a lengthy report. But small- and medium-sized enterprises (SMEs) are unlikely to be exempt from the need to report for long. The reporting pioneers are already making moves to tackle the 'free rider' problem of non-reporting by the bulk of business. Industrial customers are beginning to demand from their suppliers - often SMEs - evidence of environmental competence. And banks are starting to realize that they will need increasing amounts of environmental performance data to assess adequately the full sustainability of potential debtors before making loans.

As a result, the need for reporting 'on a shoestring' has emerged as a key issue for the years ahead. Already some models are available, in particular the site reports of the larger companies, which are often no more than two or three pages long.

"Ciba's sites around the world report locally according to the legislative requirements of the countries in which they operate and local needs. However, we believe that there is also a need for internationally accepted "Core data" for environmental reporting."

1992 Ciba Corporate Environmental Report.

6.1 SMEs: A Core Set of Reporting Ingredients

20 core "ingredients"

Out of the 50 reporting elements discussed in Chapter 5, a core set of 20 which are likely to prove a minimum set of requirements for effective reporting by all companies - and a suitable framework for reporting by small- and medium-sized enterprises, have been identified.

As a minimum, a corporate environment report should include four elements from the *Policy and Management Systems* cluster (Section I, above):

- the company's latest **environmental policy statement**, with dates of any reviews (2);
- a description of the company's **environmental management system(s)** (3);
- an outline of **management responsibilities and reporting links** for environmental protection (4); and
- an account of the company's **legal compliance** record (7).

In some cases, for example in relation to legal compliance, SMEs may find that they have nothing to say. However, it is a useful discipline to routinely cross-check performance in each of these areas, to ensure that management and key stakeholders are kept informed of the latest developments.

From the *Input/Output Inventory* cluster (Section II, above), information should be supplied - as a minimum - in relation to nine of the elements:

- **materials use and trends** (14);
- **energy consumption and trends** (15);
- **water consumption and trends** (16);
- **health and safety** (17);
- **environmental accidents** (19);
- **major waste streams** (22);
- **air emissions** (23);
- **water effluents** (24);
- **product impacts** during use (29).

Any company producing a report should consider setting itself annual targets, with some of the above headings being particularly suitable in this respect. So, for example, an SME might set itself the target of cutting its electricity consumption by 5% during the next year - or, if its business is growing, of holding its electricity consumption stable. In either case, the aim will be to promote greater energy efficiency, which will contribute to the company's eco-efficiency and, eventually, to the eco-efficiency of the industrial sector and national economy of which that company is part.

Two elements from the *Finance* cluster (Section III, above) stand out as reporting priorities:

- the level of **environmental expenditure** (31); and
- the extent of the company's environment - related **liabilities** (32).

Stakeholder groups

A basic corporate environment report should also demonstrate how the company is working with five key stakeholder groups (see Section IV, above):

- its own **employees** (37);
- **government** (both legislators and regulators) (38);
- the **local communities** near to the company's facilities (39);
- the company's **shareholders and investors** (40)
- the company's involvement in any relevant initiatives launched by **business and industry associations** (43).

Green business networks

Many SMEs may conclude that their key external stakeholders are members of the local community, but it is also essential to keep employees and shareholders up to date with problems and progress. In some areas, 'green business networks' are springing up to help members to develop their environmental management systems. In some cases, these may become a vehicle for longer term reporting by SME members. In other cases, the mainstream industry association may be a suitable vehicle.

The reader will note that the "Sustainable Development" cluster of objectives do not figure in this core set of reporting indicators. This is appropriate when considering the likely requirements of SMEs and companies based in the less developed regions of the world, but this cluster of requirements will become much more appropriate once the relevant performance indicators have been developed and agreed.

7.0 REPORTING BY SECTORS

"The German Federal Environmental Agency has estimated that 180,000 metric tonnes of chlorinated hydrocarbons were used in West Germany in 1987. More than half of this amount, some 100,000 metric tons, was used for cleaning purposes. For some years now, Henkel has been successfully working to replace these solvent-based cleaners by aqueous systems."

1992 Henkel Environment Report.

All companies face generic environmental challenges, which are reflected in the 50 reporting elements discussed in the previous chapters. However, companies environment-intensive industries clearly face a range of industry-specific issues, which they will have to give special attention in their reporting programmes.

Based on the review of current reporting practice, the study team identified sectoral reporting elements for seven industry clusters: (1) chemicals; (2) oil and gas; (3) metals and mining; (4) pulp and paper; (5) consumer goods; (6) travel and tourism; and (7) banking and financial services. After reviewing these seven clusters, we suggest areas which ought to be covered in reports by four other sectors: energy utilities, textiles, leather tanning, and retail.

The company references are designed to help readers cross-refer to the appropriate chapters and to the analysis of company reports in Appendix 1.

7.1 Chemicals

Chemical companies need to meet raised stakeholder concerns by releasing extensive information on risk management, health and safety issues, as well as accidents and emergency response, and safe distribution procedures.

As a minimum, companies also need to publish clear data on habitat protection in facilities, land contamination/remediation, as well as amounts of wastes generated, air emissions, water effluents, noise and odours. Product stewardship and plastics recycling efforts also need to be explained, including programmes to phase-out environmentally harmful products such as chlorofluorocarbons (CFCs) and agrochemicals.

In terms of finance, details of any fines paid and compensation awarded should be included. Particular attention should be focused on employees, local communities, business associations and environment groups. Chemical companies also need to explain how they are reducing their contribution to global environmental imperatives, particularly climate change, ozone depletion and the export of hazardous wastes (see **BASF, Bayer, ICI, Monsanto, Rhône-Poulenc, Union Carbide**).

Industry specific issues

Eight industry clusters

Raised stakeholder concerns

7.2 Oil and gas

Prior assessment procedures

The oil and gas sector faces a number of special issues which should be reflected in company reports. These range from a description of prior assessment procedures to minimize environmental impacts, maintaining biodiversity during operation (particularly in sensitive areas such as rainforests and Alaska), reducing drilling waste and protecting water quality, preventing oil spills, ensuring health and safety, promoting energy efficiency, restoring sites after project completion, and respecting the rights of local communities (see **British Gas, BP, Chevron, Shell Canada, Shell Exploration and Production and Statoil**).

7.3 Mining and metals

Land rehabilitation

Companies in the mining and metals sector have a substantial impact on the environment. They need to report more widely on each stage of a mine or quarry's life-cycle, including exploration practices, prior assessment procedures for prospective developments, environmental management during operation (and in particular protection of water resources from spills and acid drainage) and land rehabilitation.

Mass balance accounting

Smelting operations need to report on efforts to reduce air pollution and energy consumption. Finally, metal companies should explain how they are ensuring higher recycling rates, thereby minimizing the need for new mining operations. The scale of environmental impacts in this sector lends itself to mass balance accounting (see **Broken Hill Proprietary, Danish Steel Works, Noranda Minerals and RTZ**).

7.4 Pulp and paper

Forestry management

The pulp and paper industry has developed a high environmental profile in recent years. Pulp and paper companies need to explain their forestry management activities, including their stand on controversial issues of preserving 'old growth' forests, introducing plantation monocultures (e.g. eucalyptus), clear cutting timber stands, conserving wildlife, as well as ensuring public access and the multiple use of forests.

Sustainable markets for recycled materials

At the manufacturing stage, corporate policy on the use of chlorine for bleaching should be described, as well as data on dioxin emissions. Paper recycling programmes should form a central part of the report, particularly initiatives to generate sustainable markets for recycled materials (see **Canadian Pacific, MoDo and Noranda**).

'It is a British Airways objective to work within the industry to improve awareness and understanding of the interactions of tourism with the environment.'

'The environmental review of our tour operator, British Airways Holidays (BAH),... focused mainly on the 'outbound' - i.e. holidays from the UK - operation but also covered the UK ground handling side of the inbound operation.'

1993 British Airways Annual Environmental Report.

7.5 Consumer goods

Although the consumer goods sector does not match the chemicals or metals sectors in terms of direct environmental degradation, it is both at the end of the chain for these more environmentally intensive sectors and is the sector most affected by 'green consumer' pressures.

Priority concerns include efforts to minimize packaging, resource consumption and waste generation through the use of life-cycle assessment (LCA) and other tools, as well as assisting in the construction of working recycling and re-use infrastructures. Special attention should be focused on international sourcing activities, and the 'ecological shadow' of consumer products destined for developed world markets in developing world (see **Body Shop, Procter & Gamble and Thorn-EMI**).

7.6 Travel and tourism

As well as being part of the world's largest commercial sector, travel and tourism companies can have substantial direct and indirect impacts on the environment. Environmental reports from this sector need to address issues such as transport-related problems of air pollution, noise, congestion.

Companies intending to report should refer to the relevant sectoral guidelines. In a survey of its 35 member companies, the World Travel and Tourism Council (WTTTC) found that only 5 out of the 35 that responded stated that they had specifically implemented industry guidelines. Few if any firms in the tourism sector have yet published stand-alone reports. The Environmental Guidelines agreed by the WTTTC itself in 1992 are noteworthy for the inclusion of principles relating to respecting historic objects and sites (Principle 10) and exercising due regard to local cultures (Principle 11).

Since transport is the fastest growing source of carbon dioxide, the main greenhouse gas, reports should address efforts undertaken to encourage energy efficiency, promote mass over private transport systems and explore alternative fuel and propulsion systems. In addition, tourism companies need to release information on how they are ensuring balanced development practices, which favour the maintenance of local environments and cultures (see **British Airways and Swissair**).

Green consumer pressures

'Ecological shadow' of consumer products

Local cultures

7.7 Banking & Financial Services

'Statement by Banks of Environment and Sustainable Development'

In the financial services sector, UNEP 'Statement by Banks on Environment and Sustainable Development' has been adopted by 40 banks. Among other things, the Statement recommends that 'banks develop and publish a statement of their environmental policy - and periodically report on its implementation'.

Where banks do report, it is important that they recognize that 'house-keeping' issues (such as energy efficiency and paper recycling) represent only a small portion of their 'environmental footprint'. They should also report on what they are doing to ensure that their lending policies are environmentally sound.

A number of banks including the UK-based **National Westminster (NatWest)**, the **Royal Bank of Canada** and the **Swiss Bank Corporation**, have publicized their signature of the Statement. NatWest has produced the first comprehensive environmental report for this sector, although mostly focusing on housekeeping issues. **BankAmerica** had already produced a shorter report.

7.8 Some Other Sectors

In other industry sectors, reporting practice is much less well-developed. However, some priority issues can still be highlighted:

- *Energy Utilities*: e.g. air pollution, global warming, energy supply mix, nuclear safety, promotion of renewable energy sources (see **Ontario Hydro**) and demand side management (see **Manweb**).
- *Textiles*: e.g. pesticides in cotton growing, and use of dyes and solvents in finishing (see **Kunert**).
- *Leather Tanning*: e.g. water effluent, odours, wastes (particularly heavy metal contaminated sludges and shavings) and collective waste management initiatives.
- *Retail*: e.g. minimizing transport, packaging and recycling, site management (e.g. energy conservation), product sourcing and consumer relations (e.g. **Migros**).

'After four years' experience of using eco-balance sheets in the Kunert Group, it is our conviction that eco-controls based on 'in-house eco-balance sheets' is feasible for all companies.

1993 Kunert AG
Eco-Report.

8.0 MAKING IT WORK

"The world's environmental problems are too real and immediate - as well as long-term in their implications - to ignore. It is the responsibility of those who have the capacity to do something about them."

1992 IBM and the Environment Progress Report.

The complexity of many environmental issues means that companies need to pay special attention to the user friendliness of their reports. Some reports have unfortunately suffered from over-design, which detracts from their readability. Others have introduced useful devices, such as a feedback card for readers to respond with their comments.

Key issue is user friendliness

To widen their appeal, some reports have been published in a number of languages, but most are only available in one. Whatever languages are used, however, the more successful companies have learned to ask their stakeholder audiences for their reactions, using feedback cards, focus groups or round-tables. Some reporting companies - among them **BP Chemicals** and **BT** - are also beginning to offer their performance data on diskette.

Performance data on diskette

But these are largely presentational issues. Two central and highly practical sets of issues face all reporters: usefulness and feasibility.

8.1 Usefulness

Comparability

To be useful, performance data must be comparable. Industry associations have an important role here in developing and disseminating reporting 'templates', which can help companies to prepare at least the statistical parts of their reports in a standardized, comparable way.

Reporting 'templates'

External benchmarking

Longer term, the fate of corporate environmental accounting and reporting will depend on the strength of the external interest and pressures. As we have seen, the external benchmarking of corporate environmental performance is now reasonably strong in North America - with organizations like the Council on Economic Priorities (CEP) and the Investor Responsibility Research Center (IRRC) - but weak in most parts of Europe, and almost non-existent in Japan and most newly industrialized and developing countries.

Scope

At the heart of the rivalry between the 'inventory' (i.e. Anglo-Saxon) and the 'life-cycle' (i.e. Rhine) approaches to reporting is the question: How far should a company go in accepting responsibility for environmental problems? The inventory approach stresses direct impacts within a company's factory fence, together with some of the impacts associated with the product once in use. By contrast, ideally, the life-cycle approach looks upstream to the sources of inputs and downstream to the ultimate fate of all outputs. Reporting companies will need to be very clear where they stand on these issues.

Credibility

The credibility of the data provided is overwhelmingly important

The credibility of the data provided is overwhelmingly important. Some companies have addressed this issue by having their reports verified by external organizations. Others have asked external consultants to prepare large elements of their reports. In either case, it is recognized that the data reported needs to be seen as objective, comprehensive and up-to-date.

Minimum conditions

Both companies and potential verifiers are so far undecided as to the benefits of verification. Consultants Arthur D. Little carried out the verification of the Body Shop report. Dr Ron McLean, Director of ADL's Environment Management Section in Europe, argues that independent verification of a report should only take place when the verifier and reporter respect the following minimum conditions:

- Availability of all raw data and other information - and of the analyses - used to compile the report.
- An opportunity for the verifier to sample and track data collection and analysis methods from site level through business unit to company-wide results.
- The verifier must be allowed to:
 - define scope of verification with reporter;
 - choose sample locations;
 - interview any staff required;
 - check any documentation as needed.
- Freedom for verifier to give professional opinion in the statement which reflects:
 - the limits and scope of the verification conducted;
 - the real findings (i.e. both the good and bad news).

Real findings

Steps should be taken to encourage the collection and reporting of information in a manner that does not penalize industry for making this information public. With the verification of audits and of corporate environment reports becoming a major issue, there is at least a potential opportunity for some industry associations to develop and offer services which help their members address the credibility issue.

Quantification

Reporting companies stress that some aspects of their environmental performance are intangible, unquantifiable. True. But a simple rule of thumb in corporate environmental reporting is: "The greater the level of quantification, the greater the utility." Several of the best reports (e.g. **Danish Steel Works, Dow Europe**) have included mass balances for the company's operations.

Given the cost of producing such environmental performance data, and the commercial sensitivity of some of those data, the main industry associations have an important role to play in advising intending report-makers on what performance indicators they should adopt - and what level of detail they should aim to report. The degree of quantification expected will inevitably grow, however, as the new discipline of full-cost accounting evolves internationally.

Transparency

Corporate environmental reporting is an area where the transparency of the process - including open publication of the assumptions made and methods used - is likely to be paramount. A few companies, notably **BP Chemicals**, have already held consultation meetings with key environmental stakeholders to review their first reporting attempts and seek ideas on how they might be improved next time.

Extendability

As with information technology, it is important that when companies or industry sectors first establish reporting frameworks that they are, as far as possible, 'future-proof' - that is, they can be upgraded and extended to meet new requirements. This is a particular challenge at a time when companies are having to evolve rapidly to stay competitive. **ICI**, for example, had problems in ensuring that its report series was extended in a comparable way when **Zeneca** was established as a separate company.

Degree of
quantification will
grow

Consultation
meetings with key
environmental
stakeholders

'Future-proof'

8.2 Feasibility

If the momentum of current corporate environmental reporting initiatives is to be maintained, and hopefully accelerated, the support of both national and international industry associations will be critical in helping to tackle the following barriers.

Sector capabilities

Helping to build capabilities

In the 1970s and 1980s, many industry associations used the weak reporting capabilities of their members and sectors as a reason for lobbying against proposed disclosure and/or reporting requirements. By contrast, as we move through the 1990s we would expect to see many leading industry associations - and particularly those with corporate members operating in international markets - helping to build the capabilities of their members and sectors.

Reporting burdens

What advice to give?

Reporting is certainly a much tougher task for companies that do not have a suitable environmental management system (EMS) place, to capture, process and communicate data. What are industry associations currently doing to encourage members to develop and put in place such systems - and to help them calibrate them against the systems of other companies operating in the same sector? What advice do they give to companies that find it hard to report (e.g. SMEs and large, diversified companies)? What more might they do?

Confidentiality

Some of the more sensitive data made anonymous

One area where intending report-makers will need advice is in relation to confidentiality. What level of disclosure can they reasonably be expected to make without compromising their commercial position? Could industry associations relieve some of the pressure on individual corporate members by producing annual reports of the sector's overall environmental performance - with some of the more sensitive data made anonymous? (This is an approach which has already been adopted by the UK Chemical Industries Association.)

Controversy

Many corporate environmental reporters have assumed that the end-result of their efforts will be to defuse controversy. Just as often, however, the launch of a corporate environment report may revive an existing controversy - or introduce new ones. Says Sergio Verdugo of CAP SA of Chile: "Our experience in Chile so far is that when a company is identified as a leader in the environmental arena in a country like ours, it is like extending a lightning rod in the middle of a thunderstorm." The implication: companies intending to report should treat their reports as simply one element of a wider programme of stakeholder communication.

"The green accounts are intended as a basis for an objective discussion about how to minimize the strain on the environment in connection with the company's activities."

1992 Danish Steel Works Annual Report.

Time-scales

The corporate environmental disclosure and reporting debate is now well under way in most North American and West European countries, although there remain major differences in the styles of reporting - and in the proportion of companies actively involved.

The debate in the 'North' is likely to continue developing for at least another 5-10 years. In Japan and the newly industrialized or rapidly industrializing countries, environmental performance reporting will take longer to install - but we can expect significant progress during the next 10-15 years.

In the developing countries, the pace of development will depend on a wide range of factors, not least among them the extent to which customer nations and countries increasingly demand environmental performance data.

Given the urgency of the need in such countries, we must hope that new environmental initiatives will encourage the spread of corporate environmental reporting even there. But the weakness of regulatory systems and of the NGOs in many such countries raises a real question over the relevance there of the sort of reports discussed in this report in the short-term. The challenge for companies based outside the OECD region is often going to be the more basic one of establishing environmental management systems. Only when these are in place will environmental auditing and reporting make real sense.

9.0 LOOKING AHEAD

'Passing fashion'

Despite the evidence that corporate environmental reporting is becoming established in different countries and different industry sectors, a number of key questions remain to be answered. Most fundamentally, perhaps, we might ask: Will corporate environmental performance reporting be a 'passing fashion', like social reporting some years ago, or will it increasingly enter the business mainstream?

The views of the companies and industry associations we talked to were fairly clear on the issue. Perhaps the clearest statement of the likely trend came from Robert H Campbell, chief executive officer of Sun, the first company to agree to report under the CERES Principles. His view: "We believe that annual reports of this nature will someday be as common as annual financial reporting."

So this is a trend which looks as though it is here to stay. As we completed this survey, new reporting companies continued to come 'on stream', while existing reporters extended their report series. Corporate environmental reporting, it is clear, is now an rapidly emerging business requirement, driven by regulatory, market and business-to-business pressures.

9.1 The Underlying Trends

Upgrading EMS systems

At the same time, corporate environmental reporting - even when it meets all the criteria outlined in Chapter 5 - represents just the 'tip' of an environmental management and communications 'iceberg'. The move towards greater levels of corporate responsibility and accountability is not only encouraging growing numbers of companies to produce environmental performance reports - but also to set up, or upgrade, appropriate management, internal reporting and external communication systems.

Appendix 2 demonstrates that the main initiatives to date, with very few exceptions, have been confined to Western Europe, Scandinavia and North America - and to a small number of environment-intensive industry sectors (e.g. chemicals, oil and gas, pulp and paper, auto production, airlines). But the likelihood is that new industry sectors and other world regions will increasingly be brought into the circle.

"I welcome the trend toward environmental reporting. It provides a valuable new vehicle through which to judge company's performance and its environmental commitment. As a discipline, it may be in its infancy, but environmental reporting is rapidly proving to be an important adjunct to the financial accounts in indicating the effectiveness of a company's management."

Colin Southgate,
Chairman, 1993
Thorn EMI
Environmental
Report.

To date, the reporting companies have tended to view the data produced as valuable in their own right - and as an indicator of corporate commitment to openness. Increasingly, however, the data will need to be used to assess the environmental sustainability of products, processes, companies, industry sectors and even entire economies. Whatever companies may call their reports, and however many times they mention sustainable development in the text, very little work is being done in this area as yet.

9.2 Moving to Sustainability Reporting

The 50 reporting ingredients discussed in Chapter 5, taken together with recipes provided by such reporting frameworks as the Public Environmental Reporting Initiative (PERI) (see Appendix 3), provide a useful starting point for any company considering how to begin reporting. However, the complexity of this area - and the sheer number of competing frameworks being proposed - make both harmonization and the promotion of at least a core set of reporting elements important tasks.

And there is another issue: the 'free-rider' problem. The companies reporting to date represent a minuscule proportion of the total number of companies operating in their industries or world regions. More needs to be done to bring both non-reporters and, more fundamentally, non-performers into line.

Non-reporters

"We are convinced that only a strategy of sustainable development can guarantee sustainable success."

Alex Krauer,
Chairman, and
Heini Lippuner,
President, 1992
Ciba Corporate
Environmental
Report.

We recognize that the proposed criteria from the *Sustainable Development* cluster (Section V, Chapter 5) cannot be considered immediate reporting priorities - given the distance that still has to be travelled to stimulate the majority of companies to report on their basic environmental performance. This is particularly true in relation to industries and companies based outside the OECD region. But this does not mean that companies should - or will - downgrade the broad sustainable development agenda.

In particular, those companies that have subscribed to the ICC's Business Charter for Sustainable Development or the Keidanren's Global Environment Charter, both of which contain numerous principles dealing with global sustainability, should be encouraged to begin reporting on these aspects of their performance.

It is also worth noting that the core set of reporting elements is likely to expand as the 1990s progress, embracing increasingly sophisticated elements, including full-cost accounting. Forward-looking companies should therefore already be planning to move beyond the core set of performance indicators, with an eye to developing appropriate indicators to assess the overall environmental sustainability of their industry and of their own operations.

The sustainability vectors

The reporting initiatives reviewed in this report potentially represent a major step forward in terms of pinpointing, evaluating and reducing industry's environmental impacts. The growing demand for corporate transparency that they reflect also represent a key driver along the "sustainability vector", the track that - hopefully - will lead towards a sustainable global economy. But a great deal more thinking needs to be done on how such reporting can be linked into national sustainable development priorities, targets and reporting systems. Therein lies a central challenge not just for the remaining years of the 1990s, but for the 21st century.

"We know that we do not have all the answers. Indeed, we invite your comments on our environmental performance, on the performance indicators we have chosen for this report - and on those we might use to assess our performance in future years."

Mads Øvlisen,
Chief Executive,
1993 Novo Nordisk
A/S Environmental
Report.

APPENDIX 1: COMPANY ENVIRONMENTAL REPORTING: 100 PIONEERS

Well over 100 companies worldwide have now published corporate environmental reports. Many more have included environmental information in their annual reports to some degree. The following table is a representative sample, listing 100 companies which have pioneered the practice of corporate environmental reporting. The aim is to give as far as possible a sectoral and geographically balanced picture of corporate reporting practice to date. While special emphasis has been placed on including those companies that have published stand-alone corporate environment reports, the table also includes those companies that have included environmental performance information in their annual reports (particularly in those regions where environmental reporting is still embryonic).

For each company, the country of origin and sector is stated, followed by the industry codes of conduct that it supports. The next two columns indicate whether the company has presented its information through the annual report (*A-Report*) or through the publication of an environment report (*E-Report*). The report is then graded according to the five reporting stages shown in Figure 2, Chapter 3. Finally, a brief description of the main contents of the report is given, where possible using the same terminology as the 50 reporting ingredients identified in Chapter 5. This description concludes with an indication of whether the company made a reference to the industry codes that it supports in its reporting.

APPENDIX 1: COMPANY ENVIRONMENTAL REPORTING - 100 PIONEERS

Company	Country	Sector	Year	Industry Codes	A - Report	E - Report	Stage 1-5	Comments
AKZO	Neths	Chemicals	1991	ICC	✓	✓	2	E: 1st annual "Environment Report" for Dutch sites (CEO, management, strategy, safety, environment: air, water, soil, noise, waste). A: 4 pages (EMS, audit, chlorine). <i>Reference to ICC.</i>
Allied Signal	USA	M'facture	1992	ICC	✓		1	A: 2 page update. <i>No reference to ICC.</i>
Aracruz Cellulose	Brazil	Pulp & Paper	1992	ICC	✓		1	A: 2 pages (UNCED/BCSD, pollution control). <i>Reference to ICC.</i>
Asahi Chemical	Japan	Chemicals	1992		✓		1	A: 1 page (SO2 data, CFCs, safety).
AT&T	USA	Telecoms	1992			✓	3	E: 3rd annual "Environment and Safety" report (CEO, targets and performance for CFCs, air emissions, process waste, paper use/recycling). Contact Points. <i>No reference to ICC.</i>
BankAmerica	USA	Banking	1992	ICC		✓	1-2	E: 4 page overview (policy, progress). <i>No reference to ICC.</i>
BASF	Germany	Chemicals	1993	ICC, RC		✓	3	E: 5th annual "Environment Report". (CEO, articles on soil, transport, incineration, dioxin, paper, education, Colombia, plus performance on waste, energy, water, effluent, ammonium, accidents, recycling, landfill, incineration, air emissions, air quality, odours, costs, projects). <i>No reference to ICC or RC.</i>
Bayer	Germany	Chemicals	1992	ICC, RC		✓	2	E: 2nd 115-page "Magazine" in 1992 (CEO, management, waste, technology, safety, water, chlorine, plus data on costs, emissions). <i>No reference to RC or ICC.</i>
Body Shop	UK	Consumer Goods	1993	ICC		✓	3-4	E: 2nd annual "Green Book" (targets, policy, management & auditing, energy, water & waste, products, plus some data). Externally verified. <i>No reference to ICC.</i>

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Company	Country	Sector	Year	Industry Codes	A - Report	E - Report	Stage 1-5	Comments
Bristol-Myers Squibb	USA	Pharma	1993	ICC		✓	3-4	E: 1st "Report on Environmental Progress" (CEO, life-cycle, R&D, production, packaging, purchasing, management, ICC charter, initiatives, expenditures and liabilities, compliance, toxic releases, waste, spills and health). <i>Reference to ICC.</i>
British Airways	UK	Transport	1993	ICC		✓	3-4	E: 2nd "Annual Environment" report (noise, emissions, fuel efficiency, waste, congestion, tourism, environmental management and communications). <i>Glossary. Reference to ICC.</i>
British Gas	UK	Oil & Gas	1993	ICC		✓	3-4	E: 2nd "Environment Review" (CEO, policy, management, reporting, compliance, assessment, emissions, contaminated land, operations, exploration, research & technology, purchasing, acquisition, marketing, external relations). <i>Reference to ICC.</i>
British Nuclear Fuels	UK	Energy utility	1992	RC		✓	3	E: 1st Annual Environment Report (CEO, industry initiatives, strategy, site reports, data summary, safety, policy, verification).
BP Chemical	UK	Chemicals	1992	RC		✓	3	E: 2nd annual "Facts & Figures" report (policy, emissions, targets, accomplishments). <i>Global coverage. Reference to RC.</i>
British Petroleum	UK	Oil & Gas	1993	ICC		✓	3	E: 2nd "Health, Safety and Environment" report (reporting, partnership, spills, health & safety, emissions data, policy, awards). <i>Global coverage. Externally verified. No ref to ICC.</i>
British Telecom	UK	Telecoms	1993			✓	4	E: 2nd annual "Environmental Performance" report (Performance and targets for recycling, waste, energy, emissions, purchasing, visual, community, training, monitoring, products, management, sustainable development plus consumption and emissions data).
Broken Hill Propriety	Australia	Mining & Metals	1992			✓	1-2	E: "Living with Steel" "booklet" (strategy, air, process, water, energy, noise, by-products, site management, employees, community, policy).

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Company	Country	Sector	Year	Industry Codes	A - Report	E - Report	Stage 1-5	Comments
Browning Ferris	USA	Waste	1992	ICC		✓	2-3	E: 1st "Environmental, Health and Safety" report (CEO, management, training, audit, compliance, waste minimisation and recycling, initiatives, policy).
BSO/Origin	Neths	IT	1993		✓		4	A: 3rd "Environmental Accounts", based on valuation of impacts, yielding a corporate "Net Value Added".
CAEMI	Brazil	Mining & Metals	1992	ICC	✓		1	A: 1 page text, plus 2 pages pictures (policy, rehabilitation, emissions control, external affairs).
Caird	UK	Waste	1992			✓	2-3	E: 3rd Environmental Audit summary (standards, remediation, communities, research, education, policy).
Canadian Pacific	Canada	Pulp & Paper	1992			✓	2-3	E: 2nd "Forestry" report (facilities, chlorine, forest management, recycling, audits).
CAP SA	Chile	Metals	1992	ICC	✓		1	A: 2 pages (BCSD, environment projects). <i>Reference to ICC in 1991 Report.</i>
Cargill	USA	Agri-business	1993	ICC, PERI		✓	2-3	E: 1st "Environmental, Health and Safety" report (policy, management, research, education, communication, emissions, risk management, compliance, product stewardship, employees, stakeholders). <i>Reference to ICC and PERI.</i>
Carlsberg	Denmark	Beverages	1992		✓		1	A: 9 page photo (health, recycling, process).
Chevron	USA	Oil & Gas	1991	ICC		✓	2	A: 4 page update of 1990 E-Report (successes, plus waste, emission, costs data). <i>No reference to ICC.</i>
China Steel	Taiwan ROC	Steel	1992	ISI	✓		1	A: 2 page (policy statement, capital expenditure on capital control).
Ciba	Switz	Chemicals	1992	ICC, RC	✓	✓	3	E: 1st "Corporate Environment" report (safety, products, source reduction, waste, emissions, risk). Global Coverage. Bilingual English-German. Also site reports. <i>Reference to RC and ICC.</i>

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Company	Country	Sector	Year	Industry Codes	A - Report	E - Report	Stage 1-5	Comments
Danish Steel Works	Denmark	Metals	1992	ICC	✓		3	A: 2nd "Green Accounts" (4 page mass balance and trend charts). <i>No reference to ICC.</i>
DHL International	UK	Transport	1993	ICC		✓	2	E: 1st Environmental Policy "booklet" (CEO, policy, transport, route planning, operational sites, suppliers, waste, packaging, employees, community).
Dow Canada	Canada	Chemicals	1993	RC		✓	4	E: 5th annual "Environment Progress" report (policy, costs, emissions, energy efficiency, air & water quality, waste minimization, customers, community, education, EIA, conservation). Contact Points. <i>Reference to RC.</i>
Dow Europe	Europe	Chemicals	1992	RC		✓	4	E: 2nd annual "Environmental Progress" report (E V-P, strategic goals, production, energy use and emissions, priority chemicals, COD, metals, VOCs, CFCs, waste, groundwater, unwanted events, site performance, dialogue). Site Contacts. <i>Reference to RC.</i>
Du Pont	USA	Chemicals	1992	ICC, RC, PERI	✓	✓	3	E: 2nd "Progress" report (CEO, environmental management, environmental policy, Responsible Care: stewardship, safety, community, products; environmental data: goals and TRI). Global coverage. List of "Environmental Leaders". Summary of External Audit Report. <i>Reference to ICC, PERI and RC.</i>
Eastman Kodak	USA	Consumer Goods	1992	ICC, RC	✓	✓	3	E: 3rd "Health, Safety and Environment" report (CEO, guiding principles, research, production, health & safety, products/packaging, consumers, legislators, assessment/communications, community, employees). <i>Reference to ICC and RC.</i>
Ecover	Belgium	Consumer Goods	1993			✓	1-2	E: Corporate update (mission, campaigns, principles, research, marketing, products, awards).
Elf-Atochem	France	Chemicals	1993	ICC, RC		✓	2-3	E: 1st "Environment" report (safety, clean technologies, air, water, waste data, energy, LCA, CFCs, plastics, fertilizers). <i>Reference to RC.</i>

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Company	Country	Sector	Year	Industry Codes	A - Report	E - Report	Stage 1-5	Comments
ESKOM	S. Africa	Energy utility	1991	ICC	✓	✓	1-2	E: "Eskom & Environment" review (policy, air, transmission, land, auditing, siting, purchasing, safety). <i>No reference to ICC.</i>
Exxon	USA	Oil & Gas	1992	RC	✓	✓	2	E: 1st Progress report (1990) (policy, safety, air, water, land, energy, waste, risk, incidents, community). A: 3 page insert on EHS. <i>Reference to RC.</i>
FIAT	Italy	Auto	1992	ICC		✓	2-3	E: 1st Environmental Report (policy, energy, water, waste, environmental measures, product, reporting methodology). <i>No reference to ICC.</i>
Ford	USA	Auto	1993	ICC	✓		1-2	A: 7 page insert (philosophy, human resources, vehicle issues, process issues). <i>No reference to ICC.</i>
GE Plastics	Europe	Chemicals	1991			✓	3	E: 3rd annual "Safety, Health & Environment" report (management, water, waste, soil, complaints, noise, energy, safety, health, emergency response). Glossary. Bilingual English-Dutch.
General Motors	USA	Auto	1992	ICC/ CERES (from 1994)		✓	2-3	E: 10 pages in "Public Interest Report" (principles, auto & plant emissions, waste, community, public policy), plus "GM & Environment". No reference to ICC. Endorsed CERES Principles early in 1994.
Henkel	Germany	Chemicals	1992	ICC		✓	2-3	E: 1st "Environment" report (principles, performance by production and product lines). <i>Reference to ICC.</i>
Hitachi	Japan	IT	1992	ICC		✓	1	A: 1 page (CEO message, policy, R&D). <i>No reference to ICC.</i>
Hoechst	Germany	Chemicals	1992	ICC, RC	✓	✓	2-3	E: 1st annual report (costs, waste, remediation, water, air, investments, employees). Contact Point. A: 2 page description, plus 4 page summary insert in 1992 A-Report. <i>Reference to RC.</i>

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Company	Country	Sector	Year	Industry Codes	A - Report	E - Report	Stage 1-5	Comments
IBM	UK	IT	1992			✓	2-3	E: 1st "Environmental Review" (policy, organization, risk, emergency, response, health, product design, materials, waste, energy, vendor & agent selection, product stewardship, transport, communications, training).
IBM	USA	IT	1993	PERI		✓	3	E: 2nd "Progress" report (CEO, safety, pollution prevention, air emissions, water, waste, products, energy, global action, research, awards, policy). Reference to PERI.
ICI	UK	Chemicals	1992	ICC, RC		✓	3	E: 2nd "Environment" report (CEO, policy, costs & prosecutions, new plant, goals and performance on CFCs, waste reduction, energy, water, recycling, products, community, education). Global coverage. Also site reports. Reference to RC; no reference to ICC.
C. Itoh	Japan	Trading	1992	ICC	✓		1	A: 2 page overview (management, charitable work). No reference to ICC.
James River	UK	Paper	1993			✓	2	E: 1st "Environmental" report (CEO, policy, management systems, raw materials, waste, resource use).
Johnson & Johnson	USA	Pharma	1993	ICC		✓	1-2	E: 1st "A Special Responsibility" "brochure" (policy, responsibility, emissions, emergency response, pollution prevention, packaging, energy, products, sustainable development, community). Reference to ICC.
Kansai Electric Power Co	Japan	Energy Utility	1991	ICC		✓	1-2	E: Overview report (policy, air emissions, costs, assessment, global environment).
Kemira	Finland	Chemicals	1991	ICC		✓	2	E: 1st "Environment" report (corporate policy, air, water and waste performance, plus site and product details).
Kunert	Germany	Textiles	1993			✓	4	E: 4th annual "Eco-report" (product tree analysis, plus detailed eco-balance of inputs and outputs).

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Company	Country	Sector	Year	Industry Codes	A - Report	E - Report	Stage 1-5	Comments
Landes-girokasse	Germany	Banking	1992			✓	3	E: 1st "Eco-Report" (CEO, eco-balance of inputs and outputs: energy, water, purchases, wastes, water, air).
3M	UK	Consumer Goods	1991			✓	2-3	E: 1st "Environmental Performance" report (policy, strategy, waste, air emissions, energy, accidents, site performance).
Manweb	UK	Energy Utility	1993			✓	3	E: 2nd annual "Environment" report (CEO, policy, health, emissions, energy management, research, communications).
Mazda	Japan	Auto	1991			✓	1-2	E: 2nd "Conservation of the Global Environment" report (policy, products, recycling).
Merck	USA	Pharma	1992			✓	2-3	E: 1st progress report (CEO, waste, conservation, stewardship).
Migros	Switz	Retail	1992		✓		1-2	A: 2 page overview (transportation, recycling). Plus "Migros and the Environment" brochure (policy, communications, transportation, production, energy).
Mobil	UK	Oil & Gas	1993	ICC		✓	2	E: 1st report (philosophy, extraction, shipping, refining, storage, pipelines, terminals, road tankers, service stations, emergency response, products). No date. <i>No reference to ICC.</i>
MoDo	Sweden	Pulp & Paper	1992		✓		2	A: 9 page supplement (policy, forest management, production, products, recycling).
Monsanto	USA	Chemicals	1992	ICC, RC		✓	3	E: 2nd "Annual Review" (policy, CEO, pollution reduction, nature conservation, safety, community, awards, plus global data on employees, costs, emissions). <i>Reference to RC; no reference to ICC.</i>
National Power	UK	Energy Utility	1992	ICC		✓	3	E: 1st annual "Environmental Performance Review" (CEO, policy, targets, emissions, compliance, management, research, assessment, site performance). Externally verified. <i>Reference to ICC.</i>

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Company	Country	Sector	Year	Industry Codes	A - Report	E - Report	Stage 1-5	Comments
National Westminster Bank	UK	Banking	1993	ICC, B&E		✓	2-3	E: 1st "Environment" report (CEO, management, audit, performance by business sector, reporting policy). Statement from External Auditor. <i>Reference to ICC, B&E in 1992 Review.</i>
Nippon Steel	Japan	Metals & Mining	1992	ICC	✓		1	A: 1 page (energy, management, costs). <i>No reference to ICC.</i>
Nobel Industry	Sweden	Chemicals	1992	ICC, RC	✓		2-3	A: 8 page insert (objectives, costs, taxes, plus key issues and developments for each business sector). <i>Reference to RC.</i>
Noranda Forest	Canada	Pulp & Paper	1992	ICC		✓	3-4	E: 3rd annual "Environmental" report (CEO, policy, land management, effluents, health, recycling, management, auditing, research. Glossary. Contact Points. <i>No reference to ICC.</i>
Noranda Minerals	Canada	Metals	1992	ICC		✓	3-4	E: 3rd annual "Environmental" report (CEO, policy, water, air, land management, health, EIA, audits, sustainable development, legal issues, partnerships). <i>No reference to ICC.</i>
Norsk Hydro	Norway	Metals/Chemicals	1990	ICC, RC	✓		2-3	E: 1990 "Environment" report (CEO, chemicals, metals, management, dioxins, plus data). A: Updates in 1991/2 (life cycle, emissions, greenhouse gases). <i>Reference to ICC, RC.</i>
Norsk Hydro	UK	Metals/Chemicals	1993	RC		✓	3	E: 2nd "Environment" report (CEO, principles, audits, performance by business/site, products, community). <i>Reference to RC.</i>
Norske Skog	Norway	Paper	1992	ICC		✓	3	E: 2nd annual "Environmental" report (CEO, policy, emissions, costs, compliance, plans, research). <i>No reference to ICC.</i>
Olin	USA	Chemicals	1992	ICC, RC		✓	2	E: 1st "Health, Safety & Environment" record (CEO, pollution prevention, health and safety, transportation, emergency response, product, remediation, employees). <i>Reference to RC; no reference to ICC.</i>

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Company	Country	Sector	Year	Industry Codes	A - Report	E - Report	Stage 1-5	Comments
Ontario Hydro	Canada	Energy Utility	1991			✓	3-4	E: 4th 120 page annual "Environmental Performance" report (CEO, management, operations, regulations, approvals, energy management, alternative energy, waste, air, land management, stakeholders, plus extensive data). Glossary.
PepsiCo	USA	Beverage	1992		✓		1-2	A: 8 page insert (stewardship, recycling, packaging, waste).
Phillips Petroleum	USA	Oil & Gas	1993	ICC, PERI, RC		✓	3	E: 1st Environmental Report (CEO, company profile, environmental policy, environmental management, safety & risk, product stewardship, emissions, compliance, employee, community). <i>Reference to RC, ICC, PERI.</i>
Polaroid	USA	Consumer Goods	1992	PERI		✓	3	E: 4th annual report (CEO, strategy, compliance, waste management, emissions, case studies, packaging, production, community, TRI data by site). List of "Waste Reduction Champions".
Procter & Gamble	Europe	Consumer Goods	1993			✓	3	E: 1st "Environmental" report (CEO, policy, management, goals, material use, packaging, emissions, research, product/LCA, case study, recycling, partnerships). Contact points.
Procter & Gamble	USA	Consumer Goods	1992	ICC	✓	✓	2	A: 1/2 page in CEO statement. E: 1990 textual overview (CEO, policy, resource use, waste, partnership). <i>No reference to ICC.</i>
Rhône-Poulenc	France	Chemicals	1992	ICC, RC		✓	3	E: 1st annual report (E V-P, policy, accident & pollution prevention, waste reduction, product design, management, research, remediation, accidents, stakeholders, executives, plus French & global data). <i>Reference to ICC and RC.</i>
Rohm and Haas	Europe	Chemicals	1993	RC		✓	3	E: 1st Environmental Report (CEO, company profile, reporting policy, environmental policy, goals, programmes, management systems, environmental expenditure, Europe and site emissions to air, water and waste). Contact Points. <i>Reference to RC.</i>

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Company	Country	Sector	Year	Industry Codes	A - Report	E - Report	Stage 1-5	Comments
RTZ	UK	Metals	1992	ICC	✓	✓	1-2	A: 1/2 page (uranium, clean-up, safety). E: "RTZ and the Environment" (management, exploration, development, rehabilitation). <i>No reference to ICC.</i>
Shanks & McEwan	UK	Waste	1991			✓	2-3	E: 3rd report of "Advisory Council" (CEO, policy, sites, issues, recommendations).
Shell Canada	Canada	Oil & Gas	1992	ICC, RC		✓	3-4	E: 2nd annual "Sustainable Development" report (policy, targets, CEO, management, stakeholders, water, air, energy, waste, spills, remediation, health, habitats, plans, with data on costs, contraventions and spills, plans). <i>Reference to RC; no reference to ICC.</i>
Shell Exploration and Production	Neths	Oil & Gas	1992	ICC		✓	2	E: "Health, Safety and Environmental Management" booklet (CEO, policy, management, emissions). <i>No reference to ICC.</i>
Siemens	Germany	IT & Energy	1993	ICC		✓	2	E: "Initiatives for the Environment" brochure (management, products). <i>No reference to ICC.</i>
SmithKline Beecham	UK	Pharma	1992	ICC, RC		✓	1-2	E: "Environment" brochure (programme, research, manufacture, waste, energy, packaging, community). <i>Reference to ICC and RC.</i>
Solvay	Belgium	Chemicals	1993	ICC, RC		✓	3	E: 1st Environmental Report (CEO, policy, company profile, air, water, soil and wastes balances, new units, products, management, collaboration, human and financial resources). <i>Reference to RC; no reference to ICC.</i>
Statoil	Norway	Oil & Gas	1992	ICC		✓	2	E: 1st textual report (challenges, policy, measures, plus emissions data). <i>Reference to ICC.</i>
Sun Company	USA	Oil & Gas	1992	CERES		✓	3	E: 1st "Health, Safety and Environment Report" (CEO, policy, environmental performance, incidents, remediation, spills, health, safety, security). <i>Reference to CERES.</i>

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Company	Country	Sector	Year	Industry Codes	A - Report	E - Report	Stage 1-5	Comments
Texaco	USA	Oil & Gas	1992	ICC, RC		✓	2-3	E: 2nd "Environment, Health and Safety Review" (CEO, management, costs, incidents, health, product stewardship, waste minimization, auditing, emergency response, technology, air, water & waste, remediation, partnerships). EHS Council Members. <i>Reference to ICC and RC.</i>
Thorn-EMI	UK	Consumer Goods	1993	ICC		✓	3-4	E: 1st annual "Environment Report" (CEO, policy, targets, life cycle and performance by business sector: communication, legislation, energy, emissions, wastes, products, suppliers, siting). Externally verified. Contact Points.
Toyota	Japan	Auto	1992	ICC	✓	✓	2	A: Environment in CEO Statement. E: Textual report (engines, manufacturing, recycling and research). <i>No reference to ICC.</i>
Union Carbide	USA	Chemicals	1993	ICC, RC		✓	3-4	E: Environmental Reports in 1989 and 1991; 2nd "Responsible Care Progress Report" in 1993 (goals & progress on codes: pollution prevention, distribution, health and safety, process safety, community awareness and emergency response, product stewardship, plus data). Glossary. <i>Reference to ICC and RC.</i>
United Technologies	USA	M'fature	1993	ICC		✓	2-3	E: 1st "Environmental, Health and Safety Progress" report (CEO, policy, management, risk management, remediation, emissions, compliance, safety, design, employee, donations). EHS Council Contacts. <i>Reference to ICC and PERI.</i>
Volkswagen	Germany	Auto	1992	ICC	✓	✓	1-2	A: 2 page (recycling, product technology, transport systems, UNCED) E: Textual "brochure" (CEO, monitoring, paint, air emissions, water, waste, engines, traffic, communications). <i>No reference to ICC.</i>
Volvo	Sweden	Auto	1992	ICC	✓	✓	1-2	E: 3rd annual "Brochure" (research, investments, auditing). <i>Reference to ICC.</i>

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Company	Country	Sector	Year	Industry Codes	A - Report	E - Report	Stage 1-5	Comments
Waste Management Inc	USA	Waste	1992			✓	3-4	E: 3rd annual report (CEO, management, waste, biodiversity, natural resources, energy, compliance, risk reduction, damage compensation, research, policy, stakeholders). Statement of External Auditor.
Wessex Water	UK	Water Utility	1992			✓	2-3	E: 2nd annual report (CEO, policy, compliance, programmes, conservation, recreation, partnerships).
Xerox	USA	Office Equipment	1992	ICC	✓		1-2	A: 1 page overview, plus 2 pages in "New Xerox" brochure. Reference to ICC in 1991.

NOTES

B&E. = Statement by Banks on Environment and Sustainable Development

CERES = Coalition for Environmentally Responsible Economies

PERI = Public Environmental Reporting Initiative

RC = Chemical Industry Responsible Care programme

ICC = International Chamber of Commerce Business Charter for Sustainable Development

Appendix 2: REGIONAL REVIEW OF COMPANY ENVIRONMENTAL REPORTING PRACTICE

During the course of the project, SustainAbility updated its regional database on the reporting practices of major companies. The following summary covers North America, Europe, Japan and the developing world.

North America

In the USA, the introduction of statutory disclosure requirements, such as the Toxic Release Inventory (TRI) and those of the Securities and Exchange Commission (SEC), has formed the context within which companies have developed their own voluntary environmental reporting programmes.

High profile oil and chemical companies, such as Chevron, Du Pont, Exxon, Monsanto and Union Carbide, have all produced environmental reports. These generally start with messages of commitment from the company chief executive officer (CEO), followed by descriptions of corporate policies, targets and programmes, including stakeholder projects. In a number of cases, these largely descriptive sections have been accompanied by statistical emissions data, often drawn from the company's TRI submissions. Some of these reports also provide details of environmental expenditures (**Monsanto**), energy consumption (**Du Pont**), a commitment to producing annual reports (**Waste Management**) and a summary of an external auditor's report (**Du Pont**).

Monsanto's 1991 "Environmental Annual Review" contained three main sections: an opening letter from the chairman, a narrative section giving details of progress against the seven priority areas contained in the "Monsanto Pledge" (pollution prevention, safety management, sustainable agriculture, groundwater protection, community involvement, preservation of nature and technology development) and a data section presenting TRI information, results of the company's air emissions and waste reduction programmes, as well as selected worldwide environmental data. The report concluded with a list of executive officers responsible for environmental management. The tone of the report was open, admitting problems (e.g. toxic waste clean-up and chemicals spills) and committing itself to future improvement.

Out of the "Big Three" US automakers (Chevrolet, Ford and General Motors), **GM** has routinely included environmental information in its yearly "Public Interest Report". GM's "1992 Public Interest Report", for example, contained 10 pages on environmental issues, was largely descriptive and provided very little data. During 1992, GM also produced a stand-alone report highlighting progress against its environmental policy. In 1993, **Ford Motor Company** included an environmental 8-page insert in its annual financial report, describing its management approach, its vehicle-related actions, its collaborative efforts with other organizations and its efforts to improve environmental performance at its facilities.

Other high profile sectors which have been moving towards voluntary reporting include the waste management industry, with **Waste Management Inc (WMI)** leading the way with the publication of a full environmental performance report in 1991. Its third annual report, published in March 1993, describes the company's record in terms of performance against environmental policy goals. But, because

WMI's policy contains 14 principles, a far broader range of information was published than in most other US reports. The 1992 report contained innovative sections dealing with WMI's principles on conservation of nature and "no net loss" of biodiversity, compliance with environmental legislation (which included amounts paid by WMI in penalties) and damage compensation (again including details of payments to particular communities). The report also contained a statement from an environmental consultancy verifying the quality of WMI's environmental management systems.

A number of companies in the information technology and telecommunications sectors have also released reports, including **AT&T**, **Compaq** and **IBM**. **Xerox** included 4-page environmental performance inserts in its 1990 and 1991 reports. **AT&T** has now published three environment reports (1990, 1991 and 1992). The **AT&T** series of reports illustrates the importance of maintaining a consistent reporting format to enable rapid year-on-year comparison: after a move to a different layout and presentation in the second report in 1991, the company returned to the more straightforward approach of the first report in its third (1992) report. This focused on achievements against the company's five environmental goals - eliminating CFCs, reducing toxic air emissions, cutting manufacturing waste, increasing paper recycling, reducing paper use and improving employee safety. It also contained a detailed list of environmental executives across the corporation.

Leading pharmaceutical and health care corporations such as **Bristol-Myers Squibb**, **Johnson & Johnson**, **Merck** and **SmithKline Beecham** have also issued their first environmental reports in the last year. The Bristol-Myers Squibb report is noteworthy for its assessment of the company's performance against the 16 principles of the ICC Charter.

Reporting has reached less far in other industries. The consumer goods corporation, **Procter & Gamble**, has produced one overview report describing its policy, use of life-cycle assessment, post-consumer recycling efforts and community partnership initiatives.

In the food and beverage sector, **PepsiCo** included an eight-page environmental insert in its 1992 annual report. Utilities such as **New England Electric** now contain sections on the environment in their annual reports.

The relatively high degree of corporate reporting in Canada can be explained by its early adoption of the goal of sustainable development and its experience of making a reality of the central principle of partnership through federal and state level round-tables. To date, reports range across the agri-business (e.g. **Cargill**), chemicals (e.g. **Dow Canada**), petroleum (e.g. **Shell Canada**), forestry (e.g. **Canadian Pacific**), metals (e.g. **Noranda**) and energy (e.g. **Ontario Hydro**) sectors. In 1992, 58% of Canada's major firms had included environmental information in their annual reports, compared with 29% in 1989.

Shell Canada is one of the few companies to publish what it called a "sustainable development" report. Its second "Progress Towards Sustainable Development Review", published in early 1993, contains 15 sections ranging from a statement of its policy and targets through descriptions of its management systems, its arrangements for consultation and performance in terms of water, air pollution, energy conservation and site restoration. The report closes with a description of the company's plans for 1993, and a comparison of its 1992 goals and what was in fact achieved. Details of year-on-year environmental expenditures, water and air permit contraventions, energy intensity levels, waste disposal, spills and injuries are also included.

Noranda Inc has achieved a worldwide lead in the natural resources sector through the publication of two environmental reports for its minerals and forestry

businesses. The third Noranda Minerals report (1992) covered a number of critical issues facing the business, including water discharges, spills, acid mine drainage, air emissions, environmental impact assessment, land management, sustainable development (e.g. metal recycling), auditing, health, legal issues, employee awareness and partnerships. The section on legal issues contained a summary of the environmental cases brought against Noranda during the year, and an update on actions in the previous year's report.

The **Ontario Hydro** electricity utility has now produced four annual environmental reports.

The company's latest report (1991) presented a well-balanced coverage of the company's performance, explaining its environmental management systems, its regulatory compliance record, and impacts in the fields of energy, materials and waste, water, air, and land. It also contained a chapter on the "Social, Economic and Cultural Environment", which included a description of its relations with Canada's 'First Nations' and northern peoples.

Europe

Across Europe, there is considerable variety in the levels and styles of company environmental reporting, due to differing legal requirements, as well as market and public expectations. While reporting is emerging rapidly among business leaders in Germany, The Netherlands, Scandinavia and the UK, this activity contrasts with a general absence of reporting in the Mediterranean region (with the notable exception of the automaker Fiat, 1993).

The Commission of the European Communities has identified company environmental reporting as a priority for the years ahead. Its sustainable development strategy for the 1990s, the Fifth Environmental Action Programme - *Towards Sustainability* - states that enterprises should:

- "disclose in their annual reports details on their environmental policy and activities, and the effects thereof;
- "disclose in their accounts the expenses on environmental programmes [this requires a clear definition of such expenses];
- "make provision in their accounts for environmental and future environmental expenses" (CEC, 1992).

In March 1993, the EC adopted a Regulation on Environmental Management and Auditing Systems (EMAS), designed to encourage companies to voluntarily audit their operations on a site-by-site basis, and to release a summary report to the public. The Commission is planning to introduce a Polluting Emissions Register (PER), following the US lead with the TRI.

The environment now merits a short section in annual reports of most chemical and energy companies. Many of these companies have also produced - or are planning to produce stand-alone environmental reports, including **Akzo, BASF, Bayer, BP, Ciba-Geigy, DSM, Elf-Atochem, Henkel, Hoechst, ICI, Nobel, Norsk Hydro, Rhône-Poulenc** and **Solvay**. Interestingly, it was a US-based multinational, **Dow Chemical**, which produced the first Europe-wide environment report in 1992. Outside these sectors, few European companies have produced environmental reports, except in Germany and the UK.

At a European level, US-based multinationals **Dow Europe** and **Procter & Gamble** have taken the lead in presenting a regional perspective in their reports. The second Dow Europe Environmental Progress Report (1992) describes the company's five-

point environmental strategy - reduce waste and emissions, extend Responsible Care, revalorize products and wastes, develop eco-efficient materials, and listen and dialogue - before describing actual performance both on a consolidated and a site-by-site basis.

A recent survey of environmental reporting in Europe undertaken by the Fédération des Experts Comptables Européens for the European Commission concludes that "the disclosure levels in Germany are far higher than for any other country" (FEE, 1993). The top three German chemical companies **BASF**, **Bayer** and **Hoechst** - have all published more than one report.

Early in 1993, **BASF** published its fifth annual report on its Ludwigshafen site, and claimed that "our example has set a fashion". The report contains a mixture of descriptive articles along with statistical reports on waste, power consumption and energy use, water use and quality, recycling, landfill and incineration, air emission and odours, as well as environmental expenditures. In most cases, the BASF report provides year-on-year, comparative data is given for the ten years since 1982. **Bayer**, by contrast, has published two environmental "magazines", each containing over 100 pages of articles and some comparative information.

After publishing its first stand-alone environmental report in 1991, **Hoechst** decided to include a four page insert of key environmental performance data in its 1992 annual report, such as environmental expenditures, water quality, air emissions and waste generation, along with information on the number of Hoechst employees working in environmental protection. Unlike many chemical companies, the **Henkel** "Environment Report 1992" places its emphasis on the environmental impacts of its *products*, including metal chemicals, industrial adhesives, cosmetics and detergents.

The innovative "eco-balance" approach to corporate reporting has been pioneered by the **Kunert** textile company, which manufactures socks and tights. The eco-balance describes the flows of materials and energy through the company, and calculates the resulting outputs in terms of both products and wastes. The 1992 report includes eco-balance sheets for both the company as a whole, and for its range of sheer and soft tights, one of its most common products. The report closes with a statement from a leading academic praising the company's system.

The automaker **Fiat** has led the way in environmental reporting in Italy with its "Environmental Reporting on Manufacturing Processes" (1992). The report describes the company's performance across a range of standard issues - water, energy, waste - and its responses. But the report also addresses upfront the current lack of reporting standards, stating in the Introduction that there is not "yet a definitive definition of the concept of "environmental reporting", so the expression can be interpreted in as many ways as there are environmental goals to be achieved". The report is explicit about its reporting methodology, and defines the indicators used to measure performance.

In The Netherlands, about 30 companies have now issued environmental reports, including **Akzo**, **GE Plastics** and **Shell**. The Dutch government has also announced that it will introduce a legal requirement to require companies to publish detailed annual reports on their environmental impacts and improvement plans.

Perhaps the most innovative reports are those from the Dutch computer systems consultancy **BSO/Origin**, which has gone furthest to integrate environmental factors into its financial reporting systems. Its 1991, 1992 and 1993 annual reports contain substantial sections on "Environmental Accounts", which evaluate the environmental costs to society generated by the company. These costs are then subtracted from the BSO's conventional bottom line to produce a "net value added" for the company.

In Scandinavia, a number of reports stand out, especially those from Norsk Hydro, MoDo, Nobel and Danish Steel Works. In late 1989, Norway's largest industrial company, **Norsk Hydro**, was prompted to issue its first environmental report following widespread concern about damage caused by one of its facilities. This report was notable at the time for the level of detail it contained and for its frankness. This has been followed up by brief environmental updates in subsequent annual reports. Norsk Hydro's UK subsidiary has also published an environmental report, which was the first to include a statement from an external consultant verifying the accuracy of the report; however, a verification statement was not included in Norsk Hydro's second environmental report in 1993.

In Sweden, forestry corporation MoDo and speciality chemicals company Nobel have both chosen to include environmental inserts with their annual reports. The **Nobel** report (1992) is particularly frank about environmental costs and legal incidents, giving the amount of environmental fees and taxes the company pays to the Swedish government. However, it lacks a detailed inventory of resource use and emissions on the US model. (It will be interesting to see whether the company sticks with this approach now it is part of Akzo: perhaps Akzo will adopt the same style of reporting?) The **Modo** supplement (1992) examines each stage of the paper life-cycle from forestry management to recycling initiatives, and includes details of its products awarded with the "Nordic Swan" eco-label. Despite its high environmental profile, Swedish automaker **Volvo** has only published three annual "brochures", which again lack hard data.

The **Danish Steel Works** broke new ground in 1991 with the inclusion in its annual report of a set of "Green Accounts" based on a comprehensive mass balance analysis of the company's raw material inputs and its outputs in terms of products and wastes. The 1992 annual report contained an updated set of "Green Accounts" with a trend analysis of issues such as waste recycling, noise levels, dust emissions and accidents. By contrast, although the **Carlsberg** brewing group devoted a 10-page spread to environmental issues in its 1991/92 annual report, seven of these were photographs.

In the UK, the range of reporting has progressed beyond the petrochemicals sectors by the wave of privatization which took place during the 1980s: **British Airways**, **British Gas**, **British Telecom**, along with many of the privatized electricity and water utilities (such as **National Power**, **Manweb** and **Wessex Water**) have all produced reports. British Airways was the first airlines company to produce an environmental report. Its second annual report (1993) updates performance on the sensitive issues of noise, emissions, waste, ground congestion, tourism, and describes the company's thinking on the transition to sustainable development.

In the consumer goods sector, **The Body Shop's** 1991/2 "Green Book" report was the first to be based on an independently verified environmental audit of its major manufacturing site according to the then draft EC EMAS criteria. The Body Shop believes that EMAS should be made mandatory for all major companies. Following criticism that the report was difficult to read - it was published in bright pinks and yellows - the 1992/3 "Green Book" was more user-friendly, and also contained a review of the company's performance against its targets. **Thorn-EMI's** first Environment Report (1993) takes a lifecycle approach to describing the environmental impacts of each of its business segments (music, rental, retail, lighting security), and contains a strikingly honest appraisal of the company's performance from both the company chairman and from an external consultancy company which verified the accuracy of the report.

Japan

A number of Japanese companies are including brief descriptions of their environmental performance in their annual reports. A study of the annual reports of all Japanese companies listed on the Tokyo Stock Exchange by the Valdez Society concluded that 140 had made some mention of the environment, and **Fujitsu, Zexel, Komatsu, Kubota, Kureba Chemical and Sumitomo Light Metal** said they had included fairly detailed information in their reports (Valdez Society, 1992).

Automaker **Toyota** gave a high profile to environmental issues in its 1991 annual report, and has also produced a separate report "Toyota and the Environment", describing its corporate environmental policies. **Mazda** has produced two similar reviews of its performance. The **Kansai Electric Power** company (1991) has also published a report of its environmental protection activities (including a description of its research efforts to develop flue-gas CO₂ recovery and fixation technologies).

In the chemicals sector, the **Asahi Chemical** 1991 annual report provides a brief description of the company's environmental activities, including a chart showing reductions in sulphur dioxide emissions since 1976 compared with the industry average.

The giant **Hitachi** electronics corporation focused on the creation of its Environment Policy Office and of GREEN (Global Resources, Environment & Energy Systems Center) in its 1992 annual report, while the **NEC** 1993 annual report contains a few paragraphs on its environmental programme, focusing on the elimination of CFCs.

Although detailed environmental performance records are reported to local authorities, these are not publicly accessible, ostensibly to protect corporate confidentiality. Japanese companies remain very reluctant to publish voluntarily reports containing TRI-style information on their resource inputs and environmental outputs. Nevertheless, the powerful Ministry of International Trade and Industry (MITI) is working to develop a new environmental management standard, which will cover environmental auditing and information disclosure. In the absence of sufficient voluntary action by Japanese industry, the Valdez Society argues that "governmental organizations, on the national or international level should (develop) some framework to encourage companies to disclose environmental information".

Developing Countries

Corporate environmental reporting in the developing world is restricted to short passages in a tiny minority of annual reports. A number of the developing country members of the Business Council for Sustainable Development (BCSD), such as **Aracruz Cellulose** (Brazil), **CAPSA** (Chile), **Companhia Vale do Rio Doce** (Brazil) and **Tata Steel** (India) contained one or more pages on environmental matters in their 1991 annual report as a sign of their commitment to the "Earth Summit". Whether these companies include similar sections in future annual reports will be an important measure of their long-term commitment.

Appendix 3: WHICH REPORTING RECIPE?

Chapter 4 discussed the coming convergence between the different styles of environmental reporting. Even so, the different reporting frameworks continue to offer their members a diversity of perspectives and support which is likely to be valuable for some years to come. We are still very much at the experimental stage in environmental reporting, so that such diversity is to be encouraged - where it does not simply degenerate into warring factions. Competition fuels innovation.

We now focus, in turn, on CERES, CEFIC, PERI, GEMI, WICE and a number of other reporting initiatives.

CERES

The first set of reporting guidelines were prepared by the US-based Coalition for Environmentally Responsible Economies (CERES), as part of the follow-up to the 10 point CERES Principles. Launched after the *Exxon Valdez* tanker disaster in 1989, the CERES Principles have now been signed by more than 50 companies. All are committed to completing and making public their own versions of the CERES Report, the most comprehensive set of reporting requirements currently in operation.

In 1992, the Sun chemical company became the first *Fortune 500* firm to adopt the CERES Principles - an action which company CEO Robert H. Campbell says "triggered a notable increase in our favourable mail". The biggest breakthrough for CERES came in January 1994, when General Motors (GM) announced its endorsement of the Principles. There now seems a real likelihood that other major companies will follow suit.

CEFIC

For the European Chemical Industry Council (CEFIC), environmental reporting is a "necessary element of the effective implementation of Responsible Care". In June 1993, the CEFIC Board adopted its own "Guidelines on Environmental Reporting for the European Chemical Industry". These suggest a common structure for corporate environment reports, listing nine sections which should be included in a report, ranging from an introductory section (eg. CEO statement, environmental policy and methodology for reporting), through production facilities and products, to a company's plans (eg. qualitative and quantitative objectives) and environmental management systems (eg. human resources, environmental impact assessment, auditing and emergency preparedness). In addition, the guidelines provide threshold levels for reporting emissions to water and air of key substances (including suspended solids, COD/BOD, nitrogen, phosphorus, nitrogen oxide, sulphur dioxide, volatile organic (VOC) compounds (VOC) and heavy metals).

CEFIC member companies are also advised to release energy and safety data, details of complaints and environmental expenditures, along with their communications activities and a list of contact people. The French chemical company, **Elf-Atochem**, was the first to use the CEFIC format in its environmental report, released in May 1993. CEFIC estimates that by the end of 1993 perhaps 30 of its 45 member companies will have produced environmental reports; by 1995, the full membership is expected to have produced at least one report.

PERI

In May 1993, nine leading North American corporations (**Amoco, Dow Chemical, Du Pont, IBM, Northern Telecom, Philips Petroleum, Polaroid, Rockwell and United Technologies**) joined forces to launch the Public Environmental Reporting Initiative (PERI). PERI has the dual purpose of developing a comprehensive and credible framework for environmental reporting, and of encouraging environmental reporting itself.

PERI's first initiative was to publish a set of draft reporting guidelines, providing a useful summary of state-of-the-art reporting practice in the USA. The guidelines recommend "the core components for comprehensive reporting on environmental performance". The nine components cover the company profile, environmental policy, environmental management, environmental releases, environmental risk management, environmental compliance, product stewardship, employee recognition and stakeholder involvement. While PERI builds on reporting formats suggested by a range of organizations, including CERES and GEMI (see below), it is not linked to any established industry association. **British Petroleum (BP)** has been spearheading an effort to extend PERI in Europe. By the end of 1993, Du Pont, IBM, Philips Petroleum and United Technologies had issued reports within the framework of the PERI guidelines; **Cargill** had also issued a report using the PERI framework.

GEMI

Also in the USA, the Global Environmental Management Initiative (GEMI) has produced an *Environmental Self-Assessment Program (ESAP)*, designed to allow companies to evaluate systematically their performance for each of the 16 ICC Business Charter principles against four performance levels (compliance, systems development, integration and total quality). ESAP is intended as an internal management tool, and provides a useful way for companies to assess how far along the road to environmental excellence they are. About 30 companies are applying the ESAP to their own operations. There are no intentions to make the results of these self-assessments public.

WICE

Looking ahead, the new World Industry Council for the Environment (WICE) has established a Task Force to review existing industry initiatives on environmental reporting and develop guidelines on preparing environmental reports which will be applicable to all sectors of industry worldwide. WICE hopes that these guidelines will be of particular value to companies that have given their support to the ICC Business Charter for Sustainable Development. As part of its plans, WICE is intending to organize an international conference on environmental reporting in late 1994 or early 1995.

Some other early initiatives

In Canada, the Canadian Chamber of Commerce (ICC) issued "A Guideline on Corporate Environmental Reporting" in 1992, which contained advice for companies on how to tackle the reporting issue, along with suggested items to be included in an environmental report, such as corporate policy, issues and initiatives, resource and energy use, hazardous products, accidents and risks, pollutants, environmental spending and legal compliance (CCC, 1992). However, the Chamber has not developed any programme to follow up these guidelines.

The Canadian Standards Association has joined with the Canadian Institute of Chartered Accountants, the International Institute for Sustainable Development and the Financial Executives Institute to develop a comprehensive framework for environmental reporting. The interest in a common framework has been tempered, however, by a fear of the introduction of prescriptive requirements. Alan Knight, in charge of environmental issues at the Canadian Standards Association, believes that "while there is considerable interest in working to common reporting principles, industry is cautious when it comes to supporting anything that hints at required disclosure".

The UK accountancy profession has also played an active part in encouraging companies both to report and to continuously improve the quality of their reports. The Chartered Association of Certified Accountants (ACCA) hosts an annual environmental reporting award, won in 1991 by **British Airways** and **Norsk Hydro UK**, and in 1992 by **British Telecom**.

The Institute of Chartered Accountants (ICA) also recommended that companies should disclose a range of environmental information during their annual reporting cycle, including a statement of environmental policy, the identity of the Director with environmental responsibility, corporate environmental objectives, environmental expenditure, environmental performance, compliance with regulations and industry guidelines, significant environmental risks and key features of external audit reports (ICA, 1992). But the Financial Sector Working Group of the Advisory Committee on Business and Environment (ACBE), representing leading financial companies, observed in its 1993 report that "the level of disclosure is still low, there is no standard for the quality of environmental reporting and disclosure varies between companies". It concluded that it wished to see "all companies publishing environmental reports".

The work of the International Standards Organisation (ISO) is also likely to be major factor shaping the evolution of reporting practices. In 1991, ISO established the Strategic Advisory Group on the Environment (SAGE) to integrate the environmental dimension into its standardization efforts. Working groups examined the issues of environmental management systems, environmental auditing, environmental performance evaluation, environmental labelling and life-cycle analysis.

SAGE's deliberations led to the inauguration of a new ISO Technical Committee (TC 207), which will develop an Environment Management Standard over the next two years, steered by the Canadian Standards Association (CSA). The issue of environmental reporting has emerged during the discussions of the SAGE sub-group on environmental management systems, and it is possible that the proposed standard will contain requirements for companies to report publicly on their environmental performance as an integral part of obtaining the standard.

It is worth noting, however, that the British Standard Institution's (BSI) Environmental Management Systems standard (BS 7750) does not contain any specific obligation for participating companies to publish environmental reports. This is an oversight that will need to be rectified at a later date.

Appendix 4: THE PERI AND CEFIC REPORTING GUIDELINES

In the following pages, the reader will find edited highlights of two separate reporting guidelines. The PERI guidelines are aimed at industry in general, whereas the CEFIC guidelines are clearly aimed at the chemical industry. CEFIC, however, has been involved in discussions about expanding the coverage of its guidelines to take in other industry sectors.

Highlights of the PERI Guidelines

Principles of Use

The Guidelines recommend the core components for comprehensive reporting on environmental performance. The core components may be added to, or built upon, as an organization achieves its goals, or as reporting situations change. The components are based upon two underlying philosophies: the merits of “continuous improvement” and the principle of “what gets measured, gets done”.

Reporting organizations may choose the format and style of their documents and provide as much detail as they wish to describe their activities. PERI has maintained the maximum flexibility in the Guidelines to accommodate the unique aspects of companies from different geographies or industry sectors, or that vary in size, structure or operations.

The core components are designed to provide the information necessary for a meaningful and credible profile of an organization’s environmental performance. The components include quantitative reporting, as well as qualitative factors (eg. environmental policies), to provide the context needed to make the facts and figures meaningful.

The PERI Guidelines recognize that companies will vary in their ability to collect data and explain their environmental management system. The Guidelines are adaptable to different maturity levels, encouraging companies to either start or further refine corporate reporting. These voluntary Guidelines should challenge companies that are in the early phases of reporting; at first, not all companies or institutions will be able to respond to all of the core components completely. However, the Guidelines allow each company to move at its own pace, and are flexible enough to accommodate the range of activities across a multitude of industry sectors. They also are structured to integrate reporting commitments to organizational affiliations, such as GEMI, CMA’s Responsible Care, API’s STEP, EPA’s 33/50 programme, and others.

The companies involved in the development of the Guidelines encourage others to voluntarily use the document as a guide to the information that should be included in a balanced environmental report.

Components of PERI Guidelines

Each participating organization will decide how, and in what order, to present the PERI reporting components listed below. No specific order of presentation is mandatory or encouraged.

1. Company Profile

Provide information about the company that will allow the environmental data to be interpreted in context: the size of the company, number of locations and employees, the countries in which the company operates, its major lines of business, and the nature of the environmental impacts of company operations. Name the executive responsible for the report, and provide the name of a contact person at the company.

2. Environmental Policy

Provide information on the corporate environmental policy (ies), eg. scope and applicability, content, goals, and date of introduction or revision.

3. Environmental Management

Describe the level of management accountability for setting the company's policies and programmes, and provide a description of the company's environmental organization, eg. corporate environmental staff and organizational relationships. Indicate how policies are implemented throughout the organization and comment on such items as board involvement and commitment to environmental matters; accountability of other functional units of the company; environmental management systems in place; and TQEM/Continuous Improvement or other company-wide programmes that may embrace environmental performance. Identify the resources earmarked for environmental management, compliance and overall environmental performance. Describe any formal educational programmes in place to keep environmental staff and management current on their profession and responsibilities.

Summarize overall corporate environmental objectives, targets and goals, covering the entire programme.

4. Environmental Releases

Provide information that quantifies the amount of emissions, effluents or wastes released to the environment. Reporting for US companies may be based on the US EPA Toxic Release Inventory (TRI) data, for instance.

However, organizations based wholly or partly in countries outside the United States may report according to the requirements of the principal government authorities affecting their operations, eg. German companies operating only in Germany may have a different set of regulatory requirements. Information should be based on global operations with detail provided for smaller geographic sections, if appropriate.

Provide the baseline data against which the company measures itself each year to determine its progress, and quantify, to the greatest extent possible, the following (including as much historical information as possible, eg. last three years):

- Air emissions (eg. TRI data);
- Greenhouse gas emissions, ie. carbon dioxide, methane, nitrous oxide and halocarbons;
- Use and emissions of ozone-depleting substances;
- Water effluents (eg. TRI data);
- Hazardous waste (eg. as defined by RCRA or equivalent). Indicate the percentage of hazardous waste that was recycled, treated, incinerated, deep-well injected or otherwise handled, either on- or off-site. Comment on the degree to which hazardous waste disposal vendors (storers, transporters, recyclers or handlers of waste) are monitored or investigated by the company;

- Waste discharges to land (eg. based on TRI data). Include information on toxic/hazardous wastes, as well as solid waste discharges from facilities or the manufacturing process;
- Company-wide reduction targets or goals associated with each of the above-listed programme elements;
- Objectives, targets and progress made regarding the above-listed items, including any information on other voluntary programme activity, eg. US EPA 33/50 programme. Identify the extent to which the company uses recommended practices or voluntary standards developed by other organizations, such as the International Chamber of Commerce, or the International Standards Organization.

5. Environmental Risk Management

Describe the following:

- Environmental audit programme and its frequency, scope, number completed over the last two years and extent of coverage. Indicate whether the audits are conducted by internal or external personnel or organizations, and to whom and what management level the audit findings are reported. Describe follow-up efforts that are included in the audit programme to ensure improved performance;
- Remediation programmes in place or being planned, indicating locations, and type and scope of activity;
- Environmental emergency response programmes, including the nature of training at local levels, its frequency and the extent of the programme. Indicate the degree and method of communication extended to local communities and other local companies regarding mutual aid procedures and evacuation plans in case of an emergency;
- Workplace hazards. Indicate the approach taken to minimize health and safety risks in company operations, and describe any formal policies or management practices to reduce these risks (eg. employee and contractor safety training and supervision).

6. Environmental Compliance

Provide information regarding the company's record of compliance over the last three years.

Specify the following:

- The jurisdictions in which any violations occurred;
- The nature of the noncompliance issues, eg. reportable, uncontrolled releases, including oil and chemical spills at both manufacturing and distribution operations;
- The scope and magnitude of any environmental impact;
- The programmes instituted to correct or alleviate the situation;
- Fines or penalties incurred over US\$ 25,000, and the jurisdiction in which it was applied.

7. Product Stewardship or Product Life-Cycle Management

- Provide information that indicates the degree to which the company is committed to evaluating the environmental impact of its products and processes.

- Describe any programme activity, procedure, methodology or standard that may be in place to support the corporate commitment to reduce environmental impacts of products.

For example:

- Technical research or design, eg. new products or practices, reformulation of existing products, practices implemented or discontinued for environmental reasons, design for recyclability or disassembly;
- Packaging reduction, minimization, reuse, or recyclability;
- Materials conservation. Detail the commitment to conservation in the following areas: conservation and recycling of materials, use and purchase of recycled materials, and reduction in the use of water or the recycling of water; benign energy sources.
- Provide information on waste reduction/pollution prevention programmes from manufacturing processes and operations, including recycling activities.
- Describe post-consumer materials management, or end-of-life programmes, such as product take-back programmes.
- Detail customer partnership programmes and their development (eg. used oil collection and energy efficiency services).
- Describe supplier programmes and activities designed to reduce environmental impacts or add environmental value to product design or reformulation.
- Provide information regarding selection criteria for environmentally responsible suppliers and standards to which they must adhere.
- Identify the scope of the supplier certification process (eg. all, major suppliers, those in specific sectors).
- Describe any partnership programmes with suppliers.
- Other components:
 - Specify product stewardship targets and goals, and comment on established procedures to monitor and measure company performance.
 - Provide the baseline data against which the company can measure its progress year-by-year.

8. Employee Recognition

Include information regarding employee recognition and reward programmes that encourage environmental excellence. Comment on other education and information programmes that motivate employees to engage in environmental practices.

9. Stakeholder Involvement

- Provide a statement that describes the company's efforts to involve other stakeholders in its environmental efforts.
- Indicate any significant work undertaken with research or academic organizations, policy groups, non-governmental organizations, and/or industry associations on environmental issues.
- Describe how the company relates to the communities in which it operates, and provide a description of its activities. For example, indicate the degree to which the company shares pertinent facility-specific information with the communities in which it is located.

Highlights of the CEFIC Guidelines

The CEFIC Guidelines propose a common approach to: (1) corporate environment reports; (2) site environment reports; and (3) presentation of data in emissions tables. Here we reproduce element (2), believing that it is helpful not only in respect of the preparation of site reports themselves but could also help small- and medium-sized companies, many of which operate from a single site, to decide what they should report.

III Proposed Common Structure for Site Environment Reports

1. Foreword

- Site manager address
- Company environment policy
- Company environmental objectives (medium/long term)

2. Site description

- Main units, main products
- Site put into perspective:
 - usage of products
 - economic contribution, employment
 - relations with authorities, local community
- Environmental situation: local conditions of air, water, etc. in the neighbourhood, sensitive areas, etc.
- Legal requirements: permits, emission limit values, etc.
- Controlling authorities (national, local, etc.)

3. Environmental management

- Structure (human resources, organization)
- Programme, objectives
- Environmental protection techniques (water treatment, waste incinerator, waste minimization, etc.)
- Integrated approach (recycling, new technologies)
- Monitoring techniques/systems (data measured/calculated/estimated)
- Emergency plan

4. Data (with comparisons with data on previous years)

- Emissions data (cross-referenced to CEFIC guidelines on presentation of data in emissions tables)
- Selected details (noise, odours, etc.)
- Energy generation and consumption
- Health and safety data
- Complaints (optional)
- Spending on environmental protection

5. Communications

- Community relations
- Open days

6. General comments

7. Contact people

Appendix 5: THE 50 REPORTING INGREDIENTS AND INDUSTRY CODES OF CONDUCT

The following table compares the 50 reporting 'ingredients' (Chapter 6) with five current 'recipes', or international industry codes of conduct: the CERES Principles, the ICC Business Charter for Sustainable Development, the Keidanren Global Environment Charter, the World Travel and Tourism Centre's Environmental Guidelines and the International Iron and Steel Institute's Environmental Principles. The purpose of the table is to highlight the areas of overlap and the gaps between the 50 reporting elements and the five codes of conduct. What is immediately striking is the lack of attention paid in the current generation of industry codes to the financial implications of environmental management.

KEY



Core reporting elements

CERES = CERES Principles

ICC = International Chamber of Commerce (ICC) Business Charter for Sustainable Development

IISI = International Iron and Steel Institute (IISI) Environmental Principles

K'ren = Keidanren Global Environment Charter

WTTC = World Travel and Tourism Council (WTTC) Environmental Guidelines

Figures refer to relevant principles in the codes of conduct

REPORTING INGREDIENTS AND INDUSTRY CODES OF CONDUCT

INGREDIENTS	CERES (1990)	ICC (1991)	K'ren (1991)	WTTC (1992)	HSI (1992)
I. MANAGEMENT & SYSTEM					
1 <i>CEO Statement</i>	✓ 9	✓ 1			
2 <i>Environmental Policy</i>		✓ 1	✓ 1	✓ 12	✓ 3
3 <i>Environmental Management System</i>		✓ 2&3	✓ 2	✓ 12	✓ 2&4
4 <i>Management Responsibility</i>	✓ 9	✓ 2	✓ 3	✓	
5 <i>Environmental Auditing</i>	✓ 10	✓ 16		✓	
6 <i>Goals and Targets</i>				✓	
7 <i>Legal Compliance</i>		✓ 16	✓ 3	✓	
8 <i>Research and Development</i>		✓ 9	✓ 4		✓ 5&9
9 <i>Programmes and Initiatives</i>		✓ 1&2			
10 <i>Awards</i>					
11 <i>Verification</i>					
12 <i>Reporting Policy</i>	✓ 10	✓ 16			
13 <i>Corporate Context</i>					
II. INPUT/OUTPUT INVENTORY					
Inputs	✓ 2	✓ 6&8	✓ 3		✓ 5&6
14 <i>Material use</i>	✓ 2				
15 <i>Energy consumption</i>	✓ 4	✓ 8		✓ 4	✓ 7
16 <i>Water consumption</i>	✓ 1			✓ 6	
Process Management	✓ 5	✓ 8		✓ 2	
17 <i>Health & Safety</i>	✓ 5				
18 <i>EIAs & Risk Management</i>	✓ 5	✓ 5		✓ 1	
19 <i>Accidents & Emergency Response</i>	✓ 5	✓ 12	✓ 6		
20 <i>Land Contamination & Remediation</i>	✓ 7	✓ 5			
21 <i>Habitats</i>	✓ 1	✓ 5&8		✓ 3	
Outputs	✓ 3	✓ 8,16	✓ 6		
22 <i>Wastes</i>	✓ 3			✓ 5	
23 <i>Air Emissions</i>				✓ 6	
24 <i>Water Effluents</i>				✓ 7	

REPORTING INGREDIENTS AND INDUSTRY CODES OF CONDUCT

INGREDIENTS	CERES (1990)	ICC (1991)	K'ren (1991)	WTTC (1992)	IISI (1992)
25 Noise and Odours				✓ 8	
26 Transportation					
Products	✓ 6	✓ 6&7	✓ 6	✓ 9	✓ 5
27 Life Cycle Design					
28 Packaging					
29 Product Impacts	✓ 6	✓ 6			
30 Product Stewardship	✓ 6	✓ 6			
III. FINANCE					
31 Environmental Spending					
32 Liabilities					
33 Economic Instruments					
34 Environmental Cost Accounting					
35 Benefits and Opportunities					
36 Charitable Contributions					
IV. STAKEHOLDER RELATIONS	✓ 8	✓ 14&15	✓ 7&8		✓ 8
37 Employees		✓ 4	✓ 7		
38 Legislators & Regulators		✓ 14	✓ 10		✓ 10
39 Local communities		✓ 15	✓ 8		✓ 8
40 Investors					
41 Suppliers		✓ 11	✓ 3		
42 Consumers	✓ 6	✓ 7	✓ 7		
43 Industry Associations		✓ 14			
44 Environment Groups					
45 Science & Education					
46 Media					
V. SUSTAINABLE DEVELOPMENT		✓ 3			✓ 1
47 Global Environment	✓ 1		✓ 11		
48 Global Development			✓ 11	✓ 10&11	
49 Technology Cooperation		✓ 13	✓ 5		✓ 9
50 Global Standards		✓ 3	✓ 9		

Appendix 6: EXAMPLES OF INNOVATIVE REPORTING PRACTICE

In the following pages, the reader will find key extracts from 14 company environmental reports. The Table identifies the extract, provides the page number and indicates the theme addressed in the extract.

Reporting Company	Theme	Page
National Power, 1992	Message from top management	100
BP Chemicals, 1992	Clear statement of environmental emissions, against a baseline year (1990)	101-102
BT, 1993	Signposting arounds a report covering many issues (in this case via an index)	103
Dow Europe, 1992	Listing of priority emissions, coupled with indication of losses as a percentage of throughput	104
Du Pont, 1993	Progress towards goals	105
United Technologies, 1993	A good report, with honest, factual reporting of prosecutions and fines emissions, against	106
Procter & Gamble, undated (published 1993)	Simple Total Quality Management-style diagrams showings performance in key areas	107
Elf Atochem, 1992	Clear indexing of performance	108
AT&T, 1992	Willingness to report even when trends are worsening	109
Bristol-Myers Squibb, 1992	Benchmarking of performance against charters or reporting agreements signed	110
Union Carbide, 1992	Cross-linking of reporting to reporting framework (in this case Responsible Care) supported by company	111
Fiat, 1992	Use of the updatable word-processed format for reporting, rather than more costly designer-led approach	112
Ciba, 1992 Procter & Gamble Europe, undated (1993)	Inclusion of easy-to-use reader response cards	113

Chief Executive's message



National Power is the UK's leading electricity generator. We supply about 40 per cent of the power needed by homes, shops, offices and factories in England and Wales.

Making electricity, like any large industrial process, has a major impact on the environment. This Review, issued at the same time as local reports by our fossil-fuelled power stations, is the first comprehensive statement of National Power's environmental performance. It also outlines our key environmental targets for 1993.

As well as showing the impacts of our business upon the environment, this Review is also evidence of our commitment to improve our future environmental performance. Improvement will be achieved by various initiatives including an investment programme totalling some £2 billion.

I aim to ensure that everyone in the company is aware of, and involved in achieving our environmental improvement targets. I have taken personal charge of this major challenge.

We have made a significant start in measuring and improving our environmental impacts but accept that there is room for improvement. This Review, independently verified by Lloyd's Register, acknowledges the gaps in our data collection system and in our knowledge of our environmental impacts. These are now being progressively addressed in our new environmental management, monitoring and auditing programmes. In this way, the data presented will improve in future years, together with our environmental performance.

We believe that an open information policy is essential for our credibility. This first annual Review provides a foundation on which our future performance may be judged.

John Baker Chief Executive

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12 Approach 17 Compliance 19 Improvement 25 Accountability 27 Responsibility 30 Verification



BP CHEMICALS

health, safety and the environment

the figures

BP Chemicals consolidated data 1992 environmental emissions, tonnes

Our 1990 baseline totals are included for comparison

Chemical	Land/				1990	
	Air	Water	Deep well	Offsite	Totals	Total
* 4-Methyl pentene-1	288				288	107
* Acetaldehyde	57	1100	65	<1	1222	912
* Acetamide	<1		46		46	<1
* Acetate esters	403	108		449	959	1758
* Acetic acid	1107	2868		385	4359	3913
* Acetic anhydride	19	280			299	276
* Acetoacetates						
* Acetone	1137	292	41	2	1472	1408
* Acetonitrile	151	6	2374	4	2536	2257
* Acetylenes	3				3	
* Acrolein	<1		8		8	3
* Acrylamide	<1		616	<1	616	1089
* Acrylic acid			390	<1	390	5628
* Acrylonitrile	93	2	780	5	880	1362
Aerosols (product)						
* Allylpolyether						9
Aluminium		18		611	629	40
Ammonia	1208	267	16652	32	18158	15207
Ammonium nitrate	2		59		61	2
Antimony		1			1	
Arsenic						
Asbestos				331	331	714
Autofluids (product)		3		35	38	50
* Bauxite				59	59	49
Barium						
* Benzene	666	44	1	<1	711	573
Beryllium						
* Bicyclononadiene						56
Biological sludge			7	4260	4267	5991
Boron		1			1	<1
* Butadiene	445				445	327
* Butane	5120				5120	4485
* Butanol	27	29			57	151
* Butene	264				264	19
* Butyl acrylate						
* Hydrocarbon						

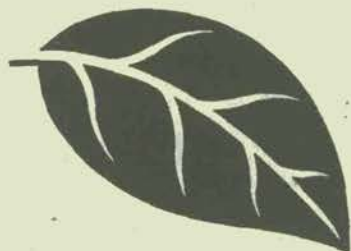
Chemical	Land/				1990	
	Air	Water	Deep well	Offsite	Totals	Total
* Butyl chloride	15					15
Cadmium		<1			<1	<1
Calcium carbonate		100			100	115
Calcium sulphate		862		1248	2110	1642
Carbon black				125	125	120
Carbon disulphide						
Carbon monoxide	21178	3			21181	20775
* Carbon tetrachloride						
* Cellulose						240
* CFCs	29			1	30	20
Chlorine	6	<1			6	6
Chromium	<1	1	<1	<1	1	21
Cobalt	<1		3	<1	3	2
Copper	<1	1			1	3
* Cresol						1
Crystobolite				572	572	510
* Cumene						
* Cumene hydroperoxide						
* Cyanide compounds	<1	<1	204	5	210	741
* Cyclohexane	102	<1			102	89
* Decabromodiphenyl oxide						
* Diacetone alcohol						
* Dibutyl ether						
* Dichlorobenzidine						
* Dichloromethane						
* Dicumyl peroxide	1			4	5	<1
* Dicyclopentadiene	4				4	59
* Diethanolamine	12	1		11	24	26
* Diethyl benzene	60				60	60
* Diethyl sulphate						
* Diethylene triamine						100
* Diethyl ether	22				22	886
* Diisopropyl ether	2	85			87	80
* Dimethyl disulphide	4				4	
* Dimethyl formamide						3

BP CHEMICALS, 1992 (CONT)

Chemical	Land/				1990	
	Air	Water	Deep well	Offsite	Totals	Total
* Dimethylbutene-1	20				20	
* Dimethylether						1
* Ethane	2522				2522	1837
* Ethanol	481	466		4	952	1110
* Ethanolamines	<1	3		109	113	37
* Ethoxypropoxy propanol						25
* Ethoxydlpropanol						38
* Ethoxypropanol	1				1	150
* Ethyl acrylate						567
* Ethylbenzene	142	8			150	160
* Ethylene	4367				4367	6592
* Ethylene dichloride	3				3	
* Ethylene glycol	6	107		176	289	2236
* Ethylene oxide	46	3			49	636
* Ethylglycolacetate						50
* Ethylidene diacetate						
* Ethylidene norbornene	7				7	223
Filter aid			5	671	675	2953
Fluoride		4			4	
* Formaldehyde	6	58		<1	64	65
* Formic acid	70	691			761	795
* Gas condensate	152				152	209
* Gasolene	414				414	553
* Glycol ethers	21	11		215	247	2188
HCFCs	16				16	
* Hexachloromethylsulphate						
* Hexane	437			13	450	314
* Hexene	7				7	
* Hexylene glycol						
Hydrazine		1			1	1
Hydrochloric acid	<1				<1	1
Hydrogen	1471				1471	379
Hydrogen cyanide	19	<1		<1	19	35
Hydrogen sulphide	13				13	90
* Hydroquinone	<1	2	3		5	6
* Hydroxyethylcellulose						185
Iodine	1				1	1
* Isobutanol						23
* Isododecane	1				1	
* Isoparone		11			11	211
* Isopropanol	235	92		13	340	655
Lead		<1			<1	
* Maleic anhydride	53	1945			1998	1998
Manganese	<1	16	7	<1	24	76
Mercury		<1			<1	
* Metbane	2893				2893	2483
* Metbanol	304	1684	60	9	2057	3963
* Methyl acrylate	5			3	8	12
* Methyl bisocane						
* Methyl ethyl ketone	184	62			246	121
* Methyl iodide	1			2	3	9
* Methyl isobutyl ketone						
* Methylchloride						26
Molybdenum trioxide	<1		20	5	24	12
* Monoethanolamine		5			5	
* Naphtba	1567				1567	1683
* Naphtbalene						8
* Naphtylamine						
* Hydrocarbon						

Chemical	Land/				1990	
	Air	Water	Deep well	Offsite	Totals	Total
Nickel	<1	1	2	<1	3	3
Nitric acid	1			4	5	2
Nitrogen oxides	12163				12163	12069
* Oil additives (Adibis)				1782	1782	1700
Other Inorganic				119	119	
* Other organic	12	269			858	1139
Particulates (combstn)	912				912	856
* PCBs				32	32	29
* Pentane	3072			28	3100	2498
* Phenol	30	232		1	262	282
Phosphates		126			62	188
Phosphoric acid				63	63	3
Phosphorous						
* Phthalate esters		112		9	121	72
* Phthalate alcohol>c5	2	233			235	320
* Phthalic anhydride	169	677		11	857	916
* Polyethers		6		4	10	
* Polyethylene		174		3548	3722	3671
* Polyisobutene	15			339	354	429
* Polyols				106	106	793
* Polystyrene	5	6			11	11
* Propane	1270				1270	2933
* Propanediol						10
* Propionic acid	70	720			789	1001
* Propylene	1417				1417	4448
* Propylene oxide	32				32	298
* Pyridine	<1		93	<1	94	136
* Raw C4s						
Rbodium				<1	<1	<1
Selenium						
Silver				<1	<1	<1
Sodium acetate						2920
Sodium hydroxide		3520	227	561	4308	4574
Sodium sulphide		83			83	
* Styrene	128	38		1	167	169
Sulphur oxides	27715				27715	22528
Sulphuric acid		410			410	491
Tellurium						
* Tetrachloroethylene				2	2	
* Tetrachlorometbane						
* Tetralin	1				1	34
Tbaltium						
Tin						
Titanium				<1	<1	
* Toluene	71	14			85	429
* Trichloroethane				<1	<1	4
* Trichloroethylene				<1	<1	
Tri-n-octylaluminium	1				1	
Uranium						
Vanadium		1		5	6	7
* Vinyl acetate	162				162	272
* Vinyl chloride						
* Vinyl cyclohexane	3				3	
* Vinylnorbornene	4				4	118
* Waste oils	397	257		1153	1807	1907
Water treatment chems		215			215	96
* Xylene	11				11	42
Zinc		5			5	58

Blank = none reported



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It should be recognised that some estimates have been made in the compilation of the statistics in this report and that the data has not been generated by a complete audit of BT's operations. Further information is available on request, detailing how the data was accumulated, where approximations have been made and providing references to the relative UK emission and consumption figures. A breakdown of the subsidiary data is also available and will be supplied on a 3.5" disc which can be used on most hard disc PCs.

Wholly-owned subsidiary companies included in the report:

Syncordia Corporation
BT North America Inc
BT Europe
Yellow Pages Sales Ltd
General Art Services Ltd
BT Consumer Electronics Ltd
BT Repair Services Ltd
British Telecom (CBP) Ltd
Manx Telecom Ltd
BT (Marine) Ltd
Telecom Applied Computer Technology

Wholly-owned subsidiary companies not included in the report:

Westminster Cable Company Ltd
Ferntech Systems Ltd
Secure Information Systems Ltd

Produced by:
BT Environmental Issues Unit
Room A245
BT Centre
81 Newgate Street
London EC1A 7AJ
Telephone 071-356 6542
Fax 071-356 6915

Dow Europe priority list by component

Component	1992 total in Tonnes	% of throughput					Characteristics														
		0	0.1	1.0	10	+	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑	☑	
Ethylene	1 627	■					☑	☑													☑
Ethylchloride	612					■	☑	☑													☑
Hexane	550			■			☑	☑													☑
Propylene	447	■					☑	☑													☑
Methylenechloride ¹	372			■			☑	☑													☑
Chloroform ¹	314				■		☑	☑													☑
Methylchloride	270			■			☑	☑													☑
Styrene	148	■					☑	☑													☑
Methanol	136			■			☑	☑													☑
Acetone	115			■			☑	☑													☑
Ethylenedichloride	102	■					☑	☑													☑
Butadiene	95	■					☑	☑													☑
Benzene ¹	92	■					☑	☑													☑
Ethylbenzene	69	■					☑	☑													☑
Ethylene oxide	33	■					☑	☑													☑
Ammonia	31				■		☑	☑													☑
1,2-Dichloropropane	29	■					☑	☑													☑
Propylene oxide	26	■					☑	☑													☑
1,1,1-Trichloroethane ¹	25	■					☑	☑													☑
Toluene ¹	22	■					☑	☑													☑
Carbon tetrachloride ¹	16	■					☑	☑													☑
Tetrachloroethylene ¹	10	■					☑	☑													☑
Hydrochloric acid	10	■					☑	☑													☑
Cumene	9	■					☑	☑													☑
Epichlorohydrin	9	■					☑	☑													☑
Phenol	9	■					☑	☑													☑
Xylene ¹	9	■					☑	☑													☑
Chlorine	8	■					☑	☑													☑
Chlorobenzene	7	■				■	☑	☑													☑
Methylethylketone ¹	6			■			☑	☑													☑
Acrylonitrile	6	■					☑	☑													☑
Allyl chloride	6	■					☑	☑													☑
Trichloroethylene ¹	5	■					☑	☑													☑
Acrylic acid	3	■					☑	☑													☑
1,1-Dichloroethylene	3	■					☑	☑													☑
Isopropanol	2				■		☑	☑													☑
Methylisobutylketone ¹	2				■		☑	☑													☑
Dichlorodiisopropylether	1	■					☑	☑													☑
Aniline	1	■					☑	☑													☑
Hexachloroethane	<1	■					☑	☑													☑
Hexachlorobenzene	<1	■					☑	☑													☑
Hexachlorobutadiene	<1	■					☑	☑													☑
n-Methyl pyrrolidone	<1				■		☑	☑													☑
Formaldehyde	<1	■					☑	☑													☑
Mercury ¹	<1	■					☑	☑													☑
Nickel ¹	<1	■					☑	☑													☑
Benzylchloride	<1	■					☑	☑													☑
Chloropyrifos	0	■					☑	☑													☑
Cyclohexanone	0	■					☑	☑													☑
Lindane	0	■					☑	☑													☑
Butanol	0	■					☑	☑													☑
Diethylphosphoro-chloridothioate	0	■					☑	☑													☑
Cadmium ¹	-						na	☑													☑
Chromium ¹	-						na	☑													☑
Cyanides ¹	-						na	☑													☑
Lead ¹	-						na	☑													☑
Pyridine	-						na	☑													☑
Total	5237																				

¹ EPA voluntary reduction program (some of the metals refer to a family of compounds rather than one chemical. Most severe characteristics are indicated in those cases.)

P R O G R E S S T O W A R D G O A L S

1. Toxic Air Emissions...
down 45%

Toxic air emissions in the United States have been reduced by 45% from the base year of 1987. Outside the U.S., emissions have been reduced by 18% from the base year of 1990. The goal outside the U.S. is a 10% reduction per year from 1990 to 1993.

1987	1988	1989	1990	1991	1992	1993 Goal
100%	91%	87%	76%	73%	55%	40%

2. Carcinogenic Air Emissions...
down 55%

In the U.S., carcinogenic air emissions are down 55% from the base year of 1987. Outside the U.S., these emissions are down 25% from the base year of 1990. Our goal is the same: a 90% reduction by the year 2000.

1987	1988	1989	1990	1991	1992	2000 Goal
100%	83%	85%	55%	54%	45%	10%

3. 33/50 Chemicals...
down 33%

DuPont met the interim goal to reduce releases of 33/50 chemicals by 33% in the U.S. Sites outside the U.S. are not involved in this effort, which is a voluntary initiative of the U.S. Environmental Protection Agency.

1988	1989	1990	1991	1992	1995 Goal
100%	116%	92%	81%	67%	50%

4. Hazardous Waste Generated...
down 35% and 6%

Hazardous waste generated was reduced by 35%, indexed to production, at U.S. sites from 1982-90. The new goal is global and not indexed to production. On this basis, hazardous waste generated was reduced by 6% from the base year of 1990.

OLD GOAL				NEW GOAL			
1982	1985	1988	1990	1990	1991	1992	2000 Goal
100%	87%	73%	65%	100%	102%	94%	65%

5. Land Disposal of Hazardous Waste...
up 56%

Most programs are in place and the technical effort under way to make significant progress toward this goal after 1997. The goal is based on hazardous waste as defined by the U.S. Resource Conservation and Recovery Act; change is measured on a dry weight basis, though all material is injected with water (up to 98%) into EPA-permitted deepwells.

1987	1988	1989	1990	1991	1992	2000 Goal
100%	104%	114%	99%	148%	156%	0

6. Packaging Waste...
a new goal

The Environmentally Improved Packaging Program is a new initiative, and measurable progress is expected to begin in 1993.

1991	1992	1995 Interim Goal	1998 Interim Goal	2000 Goal
100%	100%	75%	65%	50%

PRACTICE AND COMPLIANCE (CONTINUED)

Environmental Compliance

The table below summarizes federal and state violations at UTC's facilities in the United States that resulted in fines paid during 1991 and 1992. Violations are reported in the year in which the fine was imposed and the matter concluded. Not shown in the listing is the 1993 settlement of EPA's enforcement lawsuit against Pratt & Whitney, Hamilton Standard, Sikorsky and United Technologies Research Center for violations related primarily to the handling and storage of hazardous wastes, the training of employees and the discharge of waste water at

several Connecticut facilities in the late 1980s. According to the terms of the settlement, UTC has agreed to pay a penalty of \$5.3 million and to undergo a series of audits by independent consultants approved by EPA, including a review of its environmental management systems followed by compliance audits at its New England sites. We have made important improvements and additions to our environmental management systems. Improving our compliance with environmental regulations is a top priority for the corporation.

Site Remediation Program

United Technologies has an aggressive program in place to clean up environmental contamination at its plant sites, as well as at previously owned facilities for which the corporation retained cleanup liability, and at disposal sites used by our current or former operations. The vast majority of these cases of contamination are the result of disposal practices that were lawful and considered acceptable at the time.

Federal and State Violations Resulting in Fines

<i>UTC Unit</i>	<i>Violation/Jurisdiction</i>	<i>Fine</i>
1991		
Carrier York, Pa.	Unpermitted air pollution source/Pa.	\$1,500
Norden Systems Melville, N.Y.	Use of unpermitted waste transporter/N.Y.	\$2,500
Pratt & Whitney Palm Beach, Fla.	Air emissions/Fla.	\$3,000
Sikorsky Aircraft Storford, Conn.	Criminal penalty of improper disposal of solvent oil on the ground/EPA	\$3 million
UT Automotive Morganfield, Ky.	Hazardous waste handling, training, and inspection violations/Ky. and EPA	\$25,000
Iowa City, Iowa	Operating equipment without air permits/Iowa	\$43,500
United Technologies Research Center	Fuel spill/Coast Guard	\$1,500
Pratt & Whitney and United Technologies Research Center East Hartford, Conn.	PCB Management rules/EPA	\$730,000
Hamilton Standard Windsor Locks, Conn.		
1992		
Carrier Tyler, Texas	Effluent violations	\$290
Pratt & Whitney Middletown, Conn.	Failure to provide emergency number on manifest/Ohio	\$195
Palm Beach, Fla.	Failure to report asbestos removal activity/Palm Beach County	\$1,260
UT Automotive West Olive, Mich.	Exceedances of permitted air emission levels/Mich.	\$229,000
Niles, Mich.	Air emissions/Mich.	\$80,000

APPLICATION OF TOTAL QUALITY ENVIRONMENTAL MANAGEMENT:

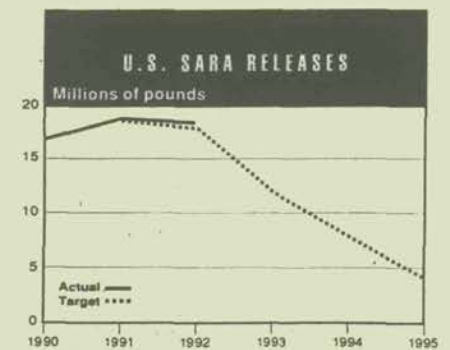
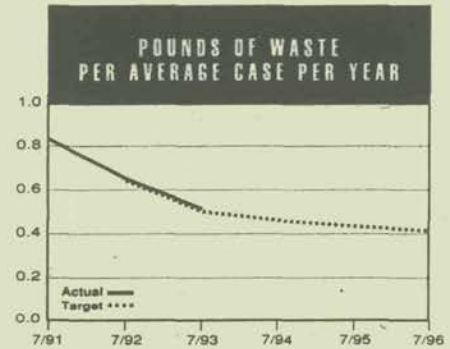
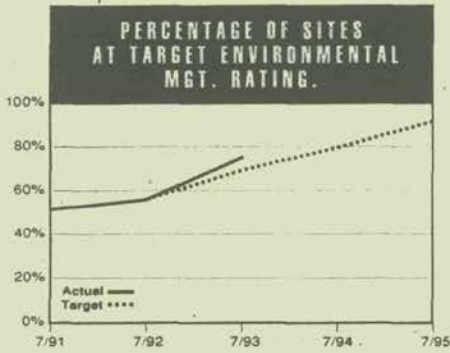
P&G's plan for continuous environmental improvement is currently being implemented by our plants worldwide. Each region is making strong progress in improving both its performance outcome and system capability measures. Environmental results are measured by the following systems indicators:

SITES AT TARGET RATINGS Annual audits assess management systems capability by: 1) assessing the complexity of each site's processes and environmental performance requirements, and then 2) establishing a target rating for that site's management systems. By 1995, it is expected that 90% of the sites will achieve their target environmental management ratings.

CERTIFIED ENVIRONMENTAL LEADERS Each site in the world has a goal of having a trained and certified Environmental Leader. In 1993, 83% of all sites have Environmental Leaders. The training process can take anywhere from three to six months, which ends in an oral exam conducted by environmental staff. By 1994, we expect that at least 90% of all sites will have fully trained and certified Environmental Leaders.

WASTE REDUCTION From July 1991 through June 1993 the Company's total waste disposal went from 0.80-pounds per average case to 0.55 pounds per average case—a 30% reduction. We expect to further decrease that to 0.4 pounds per average case by 1996. Between 1991 and 1996, this reduction effort will help us prevent a billion pounds of waste from being released into the environment.

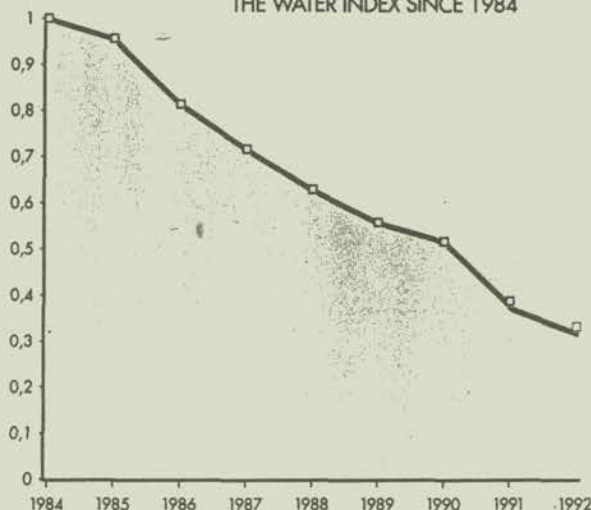
U.S. SARA 313 CHEMICAL RELEASES P&G sites are actively pursuing a program to reduce releases of all U.S. Superfund Amendment and Re-authorization Act (SARA 313) chemicals. Projects are currently underway to reduce 1991 levels by 75% in 1995. By 1995, total SARA releases are expected to be below 5 million pounds. This 14 million pound forecasted reduction will result primarily from major initiatives which emphasize source reduction.



SECOND OBJECTIVE

To reduce the environmental impact of all production sites

THE WATER INDEX SINCE 1984



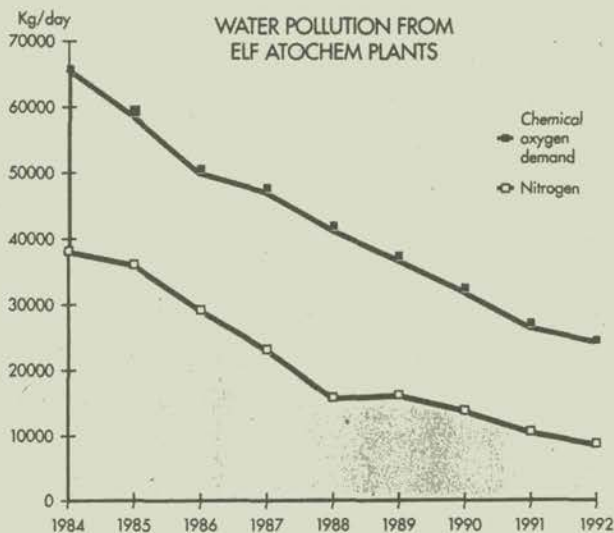
A) THE WATER INDEX

Performance has to be measured if progress is to be made. This prompted the French Chemical Manufacturers Association (UIC) in France to establish a Water Index, as a standard at both company and industry level. It is based on six characteristic parameters measuring impact on waterways: chemical oxygen demand (COD), suspended matter, phosphorus, nitrogen, soluble salts, toxicity (measured by Daphnies test).

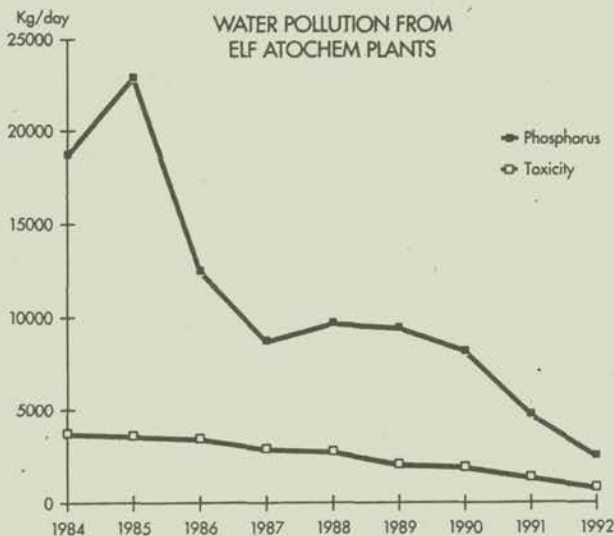
The consolidated Water Index for the company's French plants, on the basis of 1 in 1984, stood at 0.34 at the end of 1992, which represents an annual improvement of around 12% and a reduction in pollution of nearly two-thirds, over the eight-year period 1984-92.

Variations in the discharge of the main elements that go to make up this index (COD, nitrogen, phosphorus and toxicity) for these same sites, expressed in kg/day, enable progress to be measured (reduction of 60% in COD, 75% in nitrogen, 86% in phosphorus and 80% for toxicity).

WATER POLLUTION FROM ELF ATOCHEM PLANTS



WATER POLLUTION FROM ELF ATOCHEM PLANTS



AT&T's 1992 job-related injury and illness rate was 8% higher than in 1991. The increase was due mainly to an increase in reported incidence of carpal tunnel syndrome.

Carpal tunnel syndrome is one of several Cumulative Trauma Disorders (CTDs) the company is addressing.

The Corporate Safety Organization and the Operator Services Work Center Planning Group pooled resources in an attempt to address a rising trend in CTDs and to comply with the 1992 management-labor contract by developing a VDT ergonomic training program.

All AT&T represented employees who work with VDTs four or more hours a day are receiving the training, which has been well received.

This effort also involves the Health Affairs organization.

AT&T supports union employee participation and safety awareness through national and local safety committees.

To strengthen and improve the company's safety performance and to convey the importance of safety to all employees, a new safety education program is being developed by Environment & Safety for all Business Units.

The Program establishes accident reduction goals, initiates safety training sessions for the Environment & Safety officers and staff, and provides a communications program to improve safety recognition at all levels.

Increased involvement in OSHA's Voluntary Protection Program (VPP) will also help reduce employee accidents at AT&T manufacturing plants. A similar program has been drafted for our operations worldwide.

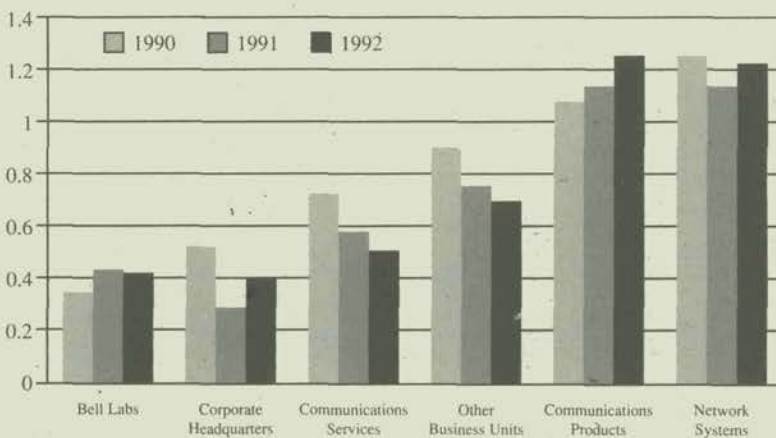
VPP offers three program options: Demonstration, MERIT, and STAR — STAR being the highest level a worksite can achieve.

In 1992, the AT&T Network Systems manufacturing plant in Oklahoma City was renewed for STAR Status for the next three years. The plant had been the first electronic equipment manufacturer to win the prestigious STAR award in 1989. Many other AT&T manufacturing facilities

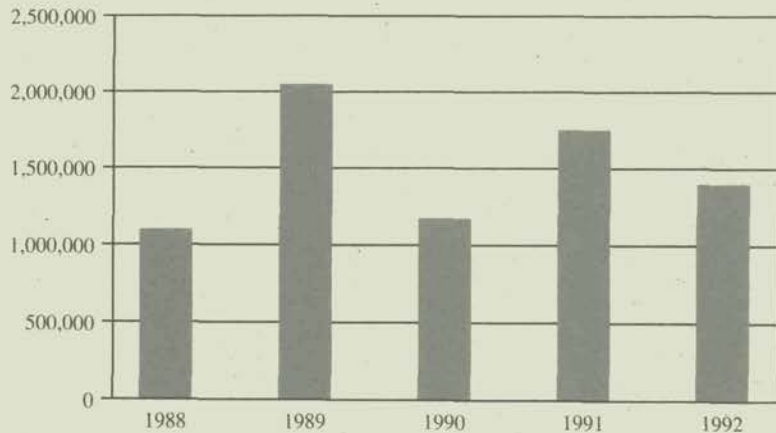
are beginning the process of applying for participation in the program.

Equally impressive is the accomplishment of the AT&T Consumer Products plant in Singapore. For the fourth year in a row, that facility was awarded the Safety Performance Silver Award by the Minister of Labour for exemplary efforts in the promotion of safety and health in the workplace.

AT&T Total Lost Workday Related Injuries and Illnesses (cases/100 employees)



Accident-Free Worker Hours at AT&T Consumer Products, Singapore



Charting our Progress

The following chart depicts our progress to date towards achieving goals established by the sixteen principles. Across the top of the chart are the Bristol-Myers Squibb company-wide policies, guidelines, and manuals, as well as programs and initiatives relating to environmental, health and safety management. Along the side are each of the Charter principles. The chart indicates the level of implementation of each Bristol-Myers Squibb program and the principle(s) that the program supports. We have matched each principle with those Bristol-

Myers Squibb initiatives that most directly support that principle. Thus, there are open spaces on the chart. Following the chart is a "glossary" that describes each program. The information contained in the chart is based on our own self-appraisal of our programs. It will be used by us to set performance goals and priorities.

For the convenience of the reader, we have included in this section the full text of the Charter principles.

- = Developed and in the process of, or has completed, pilot implementation.
- ◐ = In the process of being implemented across the corporation.
- = Implemented worldwide.

ICC Principles	Pledge & Policies	Bristol-Myers Squibb Pledge	Environmental Protection Policy	Manuals & Guidelines	Acquisition and Divestiture Manual	Capital Appropriations Request (CAR) Guideline	Contract Manufacturers/Suppliers Guidelines	Emergency Preparedness Manual	Environmental Management Guidelines	Hazardous Materials Transportation Guidelines	Packaging Guidelines	Purchasing Guidelines	Safety and Health Manual	Waste Minimization Guidelines	Programs and Initiatives	Auditing Program	Common Effort Initiatives	Customer Communications	Employee Education Initiatives	Environmental Management Program	Environmental Affairs Department	Management Self-Assessment Program (SSAP)	Office of Corporate Conduct	Product Life Cycle Assessment	Research Initiatives	Stakeholder Reviews	Technology Communications Initiatives	Waste Contractor Evaluation Program
1. Corporate Priority	All are corporate priorities, but are at various stages of business level implementation.																											
2. Integrated Management		◐					●	●	◐	◐	◐									○	○	○						
3. Process of Improvement		◐					●	●	◐	◐	◐				●			◐	◐	○	○	○	○	◐	○	○		
4. Employee Education		◐	○				●	●	◐	◐	◐							◐	◐	○	○	○	○	○	○	○		
5. Prior Assessment		◐	●	◐	○		●	●	◐	◐	◐	◐							●			○	○	○	○	○	○	
6. Products and Services	●	◐								◐	◐											○	○	○	○			
7. Customer Advice										◐							○									◐		
8. Facilities and Operations	●	◐		◐			●	●		◐	◐	◐		●			◐	●		○	○	○	○	○	○	○		
9. Research										○	○	○										○	○	○	○	○	○	
10. Precautionary Approach				○			◐	◐	◐	◐	◐										○	○	○	○	○	○	◐	
11. Contractors and Suppliers				○					◐	◐	◐																◐	
12. Emergency Preparedness							●	●	◐			●						◐										
13. Transfer of Technology										○	○	○				◐			○	○	○	○	○	○	○	○		
14. Contributing to the Common Effort	●														◐				◐									
15. Openness to Concerns	●														○				●		●			◐	◐			
16. Compliance and Reporting							●	◐	◐			◐		◐					◐	○				◐	◐			

This report covers Union Carbide health, safety and environmental progress. Six sections correspond with the six codes of the chemical industry's Responsible Care initiative.

Information pertains to Union Carbide's chemicals and plastics business (U.S. or international, as indicated), which constitutes virtually all of the corporation's business operations. Activities not consolidated for financial purposes, such as mining interests and joint venture operations, are not included.

Contact Union Carbide local sites for more information about their health, safety and environmental performance. For more information about corporate-wide Responsible Care programs and progress, write to Union Carbide, Responsible Care Communications, 39 Old Ridgebury Road, Section K3-470, Danbury, CT 06817-0001, or call Union Carbide's toll-free Responsible Care information line: 1-800-552-5272.

The Six Codes of Responsible Care

	Page
POLLUTION PREVENTION	3
DISTRIBUTION	9
EMPLOYEE HEALTH AND SAFETY	10
PROCESS SAFETY	12
COMMUNITY AWARENESS AND EMERGENCY RESPONSE	14
PRODUCT STEWARDSHIP	16

3. Notes on method

Energy consumption in toe/car

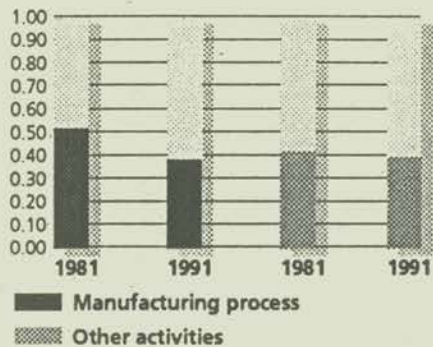


figure 1

Energy sources

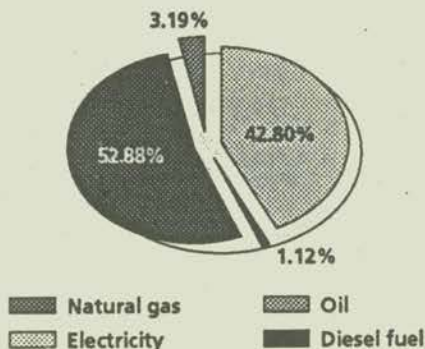
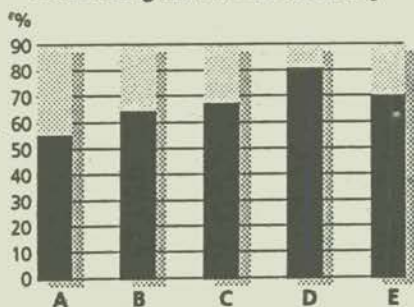


figure 2

Comparison of electricity and heat generation efficiency



- A Separate generation: heat from boilers, electricity from Enel national grid
- B Combined cycle cogeneration plants
- C Gas turbine and heat recovery cogeneration plants
- D Back pressure steam turbine cogeneration plants
- E Mix of systems actually used

figure 3

There can be no simple formula for measuring company performance based on a number of environmentally important parameters because use of resources generally depends on the level of activity performed. In these circumstances, accounting results have to be used to obtain indices capable of measuring the efficiency with which resources are used.

On the basis of the considerations in Appendix A, the total manufacturing cost was chosen as the reference parameter. It will be used for those important environmental results which are subject to regular accounting.

Table 1 illustrates the **total manufacturing costs** of the various Sectors, determined as explained in Appendix A, and broken down into three components.

Figures for Comau are not included since they cannot be indexed against this sector's manufacturing costs because of the type of activity performed.

table 1 - Total production costs in millions of lire

Sectors	Labour costs	Depreciation	Energy costs	Production costs
Fiat Auto	3,104,200	1,238,000	241,600	4,583,800
Iveco	696,460	315,260	56,190	1,067,910
New Holland	169,360	41,140	9,500	220,000
Fiat Hitachi	47,300	12,600	3,000	62,900
Ceac	29,357	9,898	5,412	44,667
Magneti Marelli	417,519	125,457	26,334	569,310
Gilardini	336,253	57,421	15,857	409,531
Teksid	309,741	63,332	80,049	453,122
Comau				
FiatAvio	188,779	41,195	11,137	241,111
Fiat Ferroviaria	36,774	5,514	2,702	44,990
Totals	5,335,743	1,909,817	451,781	7,697,341

4. Energy

From the environmental point of view, energy consumption is doubly important: on one hand it involves the consumption of natural resources such as fossil fuels and, on the other, it causes the emission of pollutant substances into the atmosphere during production. Fiat has been involved in energy saving activities for some time, increasing them with

We would like to know what you think of our Corporate Environmental Report 1992.



PLEASE TICK APPROPRIATE BOX

1. Did you find it

- very interesting?
- interesting?
- not interesting?

2. Is the balance of information about right?

- YES NO

If "no", would you like to see:

Facts and figures

- MORE LESS

Examples of actions taken or planned

- MORE FEWER

Information on our policies and principles

- MORE LESS

3. Do you have additional comments or questions?

Your views are welcome: please continue overleaf.

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R E S P O N S E C A R D

*We would be most grateful for your feedback about this report.
Please answer the questions below as specific as possible and return this card to us.*

Which subjects in this report did you find were very valuable and important and would you like to see included also in future reports ?

.....

.....

.....

Which subjects in this report do you consider less valuable and/or less interesting ?

.....

.....

.....

Which subjects that you consider critically important were not included in the report but you would like to see covered in a future report ?

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Please indicate here if you have any other comments on either the content or format/style of the report :

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*Procter & Gamble
European Technical Center
Room T 104
Temselaan 100
B - 1853 Strombeek-Bever
Belgium
Fax : 32 - 2 - 456 2099*

Appendix 7: SELECTED REFERENCES

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CEFIC, *Proceedings of the CEFIC Workshop on Environmental Reporting*, European Chemical Industry Council, Brussels, 1992.

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Appendix 8: DIRECTORY OF CONTACTS

Company Environmental Reporting was produced for the UNEP Industry & Environment Programme Activity Centre by SustainAbility Ltd. Their contact details are as follows:

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SUSTAINABILITY LTD, The Peoples Hall, 91-97 Freston Road, London W11 4BD, UK. Tel: +44 (0) 71243 1277. Fax: +44 (0) 71243 0364.

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COMMISSION OF THE EUROPEAN COMMUNITIES, Rue de la Loi 200, B-1049 Brussels, Belgium. Tel: +32 (2) 2351111. Fax: +32 (2) 2350140.

OECD, 2 rue André Pascal, Paris, France. Tel: +33 (1) 45248200. Fax: +33 (1) 45247876.

UNEP - see above.

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BUSINESS COUNCIL FOR SUSTAINABLE DEVELOPMENT (BCSD), World Trade Center Building, 3rd Floor, 10 route de l'Aéroport, Geneva, Switzerland (postal address: Case postale 365, CH-1215 Geneva 15, Switzerland). Tel: +41 (22) 7883202. Fax: +41 (22) 7883211.

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INTERNATIONAL CHAMBER OF COMMERCE (ICC), 38 Cour Albert-1^{er}, F-75008 Paris, France. Tel: +33 (1) 49532828. Fax: +33 (1) 42258663.

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WORLD INDUSTRY COUNCIL FOR THE ENVIRONMENT (WICE), c/o ICC above.

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Standards Organizations

International

INTERNATIONAL STANDARDS ORGANIZATION (ISO), 1 Rue de Varembe, Case Postale 56, CH 1-211 Geneva, Switzerland. Tel: +41 22 7490111. Fax: +41 22 7333430.

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