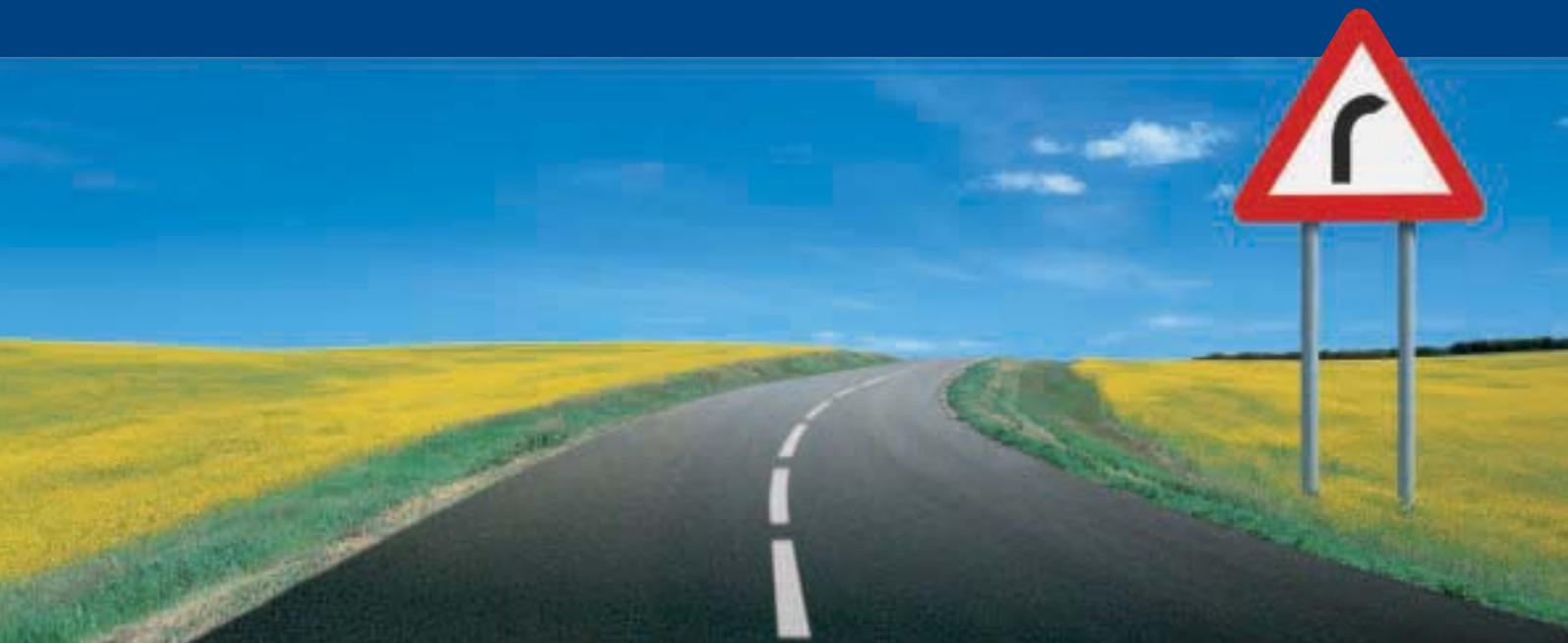


Signals of Change



Business Progress Towards
Sustainable Development



World Business Council
for Sustainable Development

Stephan Schmidheiny • Rodney Chase • Livio DeSimone



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Foreword

The 1992 Summit at Rio presented business with a challenge and an opportunity; a challenge to align its practices with the aspirations encapsulated in the phrase Sustainable Development; an opportunity to take the lead in finding answers.

Five years on we believe there is a good story to tell, and that is the purpose of the following pages.

Member companies of the World Business Council for Sustainable Development (WBCSD) have taken a lead in defining the issues to be addressed, and in working together to develop and put into practice the answers.

Much has been achieved; much more has begun; and much remains ahead of us. After all, sustainable development cannot be achieved by one company, one business sector, or one country alone; it must be a collective effort involving trial and error and a developing understanding.

This booklet does not aspire to be a comprehensive survey of all that is happening. But we believe that it does demonstrate the breadth of activity now underway and we hope it will be a useful pointer to those who have reservations, or believe that sustainable development may be a passing phase with little relevance to business.

After a short introduction the bulk of the content focuses on those issues and practices which business has identified as the building blocks for the approach to a more sustainable way of doing things. The last chapter briefly sets out the WBCSD view of the agenda which lies ahead. It is not for business alone, and one of the encouraging features of the last few years is the increasing success of the different sectors, international institutions, government, business, nongovernmental organizations (NGOs), and local communities in working together to find the answers.

The booklet takes as its content the work of the WBCSD membership and has been written with the help of many of our members. We are delighted that it should appear five years after Rio as a testimony to the success and commitment of that membership.

Stephan Schmidheiny

Founder and Former Chairman - Business Council for Sustainable Development
Chairman, Anova Holding

Rodney Chase

Former Chairman - World Business Council for Sustainable Development
Managing Director, British Petroleum

Livio DeSimone

Chairman - World Business Council for Sustainable Development
Chairman and Chief Executive Officer, 3M

World Business Council for Sustainable Development

The WBCSD is a coalition of 120 international companies united by a shared commitment to the environment and to the principles of economic growth and sustainable development. Its members are drawn from 35 countries and more than 20 major industrial sectors. The WBCSD also benefits from a thriving global network of 15 national business councils, two regional business councils and four partner organizations.

The WBCSD provides a powerful business voice on sustainable development issues and plays an important role in developing closer cooperation between business, governments and others, and in encouraging high standards of environmental management in business itself.

More specifically, WBCSD's objectives are:

- Business leadership - to be the leading business advocate on issues connected with the environment and sustainable development
- Policy development - to participate in policy development in order to create a framework that allows business to contribute effectively to sustainable development
- Best practice - to demonstrate progress in environmental and resource management in business and to share leading-edge practices among our members
- Global outreach - to contribute to a sustainable future for developing nations and nations in transition.

The WBCSD program on policy development and best practice - comprising a number of working groups with company representatives - currently covers six focus areas: Trade and Environment, Sustainable Production and Consumption, Climate and Energy Issues, Eco-Efficiency, Financial Markets and Natural Resources.

Disclaimer

Signals of Change is the product of a special task force, comprised of WBCSD representatives, under the chairmanship of three Council Members. It has been reviewed by all WBCSD members and has received final approval of the Executive Committee. This process ensures that this document represents the majority view of the WBCSD. However, it does not mean that every member agrees with every word.

Acknowledgements

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Details of our publications are on page 57

WBCSD Members



World Business Council
for Sustainable Development

- 3M Company
- ABB Asea Brown Boveri
- Akzo Nobel
- Anova Holding
- Aracruz Celulose
- Assurances Générales de France
- AT&T
- Avenor
- Axel Johnson Group
- Bank Umum Nasional
- BEWAC
- The BOC Group
- British Gas
- The British Petroleum Company
- The Broken Hill Proprietary Company
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- The Environmental Resources Management Group
- ESKOM
- FALCK Group
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- General Motors Corporation
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- Glaxo Wellcome
- Grupo IMSA
- Heineken
- Heinz-Wattie
- Henkel
- Hitachi
- F. Hoffmann-La Roche
- Imperial Chemical Industries
- Indonesian Forest Community
- Interface
- International Paper Company
- Inti Karya Persada Tehnik
- Investment Consortium
- Itochu Corporation
- John Laing
- Johnson & Johnson
- Johnson Matthey
- Kajima Corporation
- The Kansai Electric Power Company
- Kikkoman Corporation
- Kvaerner
- Lafarge
- LG Group
- Mitsubishi Corporation
- Mitsubishi Electric Corporation
- Monsanto
- National Westminster Bank
- NEC Corporation
- Neste
- Nestlé
- Nippon Telegraph & Telephone Corporation
- Noranda
- Norsk Hydro
- Novartis
- Novo Nordisk
- Ontario Hydro
- Philips Electronics
- Pirelli
- Pliva
- PowerGen
- The Procter & Gamble Company
- RAO Gazprom
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- SOPORCEL
- Statoil
- Stora
- Storebrand
- Sulzer
- Swiss Bank Corporation
- Taiwan Cement Corporation
- Texaco
- Thai Farmers Bank
- The Tokyo Electric Power Company
- Toshiba Corporation
- Toyota Motor Corporation
- TransAlta Corporation
- Unilever
- UPM-Kymmene Corporation
- Vattenfall
- Volkswagen
- Waste Management International
- Westvaco Corporation
- Weyerhaeuser
- WMC Limited
- Xerox Corporation
- The Yasuda Fire & Marine Insurance Company
- Zurich Insurance Group

The Road to Rio



In the five years since the United Nations Conference on Environment and Development (UNCED), business has made great progress towards finding ways of implementing the goal of sustainable development.

This report backs up this claim, offering examples of positive change within the business community while recognizing that society is still a very long way from achieving sustainable development, and that further progress will require contributions from all sectors of society.

Business has changed a great deal since the decades preceding the 1992 Rio Earth Summit, popularly known as UNCED.

During the 1960s and 1970s, one group of activists championed the environment and another advocated the "development" of the poorer nations. Their messages often appeared contradictory: one group claimed that economic development should not be allowed to degrade the environment; the other argued that bits of the environment had to be sacrificed for the sake of development.

Their messages often appeared simplistic to business people in industrialized countries, perhaps because we were not listening carefully. Environmentalists urged us to "save the planet," and told us that nature and biodiversity were "priceless." Much of the development lobby urged a sharing of wealth. These were not messages that business could easily relate to or act on, as there was little quantification, and there was much talk of rights but little assigning of tasks or responsibilities.

The 1980s saw the refining of the concept of "sustainable development," most notably in the 1987 report of the World Commission on Environment and Development (known as the Brundtland report), which defined it as progress that "meets the needs of the present without compromising the ability of future generations to meet their own needs."

This phrase neatly brought together considerations of the material needs of the present and the future, of growing populations, and of the requirement to conserve and pass along adequate environmental goods and services - including the vast amount of information contained in natural genetic diversity - to future generations.

A decade after the publication of the report (which called for the Earth Summit), the concept remains poorly defined, or perhaps overdefined, in that hundreds of different interpretations now compete for attention. But the term has had the effect of bringing environmental and developmental concerns together in a way that brought new actors into the debate.

Business was one of those new actors. Concern for "the environment" had often cast business in the role of villain: the primary source of pollution and of the main misuser of resources.

However, today the countries in which business has been most successful in creating wealth for society are those most able to clean up pollution and manage resources. We believe developing nations can and must avoid the more polluting aspects of the early Northern industrial revolutions and of the industrialization of the centrally-planned economies.

Concern for development also tended to cast big business as a villain, taking advantage of poor nations. But business and freer trade today offer successfully developing nations the opportunity to create the wealth and to obtain the technology and skills to manage their environments more efficiently.

Unlike the earlier environmentalism or developmentalism, sustainable development has several key roles for business.

The Brundtland report called firmly for economic growth, but growth with a new technological and social

content. In a world where millions remain in abject poverty and where the population is expected to at least double, any call for "no growth" is at best poorly informed, at worst cruel and inhumane.

As for technology, to give one example, it is clear that many of the world's people need greater access to energy; but it is not clear how much of this can safely be derived from carbon-based fuels. Given the right market signals, business will provide new energy technologies. Business remains the primary producer of the innovation required by the concept of sustainable development. Government policies, pressure from NGOs, and consumer choices can all catalyze this innovation through market mechanisms and by introducing the right framework conditions.

As for social change, the Brundtland report called for equity of opportunity. Given the right legal and social frameworks - access to education, human rights, property rights - business can help provide opportunities for anyone to earn enough to live in dignity and in harmony with the environment.

Another requirement for sustainable development is basic efficiency - getting as much added value as possible with as little input as necessary of energy and natural resources, while producing little waste, especially in the form of pollution.

Given the right signals - from governments in terms of reducing wasteful subsidies and properly costing resources and pollution sinks, and from society in terms of a preference for "eco-efficiently" produced goods and services - business will respond via market mechanisms and improve its eco-efficiency. (See next chapter for a definition of eco-efficiency.)

Given the obvious role for business in creating a more sustainable form of progress, it is hardly surprising that when representatives of all major governments and of

countless NGOs gathered in Rio in 1992, business was well represented. UNCED Secretary General Maurice Strong had appointed Swiss industrialist Stephan Schmidheiny as his personal adviser on business and industry. Schmidheiny in turn gathered together about 50 chief executives to form the Business Council for Sustainable Development (BCSD), both to spread the sustainable development message among business and to report to the Earth Summit.

The Council's report, in the form of the book *Changing Course*, was published in more than 15 languages and has become a basic course book in many of the world's business schools.

The International Chamber of Commerce (ICC) also participated in Rio. It had launched in 1991 the Business Charter for Sustainable Development, which laid out 16 environmental principles. This has since been translated into 23 languages and supported by more than 2,500 companies worldwide.

The ICC also contributed a book to the Earth Summit, *From Ideas to Action: Business and Sustainable Development*, showing how a growing number of corporations had embarked on a sustainable development path and how some of them were starting to understand the strategic value to be drawn from good environmental management.

The Earth Summit became the first major global conference with strong business attendance, partly because business was ready for sustainable development, and partly because governments and many NGOs now recognize the essential role of business in debating these issues and indeed its comparative advantage in moving the agenda forward.

In the next chapter, we discuss the varying ways in which business has been moving forward, and indeed to some extent was already doing so before the Earth Summit. In the final chapter, we discuss where we think business is now, and where it hopes to go - with the right encouragement, pressure, and advice from all other parts of society.



Signals of Change



What progress is business making in promoting sustainable development?

This question is impossible to answer with any quantifiable certainty.

First, business is a collection of activities covering a vast spectrum of size and type. Second, surprisingly little progress has been made in the development of "sustainability indicators" for business, or government, or any other sector of activity. Third, it is hard to decide a time frame over which progress should be judged.

Business started being more concerned with environmental and social issues well before the Earth Summit, as the previous chapter makes clear. Rio spurred that progress, but unevenly.

The Earth Summit occurred just as many centralized market economies began freeing up and opening up their markets. These countries have been forced to define their version of market economics at the same time as they explain their notions of sustainable development.

Thus it is possible for equally rational observers to be deeply impressed by the great progress of business or deeply critical of the disappointing progress made.

Rio did offer business, and all other actors, a route map for progress in the form of Agenda 21. However, this large document lacks priorities, and has far more to say to government than business. Thus different enterprises and different sectors of business have had to set their own priorities, responding to their perceptions of their own positions and of market, social, and policy realities.

As the BCSD noted in the preface to *Changing Course*: "Business is a large vessel. It will require great common effort and planning to overcome the inertia of the



present destructive course, and to create a new momentum towards sustainable development."

In this chapter we have collected a number of "signals of change" - changes in direction and momentum towards sustainable development. Some are stronger than others. Business has, for example, made much bigger strides in reducing wastes than it has, say, in understanding fully how to deal with demands that it should undertake greater civic responsibilities.

Some signals are controversial. Also, the signals tend to reflect progress by big industrial, service, and retail companies as well as members of the BCSD global network. There is less discussion of the realities of small and medium-sized enterprises and agriculture. This reflects the reality of membership of the WBCSD, the organization that grew out of the BCSD and the World Industry Council for the Environment (WICE).

Do the different signals add up to an identifiable change in course? We think that they do signal a paradigm shift in the way in which business does business. It is a shift from a fractured view of environment and development issues to a holistic view of business and sustainable development.

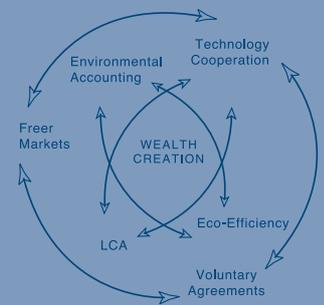
More specifically, this involves shifts from:

- seeing only costs and difficulties in the concept of sustainable development to seeing savings and opportunities
- end-of-pipe approaches to pollution to the use of cleaner, more efficient technology throughout entire production systems, and further, to seeing sustainable development as integral to business development
- linear, "through-put" thinking and approaches to systems and recycling approaches
- seeing environment and social issues as responsibilities only for technical departments or experts to seeing these issues as company-wide responsibilities
- a starting premise of confidentiality to one of openness and transparency
- narrow lobbying to more open discussion with stakeholders.

These shifts are occurring at different speeds in different places, but they are all happening.

Business Concepts

THE PRINCIPLES OF SUSTAINABLE DEVELOPMENT ARE BEING CONVERTED INTO IDEAS THAT BUSINESS CAN UNDERSTAND AND PUT TO WORK



Eco-efficiency



Eco-efficiency is a management approach developed by the WBCSD. Narrowly defined, it is about producing more with less resources and less pollution. But it goes further and encourages businesses to become more competitive, more innovative, and more environmentally responsible.

It is designed to help companies support sustainable development. It has been taken up by many corporations and business schools, and is one of the defining principles in a new investment fund (see page 23).

The concept makes seven main demands on companies:

- Reduce the material intensity of goods and services
- Reduce the energy intensity of goods and services
- Reduce toxic dispersion
- Enhance material recyclability
- Maximize sustainable use of renewable resources
- Extend product durability
- Increase the service intensity of goods and services.

Eco-efficiency encourages action by allowing businesses to adapt to new ways of working without immediately abandoning their traditional practices. Furthermore, the philosophy harnesses the business concept of value creation and links it to environmental concerns.

The goal is to create value for society and the company, by doing more with less over a product or service life cycle. The formal definition is: Eco-efficiency is reached by the delivery of competitively priced goods and services that satisfy human needs and bring quality of life, while progressively reducing ecological impacts and resource intensity throughout the life cycle, to a level in line with the earth's estimated carrying capacity.

For further reading, see the WBCSD reports: *Eco-Efficient Leadership for Improved Economic and Environmental Performance*. *Eco-Efficiency and Cleaner Production*. Details on page 57.



3M

In the last few decades, we have seen improvement in both the environment and in society's approach to environmental responsibility. We also realize that the journey towards sustainability has just begun. Because attaining a level of true sustainability may take many years, it's important that we increase our capabilities and commitment today.

At 3M, it's a continuing effort. In 1975, 3M introduced our Pollution Prevention Pays Program (3P). Its aims were simple: protect the environment by preventing pollution at the source and strengthen our company by conserving financial resources. Over the years, the program has prevented more than 1.4 billion pounds of releases to the environment, and saved the company more than \$750 million.

As we enter the 21st century, our 3P efforts will continue with a clear focus on sustainable development. Each new product, and its associated production process, will be developed with consideration for the elements of eco-efficiency, reducing impact on the environment and improving use of natural resources while meeting our customers' needs and returning a profit to the corporation.

We will accomplish this task through a company-wide initiative called Life Cycle Management: assessing the environmental, health, safety, and economic effects from product conception to ultimate disposal. While many companies have made significant progress to improve the environment, we will all benefit from a renewed commitment, incorporating the concepts of sustainable development in our businesses and throughout society.

With more than 50,000 products on the market and new ones being developed every day, this becomes an impressive challenge for 3M. It is, however, a commitment we must embrace to maintain our environmental leadership and to strengthen our competitive position.

LIVIO D. DESIMONE

CHAIRMAN AND CHIEF EXECUTIVE OFFICER, 3M

Life-cycle Analysis



Companies are increasingly using the developing science of life-cycle analysis (LCA), also called life-cycle assessment, as an additional tool to reduce the overall environmental impact of their products and production processes, and to help develop improved products. In its crudest form, life-cycle analysis involves listing the various positive and negative environmental aspects of a specific product or process.

If an environmental choice has to be made between two or more products, it can be achieved by looking for a product that has a greater balance of points in favor of the environment.

The information can also be useful in a product's design (or redesign) stage to indicate what aspects (such as the source of raw materials) can be changed or eliminated to improve overall environmental performance.

Life-cycle analysis, while useful, is both expensive and difficult. Merely listing the various environmental pros and cons of, say, packaging material can involve thousands of different bits of information that have to be collected from various sources. Some information is often simply not available. Judging the merits and demerits can prove difficult - some would say impossible - without a universally agreed frame of reference to weight the various attributes.

Nevertheless, some companies, such as Procter & Gamble, have made extensive use of the technique and have, with others, also funded its development through the Society for the Promotion of LCA Development (SPOLD).



Xerox

Xerox is using product life-cycle environmental assessment as a tool in our design-for-environment tool kit. We have completed a streamlined LCA of a small/mid-volume copier system. In this study we view Xerox products and services as a system that serves document processing needs of offices. And as an initial objective we determined which aspect of our products and services contribute most significantly to the overall environmental impact of meeting these needs.

The results of the study indicate that paper manufacturing and the use of energy by the copier are the primary contributors to the copier's environmental impact throughout its life. These and other results are being used to support research and technology resource investment decisions, and serve as a baseline to identify opportunities to improve environmental performance.

At Xerox, where managing by data and facts is fundamental, the LCA has provided the information necessary to quantify areas where the greatest improvements can be made. LCA can serve as a valuable tool in any company. Acting on these opportunities can lead to substantial business benefits.

Our experience shows that simple LCAs can provide value in research, technology, and design decision-making. But even for a large company, the value gained does not support the prohibitive expense of conducting comprehensive LCAs. Streamlined screening methodologies need to be developed and high quality environmental inventory data for materials, process, and parts need to be more readily accessible if LCAs are to be used widely.

PAUL A. ALLAIRE

CHAIRMAN AND CHIEF EXECUTIVE OFFICER, XEROX CORPORATION

Accounting for the Environment



Some accountants - and many outside the profession - feel that the environmental costs of trade and industry should somehow be reflected in the accounts of business and countries. Costs largely deemed to be external (such as the cost of pollution to a nation) should be paid for by the polluter (or "internalized"), which includes the consumer.

The pressure to put a financial number to what society values - such as a cleaner environment - is beginning to register within accounting circles, most notably among academics in the field. This particular signal of change might be weak, but

the indications are that it could strengthen, especially with increasing pressure from the investment community to identify environmentally determined business risks.

The history of accounting practice, however, shows that this could be a difficult and slow process.

So far, the only concrete demands on companies to identify separately their environmental risks concern the current and future cost of decontaminating land and groundwater. Companies operating in the U.S. (and non-U.S. companies listed on U.S. stock exchanges) are required by the Securities and Exchange Commission to

disclose environmental exposures that could affect the company's market value.

The European Union's Accounting Advisory Forum is preparing an opinion on how to improve reporting on the environment in annual accounts and reports. Similar bodies are also working on a reform of standards to take account of the environment. Among these are the U.N. Intergovernmental Working Group of Experts on International Standards of Accounting and Reporting, and the Canadian Institute of Chartered Accountants.

The World Wide Fund for Nature (WWF) is pressing for national indicators, such as gross domestic product (GDP), to reflect environmental degradation. Currently GDP - an indicator of economic health - rises when costs are incurred in repairing damage from disasters.

Some companies have made progress in identifying their environmental costs clearly.

These costs are generally carried as an overhead but are starting to be allocated to particular production processes.



Companies have found that identifying the extent of their environmental costs - by specific accounting methods - can help in decisions about the viability of products.

A World Resources Institute study published in 1995 (Green Ledgers) showed that 22 percent of operating costs (excluding feedstock) at Amoco Oil's Yorktown Refinery in the United States were considered environmental. Approximately 2.4 percent of the net sales for consumer products at S.C. Johnson Wax were environmental, as were more than 19 percent of manufacturing costs for one of DuPont's agricultural pesticides.

For further reading, see the WBCSD book: *Financing Change: the Financial Community, Eco-Efficiency, and Sustainable Development*. Details on page 57.



Swiss Bank Corporation

When Swiss Bank Corporation (SBC) started to integrate environmental aspects into its business in 1992, many assumed that by using environmental principles, banks and financial institutions would soon bridge the gap between ecology and economics.

However, agreed common environmental performance and accounting standards have yet to emerge. This makes it difficult for both industry and the financial services sector to evaluate exactly the effect of environmental factors on financial performance.

But there is progress, and three major developments have helped.

- 1 Industry is moving now from describing its environmental performance by reporting positive stories, to assessing its eco-efficiency and the impact of environmental risks on financial performance.
- 2 In lending, banks are increasingly refining their credit approval by assessing environmental risks, such as contaminated sites. They are also identifying market opportunities from environmental market development. In asset management, leading institutions, such as the SBC, have specialized Environmental Performance Rating Units whose task it is to improve the quality of financial analysis of a company by including environmental criteria in the process.
- 3 Our customers are starting to ask for more information about the environmental performance of investments in stocks.

We feel sure that these trends will lead in the near future to standards that will make it easier to account for the full impact of environmental issues on financial performance.

GEORGES BLUM

CHAIRMAN OF THE BOARD OF DIRECTORS, SWISS BANK CORPORATION

Sustainable Development Business Networks



An informal global network of business-led organizations that work on issues associated with sustainable development has grown dramatically over the past 5-10 years.

The World Business Council for Sustainable Development, for example, deals with a broad range of issues while others, such as the International Petroleum Industry Environment and Conservation Association, concentrate on conservation and environmental issues in specific industries.

A survey in 1994 listed 40 such organizations. The U.K. consulting firm SustainAbility and the Swedish-based Tomorrow magazine divided the organizations into three categories: reactive, transitional, and pro-active. No group had progressed as far as the last category.

In the Asia-Pacific region, the number of business groups with an environmental or sustainable development agenda is growing. For example, the Business Council for Australia has an environmental committee and has developed a position on sustainable development. In Japan, the Federation of Economic Organizations (Keidanren) has compiled the Keidanren Global Environment Charter.

The Confederation of Indian Industry has formed an environment committee to work with government on policy-making. It has also carried out a study that has led to greater efficiencies in the transmission of electricity. The Indonesian Chamber of Commerce and Industry has established the Environmental Management and Information Center to promote environmental management techniques. Philippine Business for the Environment promotes corporate environmentalism to its business community.

Critics say that most business organizations are designed to counteract the work of social justice and environmental NGOs. Members of the so-called green business network argue that they accept the inevitability of change and offer a more rational and business-led approach to its management.



British Petroleum

The challenge for business is to keep up the momentum of continuous improvement in performance. This applies as much to the environment as to business results. But today environmental issues and the agenda for sustainable development have an increasingly international dimension.

Whether we are dealing with policy issues, such as climate change or the interaction of trade and environment, whether we are defining the management practices that business must embrace if it is to progress in its aim of improvement, or whether we are addressing the challenge of helping enterprises in developing countries to achieve their own environmental goals - in each of these we do better if we work together: if we act in concert with like-minded companies who see the common agenda and are willing to share their experience and their thinking.

British Petroleum's experiences as a member of the WBCSD have demonstrated to us the value of this organization as a forum for sharing ideas and developing best practice, and as an invaluable network of committed companies.

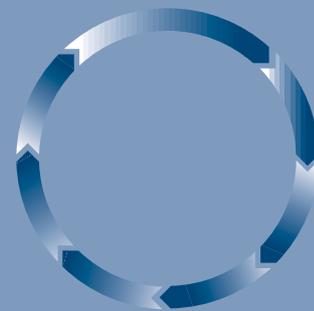
Of course, the WBCSD is not the only business organization with this purpose. For good reasons there are others, and we see very clearly the need for these various organizations themselves to work together and jointly harness their respective talents and knowledge. The world is looking for results, and business must deliver.

RODNEY F. CHASE

MANAGING DIRECTOR, THE BRITISH PETROLEUM COMPANY

Company Management Practices

BUSINESS IS FINDING NEW TOOLS FOR TURNING IDEAS INTO REALITY



Use Less, Waste Less



Waste minimization and resource optimization - these were management's early response to environmental pressures on manufacturing. Put simply: use less, waste less.

This central tenet of good housekeeping - and cutting costs - was epitomized by 3M's Pollution Prevention Pays (3P) and Dow Chemical's Waste Reduction Always Pays (WRAP) programs.

3M's program, started in 1975, has been widely quoted and copied. 3M estimates that it has saved itself at least \$750 million as a direct result of trying to make pollution prevention pay in four principal ways:

- Product and process reformulation
- Process modification
- Equipment redesign
- Resource recovery (recycling).

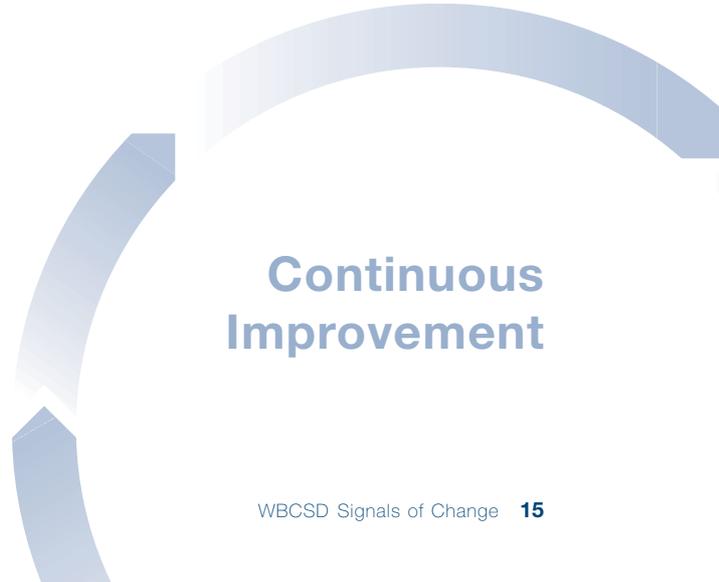
An example of waste minimization in practice is the improvements made at the RTZ-owned Kennecott Utah Copper Smelter and Refinery near Salt Lake City, Utah. A new smelter, now in operation, is the most advanced in the world. It uses the Outokumpu Flash converting furnace to achieve high capacity and productivity while capturing 99.9 percent of the sulfur generated in the smelting process. It also eliminates the open-air ladle transfer of molten metals, which is a major source of emissions. The new smelter is part of a broad range of waste minimization improvements made at the site.

Procter & Gamble, the maker of detergents and personal products, has over the past five years reduced disposable wastes by more than 50 percent while increasing sales by 25 percent.

From 1990, S.C. Johnson & Son produced 50 percent more product with 26 percent less virgin packaging and 16 percent fewer volatile organic compounds for annual cost savings of \$20 million. A 40 percent reduction in weight of plastic overcaps for insect control, air freshener and furniture care products in the U.S. saves 2.4 million pounds in weight of virgin material each year, and contributes to annual cost savings of \$2.8 million for the company's consumer products business.

Programs to cut waste to a minimum showed that environmental performance could be improved at little or no cost, and often at a profit.

Industry in developing countries is reaping the benefits in the drive towards cleaner production. For example, the Ingenio El Potrero sugar factory in Mexico, which processes about 720,000 metric tons of sugarcane a year, reduced its water consumption by 94 percent and cut the amount of effluent it discharged. The environmental improvements saved the company about \$220,000 in the first year, and the investment was paid back within two years.



Continuous Improvement

Use Less, Waste Less cont.



The Wuxi Enzyme Factory, China's biggest commercial enzyme producer, worked with a U.S. company, Snyder Inc, to improve its manufacturing systems, raise the quality of its products, and reduce waste. The improvements produced energy savings of up to 20 percent, more than doubled production, and saved the company \$420,000 a year.

Cutting waste and making efficient use of raw materials has always made good business sense.

The increasing cost of waste disposal - driven mainly by tougher laws - has underlined the financial benefits of waste reduction and therefore the improved value to shareholders of such management.

The efficient use of resources is included in the concept of eco-efficiency (described earlier), which takes the idea further by integrating it with a broad management approach.

For further reading, see the WBCSD Reports: *Eco-Efficiency and Cleaner Production. Sustainable Production and Consumption: a Business Perspective*. Details on page 57.



Waste Management International

Our customers are increasingly embracing the concepts of eco-efficiency in the way they do business. They generate less waste, reuse or recycle more materials, and place greater emphasis on conserving energy and natural resources. We are working with more and more customers to identify opportunities for waste reduction, enhanced recovery of materials and energy, and the safe disposal of nonrecoverable wastes.

While we are adapting our business services to the demands of our customer, we are also making efforts internally to conserve resources, prevent and minimize wastes, reuse and recycle more materials, and develop clean technologies.

Several of our major treatment facilities feature in-built recovery systems for water, heat, and energy. In Sweden, for example, a unique high-pressure evaporator treating contaminated water has produced significant energy savings. Unlike traditional plants where oil or gas is used, the evaporator takes steam from the existing boiler in the hazardous waste incineration plant to supply its energy needs.

In Argentina, we are piloting the running of our collection trucks on compressed natural gas. This fuel burns relatively cleanly. Exhaust emissions are lead-free, and contain much lower levels (80-fold) of polluting gases.

In the United States we have designed a truck to pick up waste and recyclables at the same time, cutting the number of trips and the resultant exhaust emissions. In 1995, in the United Kingdom, we opened the first "fiber fuel" production plant outside North America. This makes fuel - used by a nearby power plant - from non-recyclable paper, cardboard, non-PVC plastics, and other fibrous materials.

Across North America and Europe, our 35 landfill gas-to-energy plants produced 800 million kilowatt hours of electricity in 1995 by burning methane gas, a by-product of landfilling.

We at Waste Management International are convinced that our future success lies in becoming more of a resource and materials management company.

EDWIN G. FALKMAN
CHAIRMAN, WASTE MANAGEMENT INTERNATIONAL

Designing Products for Sustainable Development



Concentrated liquid soap that needs little packaging and is light to transport, energy-efficient cars that are easily recycled, television sets that use the minimum of resources and are easy to take apart and recycle, copier machines with a long life and reusable parts, paints based on water instead of chemical solvents: these are just a few examples of products that have been designed for a better environmental performance and are available today.

Such design - which looks at ways of reducing the potential environmental impact of the product throughout its life-cycle - has become an essential part of product development.

Companies are finding that for pure business reasons they have to reduce the impact of their own production processes (use of natural resources, creation of waste, and so on) and offer products that help customers reduce their environmental impact. Markets insist on it. A typical example is the car industry, which is demanding easily-recyclable components from its suppliers.

Some companies have made considerable progress in redeveloping existing products and designing new ones to meet the emerging criteria for sustainable consumption. Procter & Gamble, which makes personal care products, has already made dramatic improvements in its packaging. And it has pledged to reduce the amount of packaging by six percent per production unit by 1998, based on 1994 levels.

ICI, the chemicals maker, has devised innovative products such as water-based paints for vehicles and a recyclable chlorofluorocarbon-free foam used in furniture. Xerox has set its goal as "waste-free products manufactured in waste-free factories." It has already made excellent progress in extending the life of its products by designing components for easy disassembly and reuse. Sony has applied life-cycle assessment to its new television sets.

Such products - and there are many more - signal a change in the priorities of product development to meet shifts in market demand. It is, however, easy to be too optimistic about the progress made. There is considerable debate on how sustainable production and, more important, sustainable consumption can be achieved.

A resolution is not within sight, but any solution is bound to include products designed with the objective of supporting sustainable development.

The life-cycle design philosophy behind the types of products mentioned here is commonly viewed as the first step towards sustainable consumption.

For further reading, see the WBCSD reports: *Eco-Efficiency and Cleaner Production*. *Sustainable Production and Consumption: a Business Perspective*. Details on page 57.



Sony

Sustainable development is a key phrase for Sony's environmental strategy. And where would Sony have more possibilities to influence this than with our own products and production process?

The environmental management system is seen as the prerequisite for possible environmental improvements. And Sony's policy is to seek accreditation to ISO14001 or the Eco-Management Audit Scheme (EMAS) for its manufacturing sites worldwide by the end of 1997 and all other sites by the end of the year 2000.

Designing our products to conform to the principles of sustainable development is definitely the way to show our clear commitment to the preservation of the environment. One step in this direction was the development of the design of the C-mark 0 series television set, which uses 14 percent less material compared to the previous design.

Instead of only relying on individual initiatives Sony has institutionalized the idea of design for sustainable development by starting the so called "GreenPlus" project in May 1994. The project's goal is to make all Sony products environmentally friendly by the end of 2000.

Design for sustainable development is an ongoing activity that has to be integrated into the basic design guidelines. Sony is willing to do so.

SUMIO SANO

MANAGING DIRECTOR, CHAIRMAN OF SONY ENVIRONMENTAL CONSERVATION COMMITTEE,
SONY CORPORATION

Supply Chain Auditing



Companies that align themselves with the goals of sustainable development cannot afford to be tainted by the environmental or social misdeeds of their suppliers and contractors. Their customers will not tolerate it.

This is why an increasing number of corporate buyers are demanding comprehensive environmental and social information on the products or materials they purchase - a practice that has become known as supply-chain auditing.

Examples include Fiat Auto of Italy, British Telecom, the U.K.'s largest telecommunications company, B&Q, the U.K.'s biggest do-it-yourself retailer, and IBM, the information technology company.

There are four clear business reasons for auditing the environmental quality of suppliers:

- **Compliance.** Early compliance with legislation or policy-led market incentives (such as eco-labelling) ensures that companies can take advantage of market opportunities that arise. Suppliers should be working towards such compliance.
- **Security of supply.** Sound purchasing practice reduces the risk that an errant supplier (one that does not read market signals or comply with the law) will fail to supply the specified goods. Purchasers cannot afford to have their supply interrupted because it will affect their ability to deliver to the next link in the chain.
- **Market opportunities.** The environmental performance of products is increasingly becoming a competitive issue. Companies that can supply environmentally superior products - either by reselling products made by others or assembling products from bought-in components - can take advantage of market opportunities.
- **Benefits versus costs.** Price was once the prime market differentiator, but it soon became apparent that quality was equally important. Companies that invested in quality saw long-term gains in competitiveness and profitability. Environmental quality has joined the list of differentiators. Because small firms are often heavily dependent on bigger

companies for their business, supply-chain auditing - which transmits pressure throughout the supply-chain - is providing a great impetus to change among small and medium-sized companies.



Fiat Auto

Fiat Auto is reducing the number of suppliers and demanding improved quality. This strategy is consistent with demands for higher-quality products as well as better partnership with suppliers.

Fiat is deeply committed to improving environmental performance as part of its drive for higher quality. For example:

- A document called "Guidelines for Cooperation," signed in February 1994, states that "the partners accept the increasing environmental compatibility of their products and manufacturing processes as a priority, while respecting the economic and competitive balance."
- A survey of 360 suppliers was conducted in 1994 to monitor their management of environmental resources (energy, water, air, and so on). The information allowed improvements that led to savings and the anticipation of expected legislation.
- A "waste database" has been created with the Turin Chamber of Commerce. This puts companies producing waste in contact with those who can re-use or recycle it. A real "goods exchange" is operating with Fiat Auto expertise under the "Control of Machine Waste" program, which is extended to 20 first-level suppliers, and is also on the Internet.
- At the Naples plant, which produces car instrument dashboards and bumpers, a "packaging waste control" program is under way with 70 suppliers, monitoring incoming and outgoing materials.

Our partnership with suppliers has proved valuable in creating significant improvements in quality and environmental performance.

PAOLO CANTARELLA
CHAIRMAN, FIAT AUTO

Closed Manufacturing Processes



Concern about the use of potentially hazardous and/or toxic materials (including genetically modified organisms) in manufacturing has led to the development of closed production processes.

These are systems designed to contain the process and insulate it from the environment. The paper industry is already moving towards closed bleaching systems in which the effluent waters are recycled and not emitted to the environment. At least 15 mills worldwide - in Sweden, Canada, Finland, the U.S., and South Africa - are now trying to achieve closed-cycle bleaching.

Another example of closed manufacturing is the way in which the pharmaceutical industry uses genetically modified organisms in the production of certain medicines. These organisms are contained within the production system and neutralized before the effluent is sent for treatment. The neutralization plant is itself contained to prevent any releases in case of accidental leaks.

Such production systems are generally only possible in new plants, and it is impractical to convert older facilities. Complete enclosure of the entire manufacturing process is impossible, and environmental impact can only be reduced, not eradicated.

Considerably more progress has been made in what is called "closing the loop," where substances used in the manufacturing process and even the end product are recycled.

The Tokyo Electric Power Company recycles up to 90 percent of its own waste, all of it low value. Its gypsum, a by-product of the desulfurization process, and coal ash are used to make cement. The company's redundant concrete poles are pulverized and used in the steel-making industry. Scrap insulation material is used to strengthen pavements.

Recycling of costly or potentially hazardous substances is well established in manufacturing industries.

Environmental pressures have led to innovation in the design of products to make them - or their components - more easily recyclable.

Plastics recycling is an example. Since November 1995, the Saturn division of General Motors in the United States has collected used and damaged plastic materials from its network of retailers. The collections are transported by the same delivery trucks that previously returned from retailers empty, and taken to a plastics reprocessing company for use in several automotive applications.



Closed Manufacturing Processes cont.



S.C. Johnson

S.C. Johnson & Son set long-term goals in 1990 to drive continuously better environmental performance, and established comprehensive measurement, monitoring and reporting systems. Our target: improved eco-efficiency by delivering greater quality and value through cleaner product and process technologies.

Since 1990 we have realized over \$20,000,000 in annual cost-savings and reductions by cutting manufacturing waste in half, reducing virgin packaging use by 25 percent and volatile organic compound usage by 16 percent, as our production grew over 50 percent. We are realizing progress towards our Vision 2000 goal of maximized operational eco-efficiency through further minimization of waste, risk and costs in the formulation, manufacture, use and disposal of our products and services.

Future progress will require new thinking about what "garbage" is and, a closed manufacturing process strategy helps drive "out of the box" solutions. Today 95 percent of wastewater from one of our plants is continuously reused - never to be discharged. Our largest facility mines methane gas from a neighboring landfill, and combines it with recaptured organic vapors from process lines to provide 33 percent of the plant's energy needs with cleaner steam power than ever before.

Less waste, less risk, less cost are important financial drivers, but it is each of us as individuals choosing to act which drives on-going progress. We are spurred on by the same simple human truth that we cannot lead lives of dignity and worth when the natural resources that sustain us are threatened or destroyed. At S.C. Johnson we know we must act responsibly and we must act now.

SAMUEL C. JOHNSON
CHAIRMAN, S.C. JOHNSON & SON

Similar vehicle recycling systems are being developed in other parts of the world. Much of their success depends on the original labelling of plastics (to aid sorting after collection) and cooperation between competing carmakers.

A big task for business is devising take-back schemes for products or materials with little value, such as packaging. Business has made considerable progress in reducing the volume and weight of packaging, as well as in working with waste-disposal authorities to organize recycling schemes.

All this remains an enormous challenge, which often can only be met by industry sectors working with government to establish a suitable infrastructure and the right market conditions to make the exercise economically viable.

Some companies have been able to convert wastes into products. Tioxide, a maker of titanium dioxide (used as a whitener and to increase opacity in a range of products from paint to toothpaste), generates large amounts of gypsum and iron salts as by-products of its manufacturing process. The company has established a separate business unit to deal with what it now calls "co-products." It sells the gypsum as a soil conditioner and as a raw material used in cement making and the manufacture of plasterboard. The iron salts are sold for water treatment, animal feeds, and fertilizers.

Industrial parks in which one company's useful wastes are used by a neighbor could reduce the overall level of waste and cut the cost of waste management. In the United States, several development projects are under way to cluster businesses involved in recycling around materials-recovery facilities that process municipal solid waste. An academic journal covering the subject of "eco-parks" is scheduled for launch in 1997.

In Bangkok, a group of more than 80 tanneries have collaborated to set up their own wastewater treatment works. Charges are made according to the production capacity of each member of the cooperative. Treatment cost are thus shared equitably, and the tanneries do not see their participation as sacrificing a competitive edge.

No industrial park has yet managed to emulate the success of a group of industries outside the small town of Kalundborg in Denmark. In this community, the outputs (wastes, water, and excess energy) from several industrial processes serve as the inputs to other industrial facilities, farmers, and the municipality.

For further reading, see the WBCSD reports: *Eco-Efficiency and Cleaner Production*. *Sustainable Production and Consumption: a Business Perspective*. Details on page 57.



DuPont

DuPont's highest policy statement, the Safety, Health and Environment Commitment, firmly aligns the company with the concept of closed manufacturing processes. The commitment says (in part): "We will drive towards zero waste generation at the source. Materials will be reused and recycled to minimize the need for treatment or disposal and to conserve resources. Where waste is generated, it will be handled and disposed of safely and responsibly. We will drive towards zero emissions, giving priority to those that may present the greatest potential risk to health or the environment."

This is leading our businesses to recognize the product value in materials formerly regarded as wastes, to improve the efficiency of their processes, to reuse resources like water within plants, and to aim for emissions-free operating plants.

We also recognize that to make progress towards such an ambitious goal requires us to improve our products and processes and to engage our customers and suppliers in the same journey. Our business units are thus finding ways to improve their businesses by helping their customers reduce their environmental impacts, by working with competitors to set up recycling networks, and by insisting on standards of environmental performance from their suppliers.

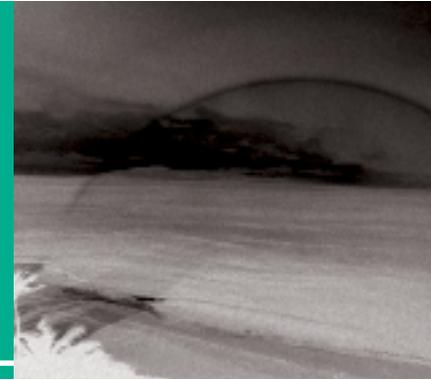
As we set our goals and expectations as well as our public reporting, we do so with the "Goal of Zero" in mind. We recognize that "zero" often cannot be reached immediately, or even at the same rate in different facilities, but we will not let this reality become an excuse for inaction. The injury frequency at our plants has dropped by a factor of 50 since we adopted the goal of zero injuries and started keeping score in 1912. We are now recognized to be the safest in our industry. We're not at zero yet, but we're well on the way and still pushing ourselves to improve.

We will do the same when it comes to the environment, and hope others do as well.

JERALD A. BLUMBERG
SENIOR VICE PRESIDENT, DuPont

New Business Opportunities

SUSTAINABLE DEVELOPMENT
OPENS NEW OPPORTUNITIES
FOR BUSINESS AND INVESTORS
TO PROFIT FROM CHANGE



Screened Investment Funds



Screened, ethical, or social funds exclude investments in the stocks of companies deemed to be unethical or environmentally irresponsible in favor of the stocks of other companies. The funds also strive to deliver competitive financial returns.

Such funds cover a multitude of virtues, including good environmental practice. They were very much a response to demand from a very small but influential group of investors, such as churches, who have provided an opportunity for the fast-growing fund-management business to create a definite market niche.

The significance of screened funds is not in their size (almost insignificant compared with all funds invested) but rather their pioneering influence on some fund managers and companies listed on the world's stock markets.

Managers of screened funds are particularly proud of what they call their acts of "engagement." This is when they talk to managers of institutions (such as pension funds) and companies about the importance of responsible social and environmental behavior. They also often claim to speak for ordinary people, such as contributors to company pension funds, who have no direct influence on the investment decisions made on their behalf.

Environmental and social campaign groups would make similar claims. The engagement is made possible because the managers of screened funds are players in the capital markets - a position that, in the eyes of many companies, makes the managers more credible than campaign groups.

Ethical funds have carried the message of sustainable development to the financial community, which until recently has largely dismissed their ideas and their significance.



Demands for environmental performance made by the managers of screened funds have, it can be argued, contributed to a greater openness among companies and provided an added reason to produce environmental performance reports.

A significant new fund initiated by the Norwegian insurer Storebrand and comanaged by Scudder, Stevens & Clark of the United States was launched in 1996 and has grown to nearly \$100 million. Called the Storebrand Scudder Environmental Value Fund, it operates on the rationale that better returns can be achieved by subjecting companies to rigorous environmental analysis in addition to traditional financial examination.

The fund, which focuses on eco-efficiency rather than ethical issues, invests in companies that rank among the top third in environmental performance within their industry sector relative to their competitors. Nine eco-efficiency selection criteria are used: energy efficiency, global warming contribution, ozone depletion impact, material efficiency, product characteristics, quality of environmental management, toxic emissions, water use, and environmental liabilities.

The fund invests in most industrial sectors, including heavy industry and manufacturing.

For further reading, see the WBCSD book: *Financing Change: the Financial Community, Eco-Efficiency, and Sustainable Development*. Details on page 57.



Storebrand

Our findings of the Storebrand Scudder Environmental Value Fund, so far, are that eco-efficient companies in general provide better returns on investment. During the fund's first six months, it outperformed the Morgan Stanley World International Capital Index (MSWICI) by three percent, and provided a net return to investors of nearly nine percent. It also outperformed Scudder's Global Themes Equity Fund, which is based on the same kind of fundamental financial analysis but without the eco-efficiency analytic screen.

A back-test of the fund's portfolio at launch showed that if five years ago an investor had chosen to invest in the stocks the fund chose to invest in at launch, the investor would have received an average annual return of 22 percent, which would have been nearly double the 12 percent average annual return of the MSWICI.

It is too early to tell if the eco-efficiency analysis will consistently lead to superior investment performance in bull and bear equity markets, but the results so far are promising and have generated a good deal of interest among investors and company environmental managers. Regulators in Sweden, Denmark, Germany, and the United Kingdom are exploring how to strengthen environmental reporting standards in ways that will prove more useful to interested investors.

In short, the Storebrand Scudder Environmental Value Fund shows that environmental values can be integrated into investment management, and that doing so results in significant benefits: first, capital flows to eco-efficient companies, thereby reducing their capital cost and financing their growth; second, investors do not sacrifice investment performance. They might even achieve superior financial returns.

AGE KORSVOLD

PRESIDENT AND CHIEF EXECUTIVE OFFICER, STOREBRAND

Environmental Products and Services



The move towards sustainable development creates opportunities for new business - for products and services to satisfy new needs and changing market demands. Much is expected in terms of jobs and exports from what is loosely called the environmental market, and its emergence is a clear signal of change.

The Organization for Economic Cooperation and Development (OECD) expects the environmental market to be worth \$300 billion by 2000, with the biggest growth rate in the Asia-Pacific region. But what exactly is this industry? Nine sub-sectors can be identified.

- Air pollution control (removal of gaseous and particulate emissions from air)
- Water and wastewater treatment (includes technologies to purify drinking water, clean sewage, and remove pollutants from industrial wastewater)
- Waste management (collection, disposal, recycling, and treatment of domestic and industrial wastes)
- Contaminated land remediation (assessment and cleaning up of contaminated land)
- Energy management (systems and technologies to make efficient use of energy)
- Environmental monitoring (physical monitoring of environmental standards using instruments)
- Environmental services (consultancy and laboratory)
- Noise and vibration control
- Marine pollution control.

These sectors include conventional items, such as pumps and valves, as well as the newer technologies, such as electronic monitors and high-tech filtration.

The United States provides the largest portion of the market (\$125 billion), followed by Western Europe and then Japan. The global environmental sector is comparable in value to aerospace and pharmaceuticals.

The difference is in immaturity and fragmentation; the environmental sector is served by a supply industry drawn from sectors as diverse as mechanical engineering, construction, water supply, and chemicals.

While the market for environmental technology and services has been almost entirely located in the industrial world, developing nations are expected to increase their demand substantially. The U.K. consultancy Ecotec estimates that up to 20 percent of the global market will be in the developing world by 2010. This shift will be the direct result of industrial growth and higher environmental awareness in those nations, as well as the need to provide an efficient infrastructure to attract industry.



EBARA

EBARA Corporation is one of Japan's leading integrated environmental engineering firms. Its activities cover existing end-of-pipe solutions, but also include clean technologies, such as electron-beam methods for removing nitrogen and sulfur oxides from waste gases.

EBARA plans to devise an eco-industrial park in which the emissions and recycled materials from some industries are reused by others.

The company has invested in the U.N. University's Zero Emission Research Initiative (ZERI) to develop zero-waste technologies and processes. These include projects to develop waste reuse technologies for brewing processes, paper and ink recycling, extraction of useful materials from branches and leaves, and the development of technologies that imitate natural color systems with organisms.

As with any new concept, there will be challenges in the integration of useful technologies into practical systems, but EBARA expects some successful implementation of ZERI model cases.

HIROYUKI FUJIMURA

CHAIRMAN AND REPRESENTATIVE DIRECTOR, EBARA CORPORATION

Environmental Performance as a Competitive Tool



Products and services (including those provided by contractors) that offer environmental benefits often provide a competitive edge.

ABB - the Swiss-Swedish engineering contractor - says it has won orders because it offers high environmental performance in addition to its high-quality products.

Certain timber producers from South Africa, Poland and Papua New Guinea are beginning to win substantial orders because they can satisfy new environmental demands in the markets. For example, the U.K.'s biggest do-it-yourself retailer, B&Q, is committed to stock by 1999 only timber products that comply with specific criteria on forest management. Producers who can show clear signs of satisfying B&Q's demands are finding that their products have an advantage in gaining shelf space in B&Q's stores. Other retailers in the U.S. and continental Europe are making similar demands because they feel their customers want to be assured that the retailer's products are environmentally sound.

When the use of chlorine in paper-making was challenged in the 1980s, some producers gained a competitive edge by more quickly developing non-chlorine processes.

Such advantage, while valuable in differentiating quality producers (and also a clear signal of change in the markets), can be short-lived because good environmental performance is becoming a necessary qualification to do business.

Some markets have already begun to mature. For example, in the 1980s some domestic cleaning products offered better environmental performance (faster to degrade, less packaging, and so on) and won market share from traditional brands. But established producers soon acted to catch up.

Substantial opportunity still remains in most sectors. This is expected to increase as companies make continuous improvements to meet growing market demands for better environmental performance.



Procter & Gamble

Consumers around the world rely on Procter & Gamble (P&G) brands like Tide and Ariel detergents, Pampers diapers, Always and Whisper feminine protection products, Oil of Olay skin care products and many others to provide superior performance and value. They also expect them to be environmentally safe. They are not willing to compromise on any of these expectations. If we want consumers' loyalty, we have to deliver it all.

That's the challenge we accept enthusiastically, because we believe it is right. There is no need to trade off quality or value to protect the environment. Nor is there a need to compromise environmental safety to meet consumers' performance and value expectations.

This requires innovation in every part of our business, from products' design through their manufacture, distribution and disposal. Companies should lead the way in developing the scientific and management tools that support this innovation, from refining risk assessment techniques that help ensure product safety, to designing waste out of products and packages at every stage of development.

Environmental quality and economic progress go hand in hand. For example, over the past five years, P&G reduced factory waste by 50 percent and saved more than 400,000 tons of virgin paperboard by eliminating the outer packages from some of our products. And sales grew by 25 percent to \$35 billion.

Consumers are not the only ones who expect us to operate in this way. Our shareholders, customers, suppliers and neighbors expect it too. We also expect it of ourselves.

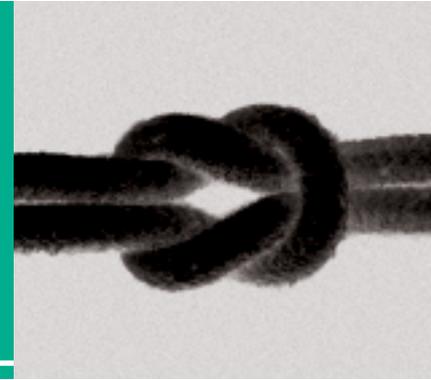
That's as it should be. Our commitment to meet these expectations will drive innovation in every part of our business. That innovation will keep our brands strong, our company growing and our world a safer, healthier place to live.

JOHN E. PEPPER

CHAIRMAN OF THE BOARD AND CHIEF EXECUTIVE OFFICER, THE PROCTER & GAMBLE COMPANY

Transparency and Commitments

RETAINING THE RESPECT OF
STAKEHOLDERS DEMANDS OPENNESS
AND SELF-REGULATION



Responsible Care®



Love Canal, Seveso, Bhopal, Basel: these are just a few examples of human-made disasters, all involving the chemicals industry. By the early 1980s, the chemicals sector had one of the worst environment and safety records in industry.

Its critics accused it of arrogance, exploitation, and bad practice. It had lost public trust and confidence. Its prosperity and freedom to operate were under threat from restrictive legislation. Its leaders realized that the whole chemicals sector had to put its house in order.

The Responsible Care® initiative has provided part of the answer. Started in Canada in 1985 and by the end of 1996 adopted by 40 national chemical associations (including in South America, Africa, and Asia-Pacific), this purely voluntary program was designed to boost the industry's performance in health, safety, and the environment. It includes a commitment to be open with the public and report on its performance.

The initiative is coordinated by national chemical associations, including those in developing countries, and is often a condition of membership. All the world's major chemicals companies are signed up.

Responsible Care® has helped improve performance. The U.S. chemical industry alone has reduced emissions of toxic chemicals by more than 60 percent in the past six years while production has risen by 20 percent. Its injury and illness rates are the lowest of all sectors of manufacturing, and over the past five years the chemical industry in the U.S. has taken unprecedented action in forming over 315 local community advisory panels around plant sites.

Responsible Care® provides a clear signal that competing companies can overcome their differences to promote their common good.

But Responsible Care® is criticized, among other things, for:

- Permitting free riders. The program aims to persuade companies to change, on the principle that it is better to be in the pack rather than on the outside. But it does not necessarily punish those who fail to join, nor does it remove from its roster those that perform badly. This means that poor performers can ride free on the benefits created by those who take it seriously.
- Using unverified information. Data collected by companies do not have to be verified by an independent third party. This calls into question the honesty of companies and the validity of the data.
- Being mainly a public relations exercise. This has been rejected by the industry. But without independent verification and tougher sanctions on bad performers, it is a criticism that is difficult to rebut entirely.

The industry is aware of these criticisms and is beginning to improve its systems. The Chemical Manufacturers Association (CMA) in the United States has started a voluntary independent verification system for data and this is expected to be introduced by other national associations.

The CMA has also adopted a resolution calling for targeted implementation assistance for Responsible Care®. Through this process companies at the low end on performance are identified, and implementation assistance, tailored to the specific needs of these companies, is provided through the association.

Over the past eight years, the U.S. chemical industry has taken a very holistic and inclusive approach to involvement in Responsible Care®. The goal has been to reach throughout all sectors of the chemical life cycle, and create universal involvement in Responsible Care®. While this goal remains in effect today, there is clearly a move towards ensuring that real health, safety and environmental performance improvement is achieved by all.

The many obvious benefits of Responsible Care® have led to other U.S. industry associations, such as the American Petroleum Institute, American Textile Manufacturers Association, and the Printing Industries of America promoting similar initiatives.



ICI

Since its foundation in 1985, 86 percent (by production volume) of the global chemical industry is actively implementing Responsible Care®, the outstanding practical and visible tool to:

- Deliver improved environmental, health, and safety performance
- Attain new levels of responsiveness to the public's concern about chemical risk reduction
- Help achieve the objectives set out in Agenda 21, chapter 19.

Signing up to Responsible Care® has helped ICI to create a culture that has led to improved efficiency, reduced emissions to the environment, improved emergency response, fewer transportation mishaps, improved outreach and communication, safer working conditions, and overall reduced risk.

One example of Responsible Care® in action has been the initiation of the South Coast Marine Pipeline forum in South Africa. The group, which addresses the impact of industrial discharges from marine pipelines, includes Tioxide, AECI, and Saiccor; regulating authorities; and local communities. The interactions have been so successful that a series of guidelines are being developed to be used by other industries and authorities experiencing similar problems.

Despite the many successes of Responsible Care®, we recognize that many challenges remain. In the future, the chemicals industry remains fully committed to:

- Continually improving performance and increasing its collection and dissemination of results as a means of accountability to its stakeholders
- Extending the initiative to an ever-increasing number of chemical companies around the world, to spread the ethic to customers, suppliers and allied industries that produce, use, or transport chemicals
- Using Responsible Care® as proof that voluntary industry initiatives that focus on flexibility and innovation can complement regulation.

MIKE E. BROGDEN

DIRECTOR, IMPERIAL CHEMICAL INDUSTRIES

Environmental and Social Reporting



"Don't trust us, track us." That response to critics became one of the reasons behind the growth in environmental performance reports. Modeled very much on annual financial reports and accounts, these reports contain discussions on environmental issues, such as management and company attitudes to emerging areas of debate, along with data on wastes and emissions performance.

Such reports are part of the commitments that chemical companies undertake when signing up to Responsible Care[®]. Other companies in most sectors have also started to report in this way.

The data in the reports include information on emissions, which allows outsiders to track year-on-year performance. Various broad-based standards, such as the Public Environmental Reporting Initiative (PERI), the Coalition for Environmentally Responsible Economies (CERES - see page 30) and those from the United Nations Environment Program (UNEP), have emerged to make the data more comparable across sectors and the reports more consistent in their content.

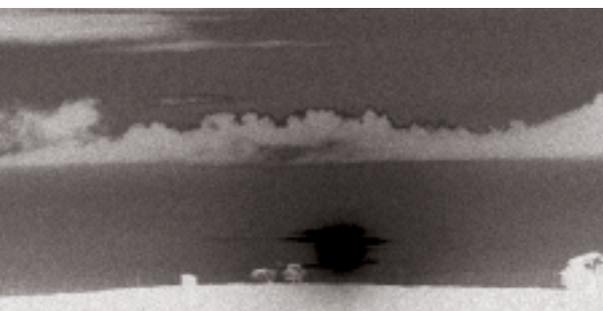
The process of producing an environmental report is useful, often helping companies get to grips with parts of their business that have not come under specific management scrutiny before.

It also forces managers to focus on difficult issues that are sometimes easier to ignore, such as a lack of clear policy on global standards, animal testing, or business ethics. And the reports have been successful in providing information on the more negative aspects of company performance, such as emissions of toxic waste.

The existence of these reports has disproved the myth that it is unwise to lift the corporate head above the parapet. In fact, the reaction has been just the reverse: companies who publish complain that they get too little attention.

For many, the annual environmental report is fast becoming a necessary source of information for customers who need evidence on the environmental performance of their supply-chain.

Investors, too, are looking to these reports for evidence of the effective management of environmental risk, although they often find the lack of benchmarking and reporting standards a handicap in interpreting the information for their particular needs.



Critics argue that the information contained in the reports is of limited use because it is self-generated and self-published, with little third-party verification. And because the reporting standards, such as those of PERI and UNEP, are both broad and voluntary, it is difficult to compare the relative performance of companies, especially in different sectors.

Companies that have been reporting for some time are grappling with the demand to measure their environmental impact. Some progress is being made, such as ICI's system of measuring what it calls Environmental Burden.

The vast majority of companies, especially small and medium-sized concerns, have yet to report, and there are some glaring omissions among prominent transnationals. Nevertheless, the number that report continues to rise and the quality of reporting to improve.

The next step, which a few leaders have already taken, is to report on social issues. These so-called social reports cover issues such as employment practices, occupational health, civic involvement, land use, and community action. They can be seen as providing evidence that business is beginning to acknowledge all three pillars of sustainable development: economic, environmental, and social issues.



Ontario Hydro

Ontario Hydro, an electricity utility, has completed the transition from our previous annual environmental performance reports to a Sustainable Development Report (for 1995) that addressed our goals and performance relative to all three components of sustainability: environmental, financial, and social integrity.

Ontario Hydro has been honored with two gold and a bronze medal for environmental reporting in Canada during a three-year transition period. While we consider these awards to be important, the rationale underlying our reporting is to provide our employees and external stakeholders an honest, even-handed assessment of our achievements and shortcomings with respect to our initial progress towards sustainability. We believe that sustainable development is a critical aspect of maintaining our competitive advantage - now and well into the future.

In the future, business will need both to achieve and demonstrate continuous improvement. Business must recognize that there is growing stakeholder awareness that business decisions are skewed when environmental performance, costs, and liabilities are not integrated into the strategic decision-making of our companies. Increasingly, business will be required to demonstrate management of environmental and social issues along with traditional financial performance to secure the social license to operate.

Future environmental reporting will need to integrate both financial and nonfinancial performance measures and serve the information needs of our external stakeholders, internal management, and front-line personnel. Ultimately, we will witness the disappearance of the corporate environmental report and even, in time the sustainable development report. We will know we are really changing course when one corporate annual report presents past performance and future goals integrating financial stewardship with environmental integrity and social responsibility.

ALLAN KUPCIS

PRESIDENT AND CHIEF EXECUTIVE OFFICER, ONTARIO HYDRO

Business Charters and Principles



In February 1994, General Motors signaled a substantial shift in the attitude of large businesses by joining a group of corporations who had agreed to conform to principles established by the Coalition for Environmentally Responsible Economies.

The principles had been launched four years earlier following the Exxon Valdez oil spill (they were then called the Valdez Principles) by a group of investors and environmental organizations who wanted companies to operate in a socially and environmentally responsible way. Original members of the coalition included the public pension funds of New York City and California and the Sierra Club (a U.S. conservation organization).

The coalition wanted to encourage companies to adopt a positive environmental ethic by integrating environmental concerns into their planning and reporting, and to take other steps to protect the biosphere.

More than 60 companies - including six in the Fortune 500 - now endorse the principles and conform to the obligations, such as regular, standardized environmental reports. Company executives are working with other members of the coalition to tackle some problems of environmental management.

As noted earlier, the International Chamber of Commerce (ICC) developed a Business Charter for Sustainable Development that was adopted by its Executive Board in 1990. The charter aims are threefold:

- Stimulate enterprises to commit themselves to continued improvement in their environmental performance
- Provide common guidance on environmental management to all types of businesses and enterprises around the world, and to aid them in developing their own policies and programs
- Demonstrate to governments and society that business is taking its environmental responsibilities seriously by helping to reduce the pressures on governments to over-legislate thereby strengthening the voice of business in public policy debates.

More than 2,500 companies worldwide have signed the charter, and in 1996 it was relaunched.



The charter principles concentrate on good environmental management, and the ICC feels it should extend them to cover the other elements of sustainable development: social equity and economic growth. It is now in discussions with NGOs to find the best way to do this.

The Japan Federation of Economic Organizations (Keidanren) launched its Global Environment Charter in April 1991.

This deals with issues similar to those in the ICC document, but lays out an additional 10 points to be considered by companies that operate outside Japan.

Japanese industry has made highly specific voluntary agreements to improve environmental performance further after making good progress in previous decades. According to OECD data, in 1993 the energy consumption per unit of GDP (in terms of petroleum, t/\$1,000) showed that Japan's level of 0.148 was considerably lower than that of the USA (0.352), the U.K. (0.224), Germany (0.196) and France (0.194). Furthermore, Japan's recycling rate, which is an indicator of change, is at a high level.

In June 1996, an update on the charter was issued, called Keidanren Appeal on the Environment. This appeals for voluntary action to be taken by companies on four "urgent" issues: climate change, recycling, environmental management systems and environmental auditing, and considerations for overseas operations. The document makes specific suggestions on what actions companies should take and expresses "determination to innovate our lifestyle towards the goal of sustainable development."



Business Charters and Principles cont.



At a conference in New York just before the Rio Summit, 29 banks signed a statement on sustainable development drafted by UNEP. Three years later, six insurance companies signed a similar document in Oslo. At the last count, there were 88 banks signed up and 60 insurance companies.

These bankers and insurers have made a series of pledges, including an endeavor to ensure that their business actions and policies also promote sustainable development, and a recommendation that similar businesses develop and publish statements on their sustainable development policies and report on their implementation.

Signatories to the insurers' statement produced a position statement on climate change for the Conference of the Parties to the Climate Change Convention held in Geneva in 1996.

The banks that signed the statement hired an environmental group to carry out an independent evaluation of how well they were honoring their pledges.

The insurance statement has attracted support from most parts of the world, but the banking signatories are largely confined to Europe and North America.

Critics challenge the value of nonbinding and, in their eyes, loosely written statements. But the fact that such a significant number of banks and insurers have signed up signals a change of mood in a large part of the financial sector.



Tokyo Electric Power Company

Preceding the Earth Summit, Keidanren (Japan Federation of Economic Organizations) published the Keidanren Global Environment Charter in April 1991.

In the Charter, Keidanren set up action guidelines for global environmental issues, recognizing it is essential for future corporate management to take positive attitudes towards sustainable development. The Charter also defined the environmental guidelines for overseas operations.

Responding to the Charter, the member companies established voluntary plans and reinforced action. Since 1992, the Tokyo Electric Power Company (also a supporter of the ICC Business Charter for Sustainable Development) has published its environmental policies, targets and results in its annual Environmental Action Report. Twenty thousand copies are distributed every year, some of which have been used for environment educational purposes in the Asian and Central and Eastern European countries.

Commemorating five years after Rio, Keidanren published Keidanren Appeal on Environment in July 1996, a declaration of voluntary action taken by Japanese industries to conserve the global environment, which covered four focus areas: global warming, structuring of recycle-based society, restructuring of environmental management systems and auditing, and attention to environmental considerations in overseas projects.

The Appeal has been reinforced by the voluntary action programs covering 36 business sectors with 138 associations, which shows the business' commitment towards and after the year 2000 in the four focus areas identified in the Appeal.

The Tokyo Electric Power Company, serving as the Chair of Keidanren's Committee on Global Environment, has been the initial contributor to these activities taken by Japanese industries and believes that the effective implementation of voluntary measures can make a difference towards a sustainable future.

SHOH NASU

CHAIRMAN, THE TOKYO ELECTRIC POWER COMPANY



Shell

Shell companies have subscribed to the ICC Business Charter for Sustainable Development from the time it was first adopted and then launched in April 1991. Our companies are committed to protecting the environment and managing their performance for continuous improvement. We believe the Charter has been a good example for industry associations and individual companies in the various sectors and regions in which Shell companies operate.

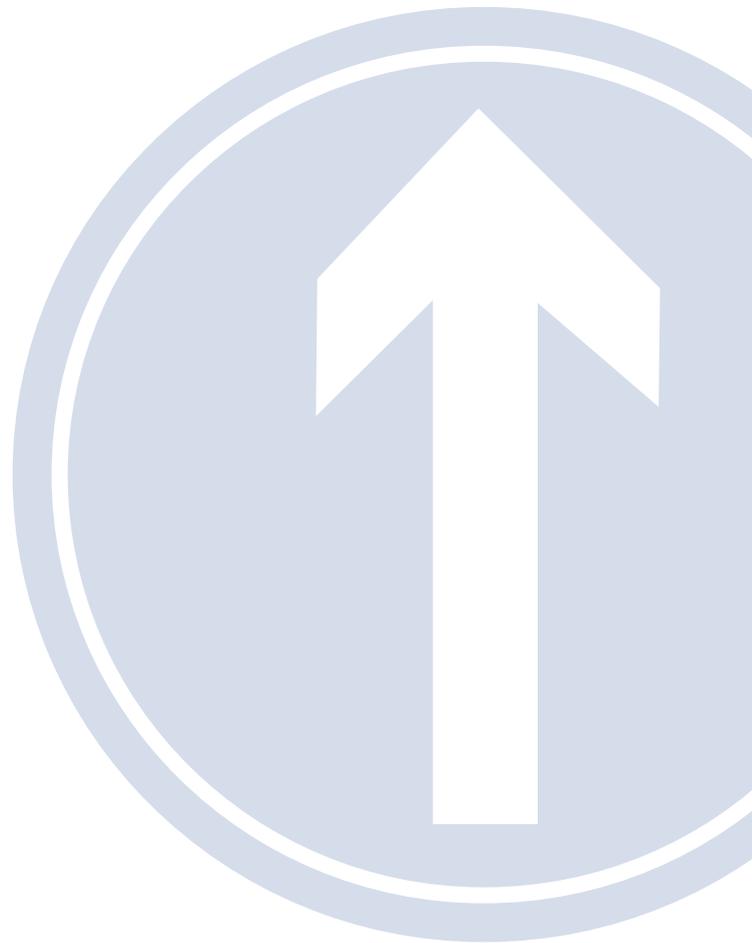
We have introduced a Shell management system for health, safety, and environment, which is used all around the globe. We ask our contractors to manage health, safety, and the environment in the same way. Environmental reporting is now a regular feature for many of our companies, and this is being extended further in the Group.

Over the years, Shell companies have cooperated with regulators, both directly and via industry associations. The European Auto/Oil program is a fine example of how sound science and cost-effectiveness studies can guide legislation in a collaborative way, which previously did not exist. We believe this can serve as a model for the future and for other parts of the world.

Charters and negotiated agreements offer industry the opportunity to address the best route for achieving the goals set by society.

P.B. WATTS

DIRECTOR, PLANNING ENVIRONMENT AND EXTERNAL AFFAIRS,
SHELL INTERNATIONAL PETROLEUM COMPANY



Environmental Management Systems Standards



Compliance with internationally agreed quality standards has improved the quality of products and services and provided valuable assurances for buyers.

Now, after the pioneering work of the British Standards Institution (which developed the first environmental management systems standard, BS 7750) and initiatives by WBCSD members, a range of EMS standards are emerging through the International Organization for Standardization, called the ISO 14000 series.

The standards do not set specific environmental performance levels, such as emission levels, but instead use a management system approach similar to the ISO 9000 quality standards.

Registered companies are regularly scrutinized by accredited auditors and are not allowed to use the ISO symbol unless their management system conforms to the standard.

About 250 companies have already applied for accreditation to BS 7750, a small portion of them being outside the United Kingdom. These will soon automatically convert to ISO 14000 standards, which are expected to attract a much wider interest around the world. The series will eventually consist of five primary standards covering Environmental Management Systems (EMS), environmental auditing, environmental labelling, environmental performance evaluation, and life-cycle assessment.

Applying for accreditation is voluntary and to a great extent market-driven, in that most companies that conform to the standards argue that they become more competitive.

Another similar voluntary standard is the Eco-Management and Audit Scheme (EMAS) of the European Union (E.U.). This was developed originally for large industrial sites but is now compatible with both ISO 14000 and BS 7750 and can be used by smaller companies.

One difference between EMAS and ISO 14000 is EMAS's insistence on a regular public statement of performance after the company has been reviewed and audited by independent verifiers. The E.U. is currently considering extending EMAS to cover service industries, such as banks.

The adoption and interest in these standards is sufficient to suggest that they could become significant in the market.

Conformance with the standards could also be used to signify a high level of management quality that some companies hope will release them from regular and expensive monitoring by authorities.

Many companies feel their own environmental management systems standards are sufficiently rigorous and make it unnecessary to conform with independent standards. Critics of ISO and EMAS argue that the standards do not improve performance but merely insist on conformance with a management system.



PowerGen

A board of directors unconcerned with standards will not find itself at the head of a successful company for long. Relevant and appropriate standards are essential throughout any business. They are all about efficiency and competitiveness. They help to achieve "fit for purpose" performance, reliability, and consistency. They ensure the safety of employees and the public, and have an important role in protecting the environment.

PowerGen was created in 1989 as part of the privatization of the electricity supply industry of England and Wales, and immediately became one of the world's largest private-sector power generation companies. Standards have been a central issue throughout PowerGen's evolution.

We have contributed significantly to the development of standards for environmental management. We were closely involved in the development and pilot application of both BS 7750 and EMAS, and carried out a successful pilot audit for the European Commission at one of our power stations as part of EMAS.

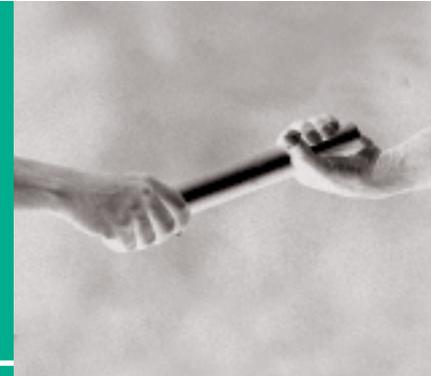
PowerGen's own internal Environmental Management System (which underpins our Environmental Compliance Policy) is compatible with both BS 7750 and EMAS. Now, as PowerGen continues to develop its business internationally, we have decided to work towards accreditation to ISO 14000 for all our sites.

The most important factor influencing quality is our people and the way they work together. By committing ourselves to the concept of getting it right first time, we can gain real competitive advantage.

ED WALLIS
CHAIRMAN, POWERGEN

Partnership and Cooperation

BEING PART OF THE SOLUTION
DEMANDS CLOSER TIES WITH OTHERS



Working with Government



The past five years have seen a swing away from prescriptive legal controls on industry towards voluntary agreements between governments and industry.

Such agreements take many forms. The Dutch have had considerable success with legally binding agreements (called covenants) established in particular industry sectors where commitments are made to reduce emissions and improve environmental performance.

These are being used as a model by the European Commission, which wants to encourage what it calls "environmental agreements" throughout the E.U.

In 1995, the European Union completed a study on ways to reduce exhaust emissions from cars. Both the fuel and the automotive industries participated in the Auto/Oil Program; although this did not prevent disagreements between the two sectors, progress was made in setting targets and apportioning responsibility.

In the U.S., the Environmental Protection Agency (EPA) has started some 50 voluntary partnership programs in different industry sectors to encourage the reduction of emissions and wastes, and to devise more environmentally efficient products.

The idea behind the programs is to set achievable but challenging targets and then allow companies to devise their own strategies and choose their own technologies to reach the goals.

Companies find this preferable to laws that prescribe the methods and technologies rather than encouraging innovative approaches to waste reduction.

The 33/50 Program, for example, is designed to reduce toxic-waste generation. Participating companies have jointly reduced their toxic emissions by 355 million pounds (1994 figure). The Green Lights Program encourages voluntary reductions in energy use through efficient lighting, resulting in reductions in carbon dioxide emissions.

In the Design for Environment Program, EPA works with the dry cleaning, printing, and electronics industries to reduce emissions. The computer industry has been a keen participant in the Energy Star Program, which encourages energy efficiency in computer and electronic office products.

Chemicals and energy corporation DuPont is one of the Fortune 500 members who has joined the WasteWise program, which is designed to reduce solid wastes sent to landfill.



Dow Chemical

Dow has learned from experience that voluntary projects are often more cost-effective long term than projects required by regulations and legislation.

The company has achieved average returns of 55 percent from voluntary, not compliance-driven, investments over the past 10 years and can thus expect continued financial gains from its environmental performance improvements and from associated capital investments. In addition to capital investments, we demonstrate our commitment to voluntary initiatives by participating in a number of programs around the world:

- **United States:** WasteWise, ClimateWise, 33/50, Project XL, Green Chemistry and the Motor Challenge, all voluntary programs of the U.S. EPA and/or Department of Energy.
- **Canada:** The Accelerated Reduction and Elimination of Toxics (ARET) Program, the National Emissions Reduction Master Plan and the National Action Program on Climate Change.
- **Europe:** Energy Conservation in Industry in The Netherlands, Increased Efficiency in the Use of Energy and Raw Materials in Germany, and the Voluntary Energy Efficiency Program through CEFIC (European chemicals federation) in Europe.
- **Pacific:** Voluntary VOC emissions reduction in Australia as part of the Altona Petrochemical Complex pledge to the State Government of Victoria.

DAVID T. BUZZELLI

VICE PRESIDENT AND CORPORATE DIRECTOR, THE DOW CHEMICAL COMPANY



Social Partnerships



Business has traditionally found it difficult to cooperate with its critics or follow the lead of organizations outside government. But the obvious change in corporate mood that followed Rio encouraged an unprecedented degree of exploration to find - through partnership - new solutions to some of the world's old environmental problems.

A leading organization in this field is The Prince of Wales Business Leaders Forum, a global network of business leaders from Europe, North and South America, Africa, the Middle East, and Asia-Pacific. It has two main goals: to raise awareness of the value of corporate responsibility to the successful management of international business and to the prosperity of host countries and communities; to encourage partnerships among business, government, communities, NGOs, and aid agencies as an effective means of promoting sustainable development.

In 1996, the Forum produced a comprehensive report entitled *Business as Partners in Development*, in collaboration with the World Bank and the United Nations Development Programme. The report describes hundreds of partnerships worldwide.

The Keidanren Nature Conservation Fund has promoted social partnership and helped local environmental NGOs to encourage social and regional development (including job creation) in developing countries in a sustainable manner. It has also helped to build a network which includes NGOs, the World Bank and the World Conservation Union (IUCN).

Dow Chemical is starting a new collaborative process with the Natural Resources Defense Council (NRDC) and the community to help achieve Dow's corporate waste and emission reductions goals within a major manufacturing facility near its corporate headquarters in Midland, Michigan, U.S. This initiative will use a third-party pollution prevention auditor who will work with employees to identify and evaluate pollution prevention opportunities. The NRDC has established a successful record of working in collaboration with business partners.

The Marine Stewardship Council (MSC) is an example of a meeting of minds between commercial, social, and environmental interests, with all acknowledging the power of markets in bringing about desirable change.

This is a clear signal that common ground has been found.

Fisheries that have sustained coastal communities for generations have declined rapidly in recent years. The United Nations Food and Agriculture Organization reports that 70 of the world's commercially important marine fish stocks are either fully fished, overexploited, depleted, or slowly recovering.



Unilever, the Anglo-Dutch corporation, and the World Wide Fund for Nature (WWF) have formed a conservation partnership to create market incentives for sustainable fishing by establishing an independent MSC.

WWF and Unilever admit to different motivations but shared objectives: to ensure the long-term viability of global fish populations and the health of the marine ecosystems on which they depend.

The MSC is an independent, nonprofit, nongovernmental membership body that has a broad set of principles for sustainable fishing and sets standards for individual fisheries. Only fisheries meeting these standards will be eligible for certification by independent, accredited certifying firms. By 1998, products from fisheries certified to MSC standards will be marked with a logo on the packaging. This will enable consumers to select fish products from sustainable sources.

Unilever, which has 20 percent of the world frozen fish market, has committed itself to buying only certified fish by 2005. The MSC is looking for support from other organizations.

Similar in form and purpose to the MSC is the Forest Stewardship Council. WWF is a strong supporter of the FSC and has, with certain governments and charitable societies, funded and promoted the FSC.

The FSC has, among other key players in the forestry industry, developed a process for certification. The council accredits independent certifiers, which are commercial organizations who certify that specific forests are managed to FSC standards. Timber and wood products from such forests are permitted to carry the FSC label.

Other organizations such as the Canadian Standards Association, the Swedish Forest Certification Initiative, ISO and the American Forest and Paper Association have developed a systems management approach for certification.



Unilever

Unilever is committed to being responsive to the concerns of its consumers and wants to offer them the option to choose products from sustainable business practices.

The MSC has the potential to affect significantly and positively the state of fisheries worldwide. The MSC will be shaped by an inclusive international consultation process engaging all stakeholders in the industry. To date, three workshops have been successfully concluded, with positive and encouraging results.

In tandem with this process, there is a groundswell of international support for the MSC, encompassing industry, NGOs, politicians and others. These groups and individuals believe that the MSC has the potential to have a significant impact on the biological sustainability of fish stocks worldwide.

An independent project manager has been appointed to drive the initiative to its successful completion, which is the establishment of the MSC as a functioning body by the end of 1997.

A.S. GANGULY

DIRECTOR, RESEARCH AND ENGINEERING DIVISION, UNILEVER

To some members of the forestry industry, voluntary certification programs can be a good tool for communicating quality forest management, and for achieving sustainable forest management. However, there is a great distinction between forest management certification and a decision to label products. Certification should not detract from the fundamental purpose of achieving sustainably managed forests.

Local Business Initiatives



South Africa's political honeymoon, which followed its first democratic elections, is over and the country has to find solutions for its social and economic challenges. There is a particular need to grow the economy and provide jobs, as well as strengthen national institutions.

Helping to tackle some of these issues are two business-led organizations: the National Business Initiative (NBI) and the Industrial Environmental Forum of Southern Africa (IEF).

The NBI, after only a year in existence, has the support of 132 major companies that are now working in partnership with government, organized labor, and a variety of NGOs to establish programs in areas of strategic national importance.

The programs aim to help build effective governance, develop income-generating strategies for the unemployed, and tackle critical issues in education, training, and housing.

NBI, the result of a merger in March 1995 of the Urban Foundation and the Consultative Business Movement, has set itself up to be:

- A problem solver. NBI has identified areas where business skills and resources, if well focused, could produce a valuable multiplier effect and help solve a range of national challenges. This enables business to act collectively and enhance its influence and aid the country's Reconstruction and Development Program.
- A think-tank. NBI produces regular newsletters and briefs, and holds meetings to provide information and ideas on critical development issues.
- A facilitator. The NBI's independence enables it to help in the process of achieving consensus on important national issues and reconstruction projects.

The IEF was formed late in 1989 after regular but informal meetings of South African business leaders who shared common problems in doing business at that time. A regular issue on the agenda was improving environmental performance. The importance of this escalated with the transition to South Africa's new, more democratic political system and the opportunities this

created for greater activity in international markets. Demands for greater transparency on environmental performance also grew locally.

Starting from low-key, awareness-creating beginnings, the Forum has evolved into a leading advocate of business viewpoints on environmental matters. The IEF took a business delegation to Rio in 1992, although South Africa's emergence from political isolation had only just begun. Since then, the IEF has grown and diversified into an organization of more than 60 business leaders from all major sectors.

ESKOM

The success of the IEF has been largely attributable to electricity utility ESKOM being prepared to underwrite initial overhead costs and to second professional environmental staff.

Principal areas of activity have involved assisting in the reformulation of South Africa's national environmental policies and institutions, which were reappraised as a consequence of the political changes. The IEF has also been active in orchestrating South African business input to Technical Committee 207 of the ISO in the formulation of the ISO 14000 series of environmental management systems standards, being one of the few developing country voices represented there. More recently, work has continued on EMS accreditation and certification schemes for South Africa and on developing EMS tools relevant to Africa.

Progress is tracked at three-yearly regional conferences (the Southern African International Conferences on Environmental Management) and these - Cape Town in 1991, Victoria Falls in 1994, and one planned in Maputo in 1997 - have led to gradual expansion of the network to the business community in neighboring countries, such as Zimbabwe, Mozambique, and Namibia.

An active network of business leaders has now developed in Southern and Central Africa scanning the evolving business environment and formulating responses that are relevant to the circumstances and developmental needs of these countries.

JOHN MAREE
CHAIRMAN, ESKOM

Sustainability Forums and Round Tables



Building bridges between those who hold different views is central to the achievement of sustainable development.

Considerable progress has been made in bringing traditional opponents in politics, environment/social campaigning, and business together to find common ground. The President's Council on Sustainable Development (PCSD) in the United States, which brings together members of the President's cabinet, business leaders, and the heads of private environmental groups, has done just this and consulted widely in the country. It has achieved a surprising amount of consensus on what is needed to encourage sustainable development in the world's most powerful economy.

The PCSD has suggested national goals in areas such as health, equity, economic prosperity, education, civic involvement, and international responsibility. (See next chapter.) And it has recommended changes in national policies, including those on population and the role of communities.

In the mid-1980s, Canadians established similar groups in all provinces and territories, called Round Tables on the Environment and the Economy, along with a national-level Round Table. The U.K. government set up the Advisory Committee on Business and Environment (ACBE) described in the panel right.

The European Commission - the executive of the E.U. - has brought representatives of different viewpoints together in the European Union's General Consultative Forum on the Environment. Members are from business, politics, and environment and social campaign groups. The European Union expects the Forum to provide input for the legislative process and to help achieve the goals of the E.U.'s environmental action program, called "Towards Sustainability."

Both the European Union Forum and the PCSD have produced sets of principles of sustainable development, providing a basis for building consensus.

Critics claim that round tables and the like produce no action, only hot air. This, however, ignores the fact that sustainable development will not happen without

consensus on issues that currently divide society. Forums such as these are an important start in the building of social agreements, and are a sure signal of change.



NatWest

My own experience of representing the NatWest Group on forums and round tables has been extremely positive. By bringing together representatives from a wide variety of interest groups - business, government, and nongovernmental bodies - there is the opportunity to tackle a broad range of issues and establish areas of common ground through collaboration rather than conflict.

All businesses need to be informed on the key issues impacting on them and to keep up-to-date with the opinions and feelings of other groups, representing the breadth of views across society. To meet these objectives, NatWest participates in a range of local, national, and international environmental forums.

A good, practical example is the U.K. government's ACBE, which was first established in 1991 with high-level membership across a wide range of industry sectors. Its remit is to facilitate dialogue between government and business on environment issues, liaise with other appropriate organizations, help mobilize the business community in demonstrating good environmental practice and management, and provide a link with international business initiatives on the environment.

Indeed, NatWest Group's own environmental responsibility program was established in 1990 as the direct result of a round table meeting that discussed the links between environmental issues and banking policies and practices. It was attended by representatives from government, business, and environmental groups.

Forums such as these are becoming even more important as it becomes increasingly recognized that achieving sustainability alongside social and economic objectives will require enlightened management of environmental issues.

DEREK WANLESS
GROUP CHIEF EXECUTIVE, NATWEST GROUP

Towards a Sustainable Paper Cycle



Discussions between industry, government, and NGOs on the best way to reach sustainability are often hampered by a lack of credible information.

A pioneering study designed to address this problem in the pulp and paper industry - initiated by the WBCSD - could become a model for other industries to follow.

The study, *Towards a Sustainable Paper Cycle*, was done by the London-based International Institute for Environment and Development (IIED), a highly respected organization that works for governments and industry. The findings were published in August 1996 after over two years of research.

Funding of more than \$2 million was provided by businesses on five different continents, as well as by academic institutions, governments (including the European Union), and international agencies, such as the International Finance Corporation. Members of the WBCSD provided 62 percent of the research budget, including 70 percent of the overall budget.

IIED established a widespread consultation process to provide a practical perspective on the dilemmas and opportunities facing the industry. This included regional workshops, specialist meetings, an advisory group, a project task force (industry and other sponsors), and numerous corresponding partners.

The study, which draws on the findings of 20 sub-studies, provides a balanced analysis of the paper cycle (forestry to recycling and energy recovery) from the perspective of sustainable development. It creates a focal point for further debate and consultation at global and local levels.

For further reading, see the WBCSD report: *Towards a Sustainable Paper Cycle*. Details on page 57.



Aracruz Celulose

The Aracruz policy is to contribute to sustainable development. One of our important contributions has been the initiative of the *Towards a Sustainable Paper Cycle* report.

I think this independent analysis of our global industry has put aside many of the myths that have been in circulation, and resulted in an elevated, objective debate on various regional programs for sustainable development.

A series of presentations and seminars have already taken place, and these will continue throughout 1997, to analyze the study recommendations and evolve local programs of action.

The report and the subsequent work is a model for other industry sectors, and I hope that they will follow the WBCSD initiative on paper, by promoting their own studies. It is only by a great effort on the part of manufacturers, governments, NGOs, and academia, working closely together across the globe, that we can best contribute to sustainable development, and a better world.

Aracruz has created social development in a sustainable way, in areas of Brazil where hardly anything existed but poverty and misery. Aracruz today employs more than 5,000 people directly and indirectly, supporting a local population of over 20,000. We have invested \$125 million in creating in our community a social services infrastructure, such as schools, medical facilities and housing. And we provide financial and human resources for projects that lead to self-sustaining improvements in the living conditions of neighboring communities.

We have planted eucalyptus trees in areas which had mostly previously been degraded. Our plantations are managed in a way to preserve the biodiversity and to protect the soil and water resources. To assure a balanced environment, the eucalyptus plantations are interspersed with 56,000 hectares of native reserves, where we plant about one million native trees per year in order to enhance biodiversity. These preservations correspond to 27 percent of the company's total landholding.

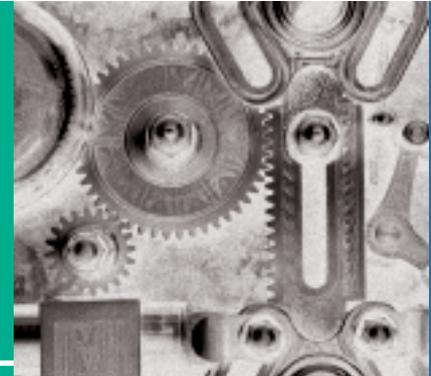
The eucalyptus wood is processed into pulp in a modern mill, which complies with world class environmental standards.

ERLING S. LORENTZEN
CHAIRMAN, ARACRUZ CELULOSE



Global Business Initiatives

THE DEVELOPING WORLD NEEDS SUSTAINABLE INDUSTRIALIZATION TO GROW AND ALLEVIATE POVERTY



Growth in Foreign Direct Investment



The private sector is now almost universally recognized as the primary engine of economic growth and development. As a result, many governments of developing countries are encouraging liberalization, privatization, and fiscal reform, and are emphasizing more intensive participation in the world economic system.

This is in itself a signal of change towards a financial environment that could support eco-efficiency and the environmental and social benefits that go with it. But more important, economic liberalization is opening economies in the developing world, which is helping to create much needed wealth and more equity of opportunity. This provides an opportunity on which sustainable development can be built.

The World Bank predicts that during the next decade, real economic growth rates in the Northern economies will be three percent a year, while developing economies overall will grow by twice that amount.

This depends on developing-world governments exercising considerable economic discipline while continuing to liberalize their economies.

Huge amounts of capital will be needed to make such growth possible. A large portion will come from national savings but \$2,000 billion will have to be imported, according to consultants McKinsey.

Despite the fact that many developing countries still suffer extreme poverty and lack of investment, global investors are beginning to recognize the rapid growth rates and enormous changes in policy taking place in some of these areas.

These economies have been enjoying patterns of foreign direct investment (FDI) and portfolio investment in the 1990s more favorable than in the three decades since decolonization began. In 1994, for example, the flow of capital into the developing countries was as high as \$170 billion, according to the World Bank.

FDI is fast replacing traditional development aid, and as a proportion of capital flowing into developing countries it has risen from 33 percent in 1991 to 75 percent in 1996.

This in itself is a signal of change in the way development is funded.

Private investment flows were initially driven by FDI - multinational companies investing in joint-venture projects and establishing subsidiaries. More recently there has been phenomenal growth in more volatile foreign portfolio investment, mainly in equities and bonds.



Emerging-market countries and companies are themselves directly accessing international financial markets and raising substantial amounts of capital through, for example, bond issues in the Euro-markets.

Funds from international development agencies - development banks and aid providers - represent a relatively small proportion of the total capital going into the developing economies, except the poorest. But such aid can nonetheless have an impact on policies and investment decisions in the developing world out of all proportion to the amount of funding. This is because an

increasing amount of aid (out of a steadily shrinking supply) is provided in exchange for policy reform.

Aid flows signal confidence in a country's prospects; aid unlocks private capital sometimes in a ratio of up to 6:1 for aid-supported projects; and aid can be used to pioneer new approaches to financing that can be emulated by non-aid resources. Aid can mobilize the financial markets to promote eco-efficiency in the developing world by public-private financing partnership (to reduce risk for private investors), financial-sector reform, and privatization.



ABB

The need for direct investment in developing countries goes to the very heart of the sustainable development challenge. The developing world must have greater economic growth if it is to reduce poverty and disease, provide better education, develop industrial infrastructure, slow population growth and tackle local environmental problems. This is what sustainable development is all about.

Foreign direct investment (FDI) is an important tool for achieving sustainable development. FDI is a source not only of capital, but also of technology and management and know-how. It fuels trade, creates local employment, sparks competition and innovation, and contributes to greater local savings and the capital formation on which economic development ultimately depends. FDI integrates countries into the global community and so helps secure peace.

By building local operations in the developing world and transition economies, global companies can transfer high-efficiency, low-emission technology directly to those who need it most, allowing them to produce it, adapt it to their local requirements, and in some cases export it to their neighbors.

Making this kind of commercially viable technology available around the world is key to promoting growth that takes environmental considerations into account. Global companies can transfer other kinds of environmental know-how as well by applying the same high environmental standards to their local

operations in the emerging markets as they do in the industrialized countries. For the investor, FDI provides greater market access and economies of scale, a global talent and supply base, and cross-border synergies in technology, finance and business development.

ABB has seen the benefits of this approach in its investment drive into Central and Eastern Europe and the former Soviet Union, for example. We see the same benefits from investments in Latin America and in the big Asian emerging marketplace.

But in a highly competitive global market, FDI goes where investors see the opportunity for a good return with low risk. To attract this investment, developing countries need to create a more investor-friendly business climate. And we see clear improvements both in the East and the South when it comes to reduced regulations.

Developed countries, meanwhile, must be more open to trade with the developing world. This applies to the agricultural sector too. It is important that expressions like "social and ecological dumping" do not become instruments for new protectionism.

ABB believes global companies, their customers, governments and international institutions, NGOs and other stakeholders must all work together more closely to meet the challenge of sustainable development.

PERCY BARNEVIK
CHAIRMAN, ABB ASEA BROWN BOVERI

Joint Implementation



Climate change is a global problem and the world should look for the most effective ways to reduce emissions of greenhouse gases (GHGs). These opportunities can often be found in developing countries and in countries whose economies are in transition.

The WBCSD is promoting a system that encourages companies in industrial countries to work with businesses in developing nations to reduce their net GHG emissions. There are many ways in which the system can work. For example, a company based in Germany could help one in, say, China, to reduce its emissions by providing finance for new technology and the necessary know-how.

The effect would be a reduction of global GHG emissions far greater than any reductions the German company could make at the same cost at home. The German company would then gain credits to use against its own obligations under whatever system Germany introduces to reduce its emissions.

Such actions - there are many variations - are called Joint Implementation (JI) or more recently Activities Implemented Jointly (AIJ). In 1995, the countries who signed the convention on climate change agreed to test AIJ. The pilot phase is scheduled to end in 2000.

Together with some of the world's electric utilities, the Tokyo Electric Power Company launched a local electrification project in Indonesia using renewable sources of energy as an AIJ pilot program. The project will benefit thousands of Indonesian households as well as contribute to the reduction in greenhouse gas emissions.

The success of AIJ depends on setting up a market for credits for the GHG reduction benefits produced by AIJ. These credits would be earned by companies that help reduce the emissions of others. Such credit could be offset against commitments to reduce GHG emissions in their home country, or could be sold in the market.

Eighty proposed projects in 26 different countries have been submitted to the International Business Action on Climate Change, a project led by the WBCSD in 1996

and aimed at initiating business partnerships to reduce GHG emissions.

For further reading, see the WBCSD report: *Progress Report on the International Business Action on Climate Change (BACC)*. Details on page 57.



TransAlta

AIJ offers an important opportunity to reduce global concentrations of greenhouse gases while also making new private-sector capital investment available for international projects, particularly in developing countries and countries in transition. AIJ is a cost-effective approach to offset greenhouse gas emissions and to build a new form of international trade and investment.

TransAlta Corporation, a Canadian-based international supplier of electric and thermal energy, has been actively pursuing AIJ as an element of its action plan in respect of its greenhouse gas emissions. When Canada initiated its voluntary program in 1995 - called the Climate Change Voluntary Challenge and Registry - TransAlta submitted an action plan that included the development of AIJ projects among its mix of domestic and international actions.

The company has also worked with the WBCSD to promote and catalyze the creation of markets for AIJ projects. These efforts have contributed to increased international awareness of the benefits and the identification of the 80 potential projects submitted to the International Business Action on Climate Change.

TransAlta continues to press for an enabling policy framework that will advance AIJ opportunities. It advocates domestic recognition or credit for international greenhouse gas benefits as an incentive for business to pursue AIJ, changes in rules and procedures for the approval and recognition of AIJ projects, and agreements that ensure that AIJ actions are supported both by the investor countries and the country where the project will take place.

STEVE G. SNYDER

PRESIDENT AND CHIEF EXECUTIVE OFFICER, TRANSALTA CORPORATION

Business Council Global Network



Fifteen national, two regional, and four partner organizations, called BCSDs, currently make up the World Business Council for Sustainable Development's global network. These business-led organizations, based in Asia-Pacific, Latin America, the Gulf of Mexico, Central and Eastern Europe, and Africa, work to promote sustainable development.

Many regional members of the network place great emphasis on fundamental development needs and the alleviation of poverty as a first step to achieving sustainable development.

The organizations' activities differ according to their geographical position and need, but include management training; research into environmental issues that affect business, such as legal liabilities; promoting and sharing information on best practice; demonstration projects; and the search for innovative ways to finance development.

The WBCSD is expanding its network of national BCSDs to have a presence in every developing region of the world. Member organizations will continue to promote the management skills necessary to make much-needed development sustainable.



BCSD-Latin America

Five years ago, some of us in business committed ourselves to work for sustainable development. We understood quite clearly that as business leaders we had the enormous responsibility to change course in terms of the ways in which business had been traditionally conducted.

We realized as well that the consequences of most of our business decisions respected no political boundaries. As business leaders, we had to work together at a global level to find the balance between continuing to produce and preserving the natural endowment of the planet.

Having this global concern in mind, we discovered that in order to act on it effectively, we had to act locally. If we want business to behave eco-efficiently, we need the right signals from governments, and these often come only as a result of a dialogue at the national level. If we want global measurements of success, we need to be clear that those are the sum of local and concrete results.

A number of BCSDs have been created in different countries throughout the American continent. At present BCSD-Latin America involves more than 250 business people throughout the Americas. We have national councils in Argentina, Bolivia, Colombia, Costa Rica, El Salvador, Honduras, and Mexico. We have a bi-national Council in the Gulf of Mexico area that is in the process of creating a network of councils in each of the different states that compose the region. We are in the midst of creating several others in other countries.

With such a network, we have been able to organize business around the concept of eco-efficiency as a guiding principle. We have been able to discuss with governments and influence some important decisions that will enable business to change old destructive practices. In summary, we have been able to induce concrete local results that may, soon enough, provide the picture that we envisage, the one that shows that business is actually changing course.

EUGENIO CLARIOND REYES
PRESIDENT, GRUPO IMSA
CHAIRMAN, BCSD-LATIN AMERICA

Technology Cooperation



Technology enables people to create more from less. New technology is usually cleaner than the old because it is designed for efficiency. But putting the latest technology to work where it is needed most - mainly in the developing world and in economies in transition - is often difficult because of a lack of money, skills, and suitable investment frameworks.

Simply giving new technologies to those who need it - through aid schemes, as tried in the 1960s and 1970s - has been shown to be ineffective.

Building partnerships between those with the technology and those who need it - through, for example, joint ventures and foreign direct investment - is a better way because both parties have an interest in the success of the project.

For example, a partnership between General Electric Lighting of the United States and Tungsrum Company, a formerly state-owned lightbulb maker in Hungary (51 percent of which is now owned by General Electric) helped improve the Hungarian company's environmental performance and brought its quality standards in line with those of the United States and the European Union.

Foreign direct investment in Central and Eastern Europe - made possible after the collapse of the Soviet Union and the liberalization of those markets - has enabled similar joint ventures and technology cooperation.

For example ABB has been cooperating with Polish energy producers to improve efficiency and environmental performance. Volkswagen of Germany, through its ownership of Skoda, the Czech carmaker, has helped improve quality, reduce environmental impact, and save what was an ailing business with outdated products.

Cooperation on management training is essential. China and Japan, for example, have an exchange agreement for managers of electricity utilities.

Since 1992 about 100 managers from the Ministry of Electric Power in China have participated in an exchange program with the Tokyo Electric Power Company, concentrating on proper and effective operation and management, including environmental consciousness raising.

In South America, Northern Telecom of Canada has worked with the U.S. and Mexican governments to tackle ozone depletion by devising new ways to eliminate the use of chlorofluorocarbons in Mexican industry. But technology cooperation is not only a North-South affair. There are growing examples within

the developing world and even between sectors of business within a single country. For example, the BCSD Colombia has been helping small companies involved in highly polluting manufacturing, such as the leather business, to cut pollution through ways that save money.

Technology cooperation concentrates on developing human resources by extending a country's ability to absorb, generate, and apply knowledge.

In developing countries, it works to enhance the use of technology, promote innovation, and foster entrepreneurship.

Such cooperation works best through business-to-business long-term partnerships that ensure both parties remain committed to the continued success of the project. But this can only happen if the financial and legal climate encourages the prosperity of the partnerships.



General Motors

The General Motors systems approach combines education, cooperation and collaboration, and technology as keys to success and sustainable development in developing countries.

The transportation sector and the overall economy of developing countries are growing at an unprecedented rate. General Motors has entered into business partnerships in many developing countries, such as China and Thailand. These countries are very selective on who will enter the market and what they will manufacture.

Once accepted within these countries, General Motors uses state-of-the-art strategies, technologies, and performance criteria to minimize the impact of the product and process on the environment. These span from automated processes to abatement equipment to waste-treatment strategies. Cleaner production techniques and strategies are transferred to local employees and professionals via hands-on learning and classroom training. Employees of new ventures learn about pollution prevention and waste elimination.

In parallel with the transfer of new technologies to developing countries, many cooperative research and development projects are established with local businesses and universities. For example, electric-powered vehicles, battery research, oxygenated fuels, and fuel cells are examples of programs currently under way in Chinese laboratories with General Motors' sponsorship.

Moreover, technology is being transferred to the Chinese automotive industries via university technology institutes and government/industry-sponsored technology seminars. These educational programs are helping to train the current and upcoming industry leaders.

Emphasis is also being placed on training for future generations. Educational programs that identify the importance of pollution prevention to school-aged children are emphasized and supported by General Motors. Two examples are our collaborative effort with the U.S. Environmental Protection Agency - the environmental video tape entitled "I Need the Earth and the Earth Needs Me" - and the Global Rivers Environmental Education Network.

HARRY J. PEARCE

VICE CHAIRMAN, GENERAL MOTORS CORPORATION

The Road Ahead



There is a lively global debate today about how various sectors of society are, or should be, changing.

Governments, the negative view runs, are losing power and a clear vision of their legitimate roles. The more positive view is that governments are correctly withdrawing from areas where others, such as civil society and business, can and do perform required functions better.

Negatively viewed, business is swashbuckling around the globe largely uncontrolled by weakening governments. A more positive view holds that

business, through freer trade, is spreading the technologies, skills, and processes required for development and, given the right global frameworks, for more sustainable development.

Amid this confusion, there is a tendency among governments, environment/social NGOs, and the media to call on business to do everything: to create wealth and jobs, clean up the environment, deliver "development," satisfy all stakeholders, fight corruption, educate, provide health care, and generally stabilize and improve society.

Obviously business cannot do all these things, though business can find, and perhaps should be looking harder for, its appropriate role in each of these activities. But one thing is certain: a business that is not profitable over time ceases to exist, and thus is no longer a player in the issues listed above, or on any other issues. So in this sense, competitiveness in the marketplace must be a first concern of any business.

It is for precisely this reason that the more farsighted businesses are taking an interest in sustainable development.

Trends Towards Sustainability

Several trends suggest that business will pay more and more attention to the sustainable development agenda to remain competitive. These trends are stronger or weaker in various parts of the world and in various business sectors. None taken alone is totally convincing. But the length and breadth of the list makes compelling reading for a thoughtful chief executive:

- Environmental regulations are getting tougher, and so is enforcement; in some countries chief executives face jail sentences for willful pollution damage
- Cutting waste and using natural resources more efficiently can save costs and boost profits
- Some governments are providing opportunities for business to avoid costly and innovation-stifling bureaucracy by encouraging self-regulation and pacts with government agencies, rather than new environmental laws
- More use is being made of appropriate economic instruments (tradable pollution permits, charges and taxes) to encourage continual improvement
- Environmental groups and businesses are working together more to find solutions
- Banks, concerned about their own legal liabilities and by borrowers' possible difficulties in repaying loans if they face large pollution clean-up bills or fines, are taking closer looks at borrowing companies' eco-efficiency records
- Insurers, themselves suffering huge pay-outs for past

pollution damage by companies they have insured, are also taking closer looks at the eco-efficiency performance of companies seeking insurance

- More investors are becoming interested in investing in environmentally responsible companies and nonpolluting technologies
- The best and brightest people are more willing to work for environmentally responsible companies
- The public is using its buying power to encourage business towards fulfilling environmental and social responsibilities.

That last trend raises the issue of "green hypocrisy," or companies pretending to be more environmentally and socially responsible than they are. There will always be these sorts of offenders, but the more sophisticated companies see this approach as not only wrong but also too dangerous.

The media and consumers are becoming too sophisticated to allow companies to pretend; they expect real corporate action.

Overall, the list of trends reveals a greater focus on the environmental side of sustainability than on the social side.

This is partly because society as a whole has focused more on the environmental side; and it is partly because, controversial as they remain, business' environmental responsibilities are clearer than its social ones. But the balance is shifting slightly. Consumers are taking more interest in how companies treat their employees - those from minorities and other vulnerable workers - and their neighbors. The BCSD-Latin America, for example, is planning a major study of business' social responsibility.

Another obvious point about this list is that the pace of change is strongly influenced by the extent of the political and societal will to encourage change.

Some other emerging developments outside the business sector are likely to tie companies' bottom lines more tightly to their eco-efficiency performance.

The notion of a "tax shift" has been around for some time. It denotes a shift from taxing societal benefits such as employment to taxing damage to society such as pollution and the waste of resources. Proponents have pushed the shift as much as a tool to increase employment as an anti-pollution device. Changes in accounting practices are part of this process (see page 12).

Critics have been concerned that governments could be tempted to use such a shift as a guise for collecting more revenue. Despite these concerns some countries, such as Norway and Sweden, have begun to shift their tax systems with the introduction, for example, of a limited carbon tax, although there is still debate on whether this is the best way to internalize externalities.

The report of the President's Council on Sustainable Development (PCSD) in the U.S. called for this type of tax shift. This is especially significant in that the PCSD brings together government cabinet members, business leaders, and NGO leaders. All agreed on the logic of such a shift, as well as on changes in national standard accounts and more use of economic instruments. Just a few years ago, such recommendations would have been viewed as radical; now they are the logical conclusions of establishment figures from various sectors of society.



As for the standard national accounts, it is commonly understood that they are flawed in that a rising gross national product or gross domestic product (an apparent sign of a thriving nation) measures rates of expenditure, and says nothing about the state of the resource base which plays an important part in long-term national prosperity. This is similar to judging an individual's economic worth on what he or she spends, rather than on the value of his or her real property, equity holdings, salary, and savings. There is much debate on how to change these indicators, but a good deal of agreement that change must come, and in ways that reflect the health of the resource base.

What has been less discussed is the fact that any such change in national accounting will rely heavily on data supplied by business.

What natural resources does a company use? In what quantities? To what extent are these resources renewable? It is trite but true that in business "what gets measured gets done." So this change in national accounts will cause a profound change in the ways in which companies manage their resource use.

Greater effective use of appropriate economic instruments would encourage companies into continuous improvement in resource use and pollution release, as opposed to the get-to-a-given-level-and-stop effect of most regulations.

However, there will always be a need for clear, effective, enforced regulations, especially in cases of threats to human health.

In a world in which all the developments listed above have taken effect, it is impossible to imagine an enterprise able to be environmentally sloppy and yet still competitive in the marketplace. Today's world is some way from that state because environmental resources and pollution sinks are often underpriced, and governments often subsidize the misuse of resources.

But the trends are real.

Astute chief executives are positioning their companies to take advantage of these trends - that is, they are making them more eco-efficient and more in line with the demands of sustainable development

And they are banding together to push these trends along, so their companies will benefit sooner rather than later.

This discussion applies mainly to big companies. Small and medium-sized enterprises tend to lack the capital, executive time, and room to maneuver to improve rapidly in eco-efficiency. They will need the impetus of improved government frameworks and of the larger companies, which many of them supply.



Improving the Frameworks

We have emphasized the positive in discussing where business is going. How can business travel along this positive route more quickly?

One important approach is to keep improving lines of communication among business, government, and NGOs. Examples in the previous chapter show gathering momentum, and many nations are developing bodies like the PCSD in the United States.

We believe that there is an inherent logic to sustainable development that can be agreed on whether the starting point is a government, or a business, or an NGO perspective.

Indeed, the documents coming out of the mixed councils are proving this to be true.

Some countries still need to make deep reforms in government institutions to improve democracy, freedom, and human rights. The report of the World Commission on Environment and Development (the Brundtland report) concluded, in fact, that the prerequisite for sustainable development is "effective citizen participation in decision making."

This goes far beyond holding national elections every few years; it has to do with guaranteeing the rights of citizens and citizens' groups to information, rights to consultation in matters affecting them, and rights to legal redress. In many countries, business will have to become more adept at respecting and working within those rights.

From a business and economic viewpoint, many nations require basic institutional changes beyond human rights improvements. These might be divided into first- and second-generation reforms.

The first set involves methods of correcting resource misallocation by improving price signals so that resources are shifted from less efficient to more efficient uses. These include: steps to decrease inflation, trade protection, subsidies, and the number and power of state-owned enterprises. Also needed are steps to make financial markets more efficient, resilient, and independent of government interference.

Second-generation reforms remove the barriers that keep resources from moving towards more efficient use. These include more secure property rights; better dispute resolution mechanisms; improvements in the appropriateness, clarity, and enforcement of regulations; more stable political frameworks; and improvements in legal systems and access to these systems.

Judicious privatization can make more efficient use of resources and bring business skills and investments into areas where they are needed. It also sends the necessary signal that a government will henceforth be less involved in the economy and less likely to reverse key reforms.

The creation of secure property rights can play a role in sustainable development too, mainly through the encouragement of small businesses. It can motivate investment, including that in foreign technology. It provides collateral. It can lower transaction costs. Being able to buy and sell property easily also helps people move to where there are jobs and opportunities.

There is growing evidence that first-generation reforms, as important as they are, cannot spur development without a large representation of second-generation reforms as well.

However, there is even more evidence that neither first- nor second-generation reforms will bear fruit among people who cannot get either health care or education, particularly primary education and skills training. Business can play a role in these areas, but both will remain primarily the responsibilities of governments - and of the citizens who vote for them.

The Business Environment

With conditions so very different around the world, and with nations at different development stages, it is hard to make a meaningful list of policies needed to help business better support sustainable development. But it is clear that such policies must be based on an integrated view of the economy, society, and the environment.

Every government's responsibility is - working with business and citizens' groups - to devise the policy frameworks that will allow consistent and realistic goals to be developed and met.

These goals must be based on good science and assessment of risk, and should balance ecological, economic and, social objectives.

The conditions needed for business to make a greater contribution to sustainable development include the following.

- **Freer and more open markets**

Where governments interfere overly in domestic markets, economic development suffers. Trade is the lifeblood of all economies. Open, prospering markets are a powerful force for creating equal opportunities for nations and people. Open, competitive markets create the most opportunities for the most people. Nations with these markets will be the most successful in fighting poverty, and this framework provides the greatest opportunities for people to free themselves from the remaining poverty.

- **Stable and predictable trade rules**

Business needs a stable and predictable legal and economic climate in which to operate. This is created through rules that help guarantee the conditions for freer and fairer competition in world markets. For example, the World Trade Organization attempts to do this through limiting trade restrictions. Environmental standards should be designed to avoid creating

barriers to trade. Eco-labelling schemes must especially avoid being distorted into trade barriers.

- **International standards**

Business should be encouraged voluntarily to achieve agreed standards of quality and environmental performance. Standards, such as those from the International Organization for Standardization are providing an independent verification of quality in various areas without creating barriers to trade.

- **Realistic target-setting**

Governments should work with business and other groups to set targets that recognize the realities under which business operates. These targets should encourage efficiency and cost-effectiveness; should allow business flexibility of responses to meet goals; should allow for gradual introduction so that business has adequate time to adjust; should be fair and equitable across business sectors; and should provide transparency of compliance, so as to eliminate free riders.

- **International solutions for international problems**

Global issues, such as loss of biodiversity and climate change, cannot be dealt with purely on a national or regional basis. While appropriate local actions are required in dealing with such threats, international frameworks are needed to establish goals and to put in place the most effective solutions. These frameworks may range from international treaties and conventions on emissions to international agreements on activities such as Joint Implementation.

- **Fast dissemination of technology**

The development and use of new technologies provides society with a tool to overcome many social and environmental problems. Policies are needed to encourage such technologies by breaking down the barriers to their use. For example, a car fleet composed of low-emission models could help to reduce overall emissions and should be encouraged. This can be achieved in a number of different ways, such as allowances on scrapping old vehicles and favorable tax treatment on investing in new technology. Dissemination of technology

internationally requires suitable investment frameworks and the building of skills and know-how to use it effectively.

- **Educate the market**

Sustainable development demands sustainable consumption in line with sustainable production. There is considerable debate on how this can be achieved, but harnessing market forces is always a preferable route, and an obvious first step is to make appropriate information available to consumers. For example, buyers could be encouraged to opt for the most energy-efficient models of appliances if they were given information to allow them to compare energy costs over time. Care must be taken over labelling schemes to ensure that these cannot be distorted into technical barriers to trade. Tax policies can also encourage builders, buyers, and renters towards more energy-efficient buildings.

The task of providing the necessary information for consumers to make sensible choices would be made easier if costs (such as the cost to the environment from waste emissions) were reflected as much as possible in prices and hidden subsidies were removed. Such internalization of so-called externalities needs to be gradual to prevent sudden market distortions.

- **Economic instruments that motivate**

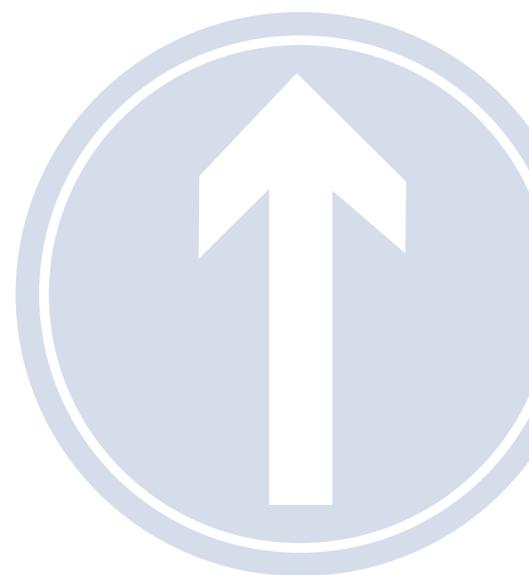
Governments should use market mechanisms and introduce new economic instruments (or amend existing ones) to encourage actions that work towards the goals of sustainable development. For example favorable treatment of investments in clean technologies - within a revenue-neutral tax shift - could speed their introduction. Energy efficiency would be encouraged and greenhouse gas emissions per unit of output would be reduced, by a system of tradable permits for emissions. This is when policy-makers fix the total amount of emissions and the government then issues a set number of permits to cover the emissions. Under such a system emitters are allowed to buy and sell the permits.

- **Voluntary agreements**

Command-and-control policies, while still effective as part of the general mix of policies, have proven inflexible and overly costly for both government and business. Voluntary agreements can overcome these problems.

Such agreements come in many forms, ranging from legally binding agreements to voluntary initiatives. They provide flexibility, which allows business to achieve the desired goals in the most economically effective manner possible. This benefits the entire economy of the nation, precisely in line with Agenda 21. For example, in negotiated agreements between government and industry, certain industrial sectors agree to take specific actions without the need for legislation.

The Dutch have pioneered these agreements, and other countries, such as Portugal, Australia and the United States, are experimenting with them. Initiatives taken voluntarily by industry, such as those on energy efficiency by the European chemicals industry and those by Japanese industry, have no legal status but nonetheless can be effective at achieving specific goals.



The Responsible Company

As noted, there is now much debate about the appropriate responsibilities of governments, business, and citizens' groups. It is not clear how this will be resolved. A growing number of business leaders realize that to achieve market success they must honor a changing array of environmental and social responsibilities.

Members of the WBCSD are building these responsibilities into their companies and are being helped in their task by the Council which addresses sustainable development issues of crucial importance to business.

How can such a "responsible company" be described today? It is built on the concept of eco-efficiency with its emphasis on doing more with less. It is profitable and continues to add environmental and financial value for its shareholders, and to create wealth in society.

It devises management systems that help it measure, monitor, and continually improve its performance in contributing to the goal of sustainable development.

It conforms to best practices in its sector and reports regularly on its social and environmental performance.

It has an open and transparent relationship with everyone outside as well as inside the company who has a legitimate interest in its activities - its stakeholders. It ensures that its decisions are fair and just to those affected, and it encourages full participation with wide consultation with its stakeholders before it acts.

Such a company bases its decisions on good science and risk analysis, and it will respond to scientific uncertainty by adopting a precautionary approach in those areas of its business where there is reasonable concern about the potential to cause harm to people and the environment.

To prosper in fast-changing markets, it reacts to demands from customers for products and services that are environmentally sound in themselves and that also help users improve their own environmental performances. In achieving this, the company uses a number of tools, such as life-cycle analysis, to design products that contribute to sustainable development.

As business people, we understand and respect the workings of the market. But we know that the market is not some ruling entity separate from human activities.

People should not serve the market; the market should serve people - and where governments set the appropriate framework conditions, it usually does. A key element in this process will be to encourage financial markets to reward eco-efficient companies and set free-trade policies which take into account environmental and social concerns.

The market can help provide more sustainable forms of progress if it mirrors sustainable development concerns just as effectively as it reflects economic realities. Such a market can be created with the changes we have outlined above.

Business is playing its role, and will continue to do so. Society can move rapidly towards sustainable development, as soon as it decides it really wants to.



WBCSD Publications



World Business Council
for Sustainable Development

This publication provides a broad picture of how business is moving towards sustainability, and is not intended to present detailed positions on specific issues. For an in-depth analysis on particular issues, please refer to the following WBCSD publications:

REPORTS

- Trade and Environment: A Business Perspective
- Sustainable Production and Consumption: A Business Perspective
- Progress Report on the International Business Action on Climate Change
- Eco-Efficient Leadership for Improved Economic and Environmental Performance
- Eco-Efficiency and Cleaner Production
- Towards a Sustainable Paper Cycle
- A Changing Future for Paper
- Environmental Assessment: A Business Perspective

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- WBCSD Annual Review 1996

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