PROGRAM ON ENERGY, THE ENVIRONMENT AND THE ECONOMY

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Uncovering Value: Integrating Environmental and Financial Performance

The Aspen Institute

Uncovering Value: Integrating Environmental and Financial Performance

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For additional copies of this paper, please contact:

The Aspen Institute
Publications Office
109 Houghton Lab Lane
P.O. Box 222
Queenstown, MD 21658
Phone: (410) 820-5338
Fax: (410) 827-9174
E-mail: publications@aspeninst.org
Web: www.aspeninst.org

For all other inquiries, please contact:

The Aspen Institute
Program on Energy, the Environment, and the Economy
Suite 1070
1333 New Hampshire Avenue, NW
Washington, DC 20036
Phone: (202) 736-5823
Fax: (202) 293-0525

After May 1, 1999, please contact us at our new address:

The Aspen Institute
Program on Energy, the Environment, and the Economy
One Dupont Circle
Washington, DC 20036

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The Aspen Institute
Suite 1070
1333 New Hampshire Avenue, NW
Washington, DC 20036

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Printed in the United States of America

ISBN:0-89843-254-5

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Foreword

Since 1993 the Aspen Institute **Series on the Environment in the 21st Century** has convened leaders of business, government, and environmental groups to engage in a dialogue about developing a new environmental management system for the United States. A consistent theme underlying those discussions has been the importance of economic drivers, which can powerfully enhance or impede the achievement of national environmental goals.

In 1997 a separate dialogue was convened to pursue in more depth one aspect of that theme: the ways in which financial institutions value or, more commonly, fail to value, environmental management and performance and how they can drive business decisions. This new series, **Valuing Environmental Performance,** reflected the belief that there is a competitive advantage for companies and investors who first recognize and act on the convergence of environmental goals and financial goals.

The Series exemplified the mission of the Aspen Institute's policy programs, which is to improve the quality of leadership and the formation of policy through dialogue on the challenges facing societies and organizations. Through small meetings that foster candid exchange among people of diverse viewpoints, the Institute's programs seek solutions to, or seek to better frame the questions regarding, important policy issues.

The Series was conducted in six meetings in New York City over the course of thirteen months. Participants were from academia, corporations, governments, not-for-profit groups, and various segments of the financial community. Their shared view of the potential financial value of environmental performance, and their often differing but complementary views of how to improve communications between their various worlds, informed the dialogue that led to this summary report, **Uncovering Value: Integrating Environmental and Financial Performance.**

The report touches upon several aspects of the topic of valuing environmental performance, and it draws upon several recent works in the field, but it does not purport to be comprehensive. Rather, it is an introduction—an effort to bring to the attention of decision makers in the corporate and financial sectors the linkages between environmental factors and strategic business decisions. In particular, because of the increased understanding gained by the diverse participants in this dialogue, the report stresses the importance of clear, accurate, and relevant communication within corporations and between corporations and the financial community. A few additional sources are listed in an appendix for those who are intrigued by the potential financial returns available to early adopters of the financial strategies suggested here.

Acknowledgments

The Aspen Institute and its Program on Energy, the Environment, and the Economy want to acknowledge the sponsors of the Series. Without their generosity, support, and confidence, this exciting dialogue could not have been conducted. Thus we gratefully acknowledge and thank the following:

Anheuser-Busch Companies
Merck and Company
Georgia-Pacific Corporation
Monsanto Company

Niagara Mohawk Power Corporation
Salomon Smith Barney Inc
3M Corporation
Weyerhaeuser Company

We are also grateful to Salomon Smith Barney for hosting our meetings in their New York offices.

We want to thank all of the participants for bringing their extensive expertise and their various viewpoints to the table, and for their considerable efforts, both during and between the meetings. This document is the result of their work and reflects their collective views. In particular, prior work and writing by Linda Descano and Don Reed informed the discussion and became the basis for many parts of the report. Lee Paddock deserves our special gratitude for his valuable work in summarizing and pulling various pieces together into a coherent first draft. The report is issued, however, on the authority of the Aspen Institute and its Program on Energy, the Environment, and the Economy. No individual should be presumed to endorse every word, nor should the participation of individuals necessarily imply the endorsement of their organizations.

John A. Riggs
Executive Director
Program on Energy, the Environment,
and the Economy

I. *Executive Summary*

A potentially powerful trend is developing in the business and financial world. By learning to "value the environment," companies and financial institutions are uncovering another competitive edge. As communication of the business value of environmental considerations improves in quality and quantity, market forces will increasingly drive environmental progress and environmental opportunities will more directly drive strategic business planning.

Growing population and consumption have placed increasing demands on limited natural resources at the same time that better and more widely available information on environmental issues has increased citizen and government concern. These changes present not only challenges for businesses but new opportunities. Business leaders and others have begun to recognize that environmental improvement and economic prosperity can be allies.

Capitalizing on this recognition, insightful businesses are looking beyond the costs of environmental compliance and beginning to incorporate environmental factors into their basic business decisions, seeking to derive *and drive* strategic business value from these environmental factors.

The businesses that will profit from these trends are those whose leadership, values, and corporate culture allow and encourage them to:

- identify the strategic business value of environmental performance,
- measure the results in financial terms, and
- reshape their message to communicate effectively with the investment community.

Identifying strategic business value requires better communication between a company's technical/environmental side and its financial and business managers. It requires an understanding of the ways in which environmental considerations are integral to core business strategies, such as:

- protecting and enhancing the business franchise,
- changing processes to dramatically improve efficiency,
- developing new products, and
- building and entering new markets.

Measuring the results of these strategic initiatives involves knowing how a company is presently valued, what measures its investors use, how the environmental aspects of its strategies affect those measures, and how to collect data that demonstrate the connection.

Communicating the message effectively means using measurements and terms that are understood and used by the financial community. It requires expressing results in terms of business goals by:

- measuring results of environmental-related initiatives,
- communicating the data in financial terms that are relevant to the concerns of investors,
- ensuring that all company officials provide a consistent message,
- providing credible information, and
- working to develop reporting systems that are comparable among companies in a given sector.

A small but growing segment of the financial community is beginning to recognize and reward the publicly traded businesses that are identifying business-environmental linkages. From socially responsible investment funds that traditionally have often screened out entire industries, to the emerging environmental value funds and research services that look for top environmental performers in each industry, more and more investment money is moving in the direction of environmentally well managed companies. Some insurance companies and lenders are also starting to selectively adjust their rates based on environmental criteria.

Like leading edge companies, analysts and investors who seek and use information about the business results of environmental linkages will have an advantage over their peers. Although the context may be new, the questions deal with familiar subjects: quality of management, risk exposure, brand image and reputation, overall operating efficiency, growth, and market access.

Finally, the transformation of environmental factors into strategic business value may allow—even require—a new view of fiduciary responsibility on the part of pension fund managers. As strategies derived from or driven by the environment are increasingly viewed as opportunities to enhance return on investment, fund managers will have a fiduciary responsibility to consider how companies have incorporated environmental factors into their business decisions. With trillions of dollars invested by pension funds, this could be a powerful force for change.

Companies that act first to identify and define the strategic environment/business connection may influence how the financial community views and acts on environmental information, and this could have a significant impact on the companies' share price and cost of capital.

II. Changes in Society

Environmental issues are more connected to economic development, trade, and global demand for goods and services than ever before. The convening of the World Commission on Environment and Development in 1987, which helped focus attention on the concept of sustainable development, reflected this linkage and the need for a new, integrated approach to business and the environment. At the United Nations "Earth Summit" in Rio de Janeiro in 1992, with business engaged and viewed as a major contributor toward solutions for the first time, the dialogue about the interrelatedness of economic development, environmental protection and social welfare was expanded. The Rio conference set a new agenda for development that is steadily taking root around the world. Among the factors driving this change are:

- increasing world population, growing prosperity and consumption among some segments of society, and the associated demand for goods and services;

- expanding demands on a limited natural resource base, and the resulting pressure to improve resource productivity;

- better and more widely available information on the environmental and social impact of development;

- the rapid growth of production and information technology, and
- ever-increasing public and, consequently, governmental concerns about the deterioration of the environment, especially air and water quality and other factors affecting health and quality of life.

This transformation will affect virtually every aspect of local, regional, and global economies and change forever how companies and governments conduct their business. It is being accompanied, in the U.S. and some other countries, by a trend toward the use of market mechanisms to supplement or replace command-and-control regulations. The change also encompasses a transition away from end-of-pipe controls to closed-loop, zero-impact technologies. This new approach takes advantage of corporate knowledge about how to optimize their products, processes and business strategy from an environmental sense.

> During the eighties, increasing evidence of global carbon pollution, ozone depletion, and the loss of species, forests and fertile soils suggested that environmental damage was more global and more serious than previously expected. It also became clear that the environment was not a place outside of the human sphere but rather a set of processes affected by all human activities: business, manufacturing, consuming, farming, fishing, mining, and so on. Thus the old battle between those championing the environment and those advocating "development" began to die down slightly when the two goals were seen more and more as inseparable sides of the same coin.
>
> —Stephan Schmidheiny and Federico Zorraquín, *Financing Change*

III. Opportunity for Business

Most businesses, investors and analysts today still see environmental factors largely as questions of cost and risk. Yet, based in part on the changes occurring in society, many leading edge companies now see the environment as an opportunity. They are integrating environmental factors into their core business strategies and thus gaining a competitive edge. As this trend grows, it will be a powerful new force for environmental improvement. It will also be an important new way for companies to find strategic advantage and for analysts and investors to identify companies that are likely to be financially successful.

> To date the business logic for greening has been largely operational or technical: bottom-up pollution prevention programs have saved companies billions of dollars. However, few executives realize that environmental opportunities might actually become a major source of revenue growth.
>
> —Stuart Hart, "Beyond Greening: Goal and Strategies for a Sustainable World."

To take advantage of this opportunity, companies must focus on identifying, measuring and communicating—both internally and externally—strategic business value derived from and driven by considering the environment as an integral part of all business decisions. Analysts must also begin to use this information in

their valuation models, and investors must be informed how strategic environmental practices can increase their return.

In addition to the powerful societal drivers of change, many business trends are also beginning to transform environmental issues from relatively minor factors in corporate decision-making into factors that are integral to competitiveness in the 21st century:

- The wide adoption of quality management techniques has increased capacity to identify potential environmental efficiencies, with opportunity for considerable cost savings.

- The globalization of the economy has increased the importance of access to high-growth international markets, which can be hampered by a company's environmental record and reputation.

- Transnationals are also facing greater responsibility for environmental impact along their entire value chain, including suppliers. Managing this impact is key to their own brand image.

- Companies are beginning to sell a service rather than a product, often allowing their customers to be less commodity or capital intensive. This creates the opportunity to capture environmental benefits through reuse and recycling, while "locking in" customers and creating a competitive edge for the supplier.

- Product differentiation, market position, and business advantage are increasingly based on environmental aspects of products and services.

The businesses that profit from this transformation will be those who can identify the strategic business value of environmental leadership, measure the results in financial terms, and reshape their message to communicate effectively with the investment community.

A. Identifying Strategic Business Value

Senior management of the business itself must first recognize the economic value that can be derived from integrating environmental factors into business decisions. This is not as easy as it sounds. Too often the environmental and the business and financial managers within a company speak different languages, if they talk at all. Lack of communication between the technical and the strategic sides of an organization makes it more difficult to identify environmentally based business value. Overcoming this internal communication barrier will concurrently lead to more effective communication with the financial community.

Research conducted by the World Resources Institute and others indicates that the environment can make significant contributions to core business strategies in several ways:

- Protecting the business franchise by reducing risk and opening new markets.

  Georgia-Pacific entered a partnership with the Nature Conservancy, the University of North Carolina, and the U.S. Forest Service to manage 21,000 acres of timberland on the Roanoke River, receiving in return certainty of a specified harvest over time, improvement in their public profile, and protection of their "license to operate."

  Lucent Microelectronics sought third-party ISO 14001 certification in part because, according to a Customer Satisfaction officer, "Without certification, I don't believe that we can continue to play in our market arena. Siemens and other European customers have flat out told us that certification and compliance with ISO 14001 is—and will be—a fundamental requirement of doing business."

- Changing processes to improve efficiency, thereby increasing margins and return on investment.

Anheuser-Busch has made aluminum cans 33% lighter since 1974, saving nearly 250 million pounds of aluminum a year. Similar lightweighting of recyclable longneck bottles has saved nearly 300 million pounds of glass a year compared to 1988. In addition, Anheuser-Busch has become the world's largest recycler of aluminum cans, recycling the equivalent of more than 125% of the beer cans they sell. Based on the average market rate for aluminum and glass, these efforts save more than $200 million annually when compared to base years.

Baxter International's 1997 environmental program cost $12.8 million and generated savings of $13.8 million. The more relevant result, however, comes from adding the long-term savings to the net earnings contribution for the current year. That total was $87.3 million, or 13.4% of earnings for 1997.

Sunoco instituted a bulk motor oil program for its service stations that eliminated the use of about 8.4 million plastic bottles and 700,000 cardboard cases, and the associated delivery costs, over a three year period, for a savings of $3.6 million.

- Product change to increase competitive advantage.

  DuPont's Ag Products Business developed a family of herbicides that have allowed a 50 to 100 fold reduction in herbicide application per acre with no impact on crop yields. As a result, over 200 million fewer pounds of chemicals are applied to the soil each year and there is 4 to 6 billion pounds less waste generated in manufacturing operations. In 10 years since the introduction of these products, Ag Products has grown to a $2.5 billion business and increased market share from number eight to number two in the crop protection chemical industry.

Volvo increased its market share in one truck segment 35% over a three-year period by differentiating its trucks on their environmental features, i.e., their fuel efficiency and low emissions. This boosted the contribution of their truck operations to the company's operating income from 30% to 56% during that time period.

ITT Nokia's market share in the Netherlands for 24-inch televisions increased by 57% and their gross revenue by 73% in the month after a consumer testing magazine rated their product as a "best buy," based in part on energy consumption, recycling, materials, and use of hazardous materials.

> Environmental progress demands that companies innovate to raise resource productivity—and that is precisely what the new challenges of global competition demand.
>
> —Michael E. Porter and Claas van der Linde, "Green and Competitive: Ending the Corporate Stalemate."

Having used life-cycle analysis to redesign a product, Xerox is saving $300 - $400 million annually in raw materials, labor, and waste disposal costs by using leased copiers as a source of high quality, low cost parts and components for new machines. At the same time the company increases customer contact and repeat business.

DuPont Mexico designed a returnable and recyclable drum for sodium cyanide that eliminated customer waste associated with drum disposal. The program increased market share from 58% to 90%, reduced packaging material cost by 75%, reduced customer inventory cycle time from 28 days to as low as 7 days, increased customer loyalty, and resulted in over $3 million in savings annually for DuPont.

- Building new markets that reposition the company in the marketplace.

Green Mountain Energy Resources, a power marketer in states that have recently adopted retail competition for electricity, is able to charge a premium by offering "cleaner" power (i.e., from renewables). In the short time that retail competition has been allowed, Green Mountain has become the largest marketer of residential power nationally.

Monsanto developed a genetically engineered insect-resistant cotton that since 1996 has eliminated the use of nearly one million gallons of insecticide along with the inherent process waste, containers, transportation and application expense. In addition to these cost savings, growers reported a 14% yield improvement on average. By 1998, according to the USDA, insect protected or herbicide tolerant plants incorporating Monsanto's seeds or genes achieved 45% market penetration.

The first step in creating economic value from considering the environment as part of business strategy is for companies to understand how their environmental activities contribute to one or more of these strategies and to communicate this information effectively within the organization. This may require new lines of communications between environmental professionals and the business and financial sides of an organization. It is important to note that some of the above examples contribute to multiple objectives, and that quantification of results may exist internally but may not be externally available for competitive reasons.

> While the end game is not in sight, the trends are clear enough that corporate managers would be foolhardy not to take action now, positioning to take advantage of greater attention to their environmental performance by shareholders.
>
> —Donald J. Reed,
> *Green Shareholder Value: Hype or Hit?*

B. Measuring Results that Matter

For environmental considerations to play a role in financial decisions, companies must increase the rigor with which they measure the results, and they must report those results in ways that are meaningful to the financial community.

Many companies are producing environmental reports and have undertaken a significant effort to publicly discuss and begin to quantify environmental performance. The trend is significant; over 100 of S&P 500 companies have published these reports. The audiences for these reports are many—employees, consumers, advocacy organizations, socially responsible investors, and SRI fund analysts. However, many reports are anecdotal or include data on the aggregate levels of pollutants produced, but with little information on financial impact. Other environmental information is provided in response to a wide variety of questionnaires, which seek similar information in dissimilar formats and which can be quite burdensome. Unfortunately these voluntary, non-standardized and typically unaudited reports and questionnaires are rarely useful to financial analysts.

To effectively convey the financial value of its environmental strategies, a company must understand how it is being valued in the marketplace and provide analysts and investors with information that relates to the means of valuation being used. If those who follow an industry care primarily about the ability of a company to introduce new products, then talking about the cost savings of their environmental strategies is far less valuable than explaining how environmental issues provide a source of insight for new product development.

This suggests that corporations seeking full valuation for their environmental strategies must understand:

- how their company is presently being valued;
- what measures their shareholders use;
- how their environmental strategies affect those measures; and
- how best to gather and organize data that shows the effect of the strategies on the appropriate measures.

A large majority of the environmental strategies being pursued by companies in the United States are process changes, which often lead to cost efficiencies and increased earnings. Several companies report the savings they have achieved as a result of these initiatives, but the information can be confusing and potentially deceiving unless a company includes the costs of implementing the measures. The net savings and not the gross savings are what contribute to earnings. Likewise, reports that deal with the persistence of savings and make explicit assumptions about how these savings apply in growing or shrinking lines of business are more valuable to analysts.

In order to improve the integrity and comparability of environmental performance reporting, Baxter International is developing and seeking support from other companies for standardized processes for data collection and reporting. CERES (the Coalition for Environmentally Responsible Economies) is collaborating with international accountancy bodies, financial institutions, environmental organizations, government and quasi-government agencies and public interest groups in developing the Global Reporting Initiative (GRI), an effort to harmonize the reporting requirements of many organizations and to elevate environmental reporting to the level of general acceptance and practice now accorded financial reporting. Building on a first product to be released around the beginning of 2000, GRI will encourage all companies to measure and report consistent, timely information that will assist analysts, investors and other stakeholders in comparing corporate performances within a given sector.

C. Reshaping the Company's Message

The critical issue for gaining recognition of this business value is communication in terms that are understood and valued by the financial community. This requires an explicit understanding of the various goals that can be achieved in part by environmental actions. It also requires clear communica-

tion with analysts and investors about how various activities contribute to these goals.

The table below illustrates the links between environmental value strategies and the interests of financial analysts and investors. A company's environmental strategies will normally fall under one or more of the column headings. Analysts and investors, however, will be interested in the financial impacts of those strategies, as summarized in the third row. The challenge for businesses is to communicate in a way that stresses the relationship between the strategies and the financial results.

Environmental Strategies: A Corporate View

	Franchise Protection	**Process Changes**	**Product Changes**	**New Market Development**
Business Value	Right to operate	Cost & liability reduction	Market share & pricing power through customer loyalty & reputation	New markets
Focus	Compliance	Efficiency	Value chain	Innovation
Main Financial Impact	Reduces earnings Reduces risks Can open new markets	Increases margins Reduces risks Often uses less capital, increases return on equity	Increases competitive advantage	Increases sales Increases competitive advantage
Barriers to Integration into Financial Analysis	Risk is not an explicit variable in most valuation models	Many diverse sources of small earnings improvements Risk is often not explicit variable	Quantification of competitive advantage difficult	Quantification of competitive advantage difficult

Source: Reed, *Green Shareholder Value: Hype or Hit?*

Analysts, money managers and investors will pay greater attention to environmental issues when they are shown the connection between environmental strategies and margins, markets, and growth, and how these strategies can directly contribute to increased earnings and multiples. As one European utility analyst said in an interview with *Business in the Environment,* "At the end of the day, it's all about finance, and what the environmental considerations are about is—are they going to make it easier or less easy for the companies to make money to pay dividends?"

To improve the quality and quantity of financially relevant information on company environmental initiatives—to reshape the message—business and environmental managers must address five critical communication needs:

> The trend toward convergence of business and environmental issues in the mindset of the analytical community has been well documented. Whether this trend will result in fundamental changes to the process of company analysis depends on whether companies themselves can demonstrate the integral role of the environment to their future performance, profitability, and growth. For those that are successful, this can lead to profound changes in how they are perceived by analysts and investors, with long-term implications for their stock price and overall cost of capital.
>
> —Linda Descano and Bradford S. Gentry, "Communicating Environmental Performance to the Capital Markets"

1. Effective internal measurement and communication

Since company representatives are the primary source of information for analysts, building internal awareness and understanding is a precondition for closing the external communication gap. Companies who collect and provide environmental information first and in a format pertinent to analysts and investors will be better positioned to shape how the financial community interprets and acts on this information.

2. Relevant information

Communications must be relevant to the principal issues of concern to financial analysts:

- Relevant to financial performance—Much of the discussion related to environmental performance is presented in scientific or environmental terms such as tons of emissions or tons of waste. These environmental metrics must be translated into financially relevant terms.

- Relevant to business functions—Most financial analysts still perceive environmental issues in isolation rather than as a common thread which can run through all functions of a business. Communication efforts must demonstrate the potential influence and impact environmental initiatives have over all aspects of company decision-making, i.e., they must show such initiatives as business drivers.

- Relevant to business strategy—Environmental strategies must be communicated in the context of product, market, technology, or cost reduction opportunities to be gained through environmental innovation. Analysts and investors are more concerned about how market, public or regulatory pressures influence earnings, cash flow and margins than in the details of the company's environmental policies and procedures. The key is demonstrating how well management understands what is driving their market position and how management is positioning the company in light of these strategic considerations.

3. Consistent information

Analysts and investors take their cues about what is significant from their meetings with corporate senior management—particularly the chief financial officer

and investor relations manager. Yet these managers often are equipped only to discuss the environment in the context of risks and liabilities. It is critical that all senior managers be equipped to discuss the environment as a strategic management issue and articulate how the company's approach is allowing the firm to exploit competitive opportunities.

4. Credible information

Environmental organizations and community activists are highly cautious consumers of corporate environmental information. Similarly, the analytical community can be expected to be quite wary of excessive hype regarding corporate environmental strategies. While communicating the positive influence environmental strategies have on corporate earnings, it is critical for companies to avoid the trap of "greenwash." Environmental claims and projections should be examined critically to avoid a loss of confidence in management and the company.

5. Comparable information

When comparing companies, analysts need to be able to compare data across firms. Standardized methods for assembling and reporting data on strategic environmental initiatives are under development. Companies that believe they derive a competitive advantage from superior environmental performance have substantial incentives to see that such methods are developed and adopted. Multi-stakeholder initiatives designed to help define and disclose relevant, comparable environmental performance information, like the CERES Global Reporting Initiative, are critical in the next step toward valuing the environment.

IV. Opportunity for Financial Institutions

The financial sector is composed of many different groups, who are driven by different motivations based on their position or function relative to a company. Within each of these main groups, a few institutions have recognized the societal changes and competitiveness trends discussed above and have begun to factor them into their decisions. This change started when various countries began governing the use of natural capital—air, water, land—and holding companies liable for past actions. This affected the financial services industry in various ways:

- Banks found themselves liable for specific contamination or general pollution associated with foreclosed properties.
- Banks also experienced loan defaults as a consequence of the financial impact that new environmental laws had on borrowers.
- Insurance companies experienced material losses for claims arising from newly created environmental liabilities.
- Some investors lost money from the loss of shareholder value as a consequence of environmental matters.

Demand from investors for relevant information about companies' environmental performance has grown in recent years.

> If the companies that believe improved competitiveness and environmental performance go hand in hand are right—as it increasingly appears they are—analysts who understand and act on that information will perform better than those who do not
>
> — United Nations Development Program, "Valuing the Environment: How *Fortune 500* CFOs and Analysts Ensure Corporate Value"

Concerned about the long-term implications of the environment on their own bottom line, particularly in light of the events in Rio in 1992, a small group of international banks joined with the United Nations Environment Programme to create an international forum for examining how environmental factors influence risk from the standpoint of credit, investment, and insurance analysis. Today, 123 banks and 78 insurers from over 35 countries have joined this initiative and have made a public commitment to incorporate environmental factors in their day-to-day business practices and to operate their own facilities in an environmentally responsible manner. Fifty-two U.S. foundations made a similar pledge under the "Philanthropy as Stewardship" principles issued through the Environmental Grantmakers Association.

In general, however, financial institutions have lagged behind the leaders in the corporate community in recognizing and attempting to value environmentally-driven corporate change.

The vast majority of mainstream investment firms and professionals have a fairly good grasp of environmental liabilities, but the connections between "beyond compliance" environmental performance and shareholder value creation are not well understood. The prevailing view is that the bottom-line impact of the environment is not financially material because it is not perceived to be a strategic driver of corporate growth and profitability. Based on surveys of investment analysts in New York and London, there are several reasons for this lagging recognition:

- a language barrier between environmentalists who speak in terms of "pounds of toxics" and financial analysts who speak in terms of "earnings per share" or "market share growth;"

- lack of accurate, relevant, comparable data on environmental performance;
- the need to trailblaze in identifying environmental factors most critical to financial success;
- inadequate accounting practices and data management systems to quantify the financial value of environmental actions; and
- the lack of demand for this work among investor clients, and the pressure on investment professionals to produce research that is "quick, cheap & accurate."

However, as the corporate world improves its ability to manage, quantify and communicate the financial impact of its environmental initiatives, the financial community is beginning to recognize that there is yet-to-be-quantified value. There are numerous illustrative examples in the financial community of "early adopters" that are on the leading edge of this trend.

Socially Responsible Investment Funds

Among the financial community's early adopters are the practitioners of socially responsible investment (SRI). SRI essentially means investing in a way that is consistent with certain social and ethical concerns, often through portfolios that are screened to include or exclude securities of certain types of companies. It can include other strategies such as proxy voting or dialogue with companies. In existence for decades, the field is evolving quickly—in terms of the screening methodologies employed and the popularity of the concept among a wide spectrum of investors.

Traditionally SRI has been relatively unsophisticated in its analysis of company practices. "Social screening" has served the function of steering investment portfolios away from companies engaged in tobacco, alcohol, weapons production or nuclear power. In recent years environmental screening has

evolved from avoidance of high impact industries (e.g. petroleum, forest products, chemicals) to that of analyzing companies on their own merits. Analysts have developed environmental performance indicators, relying heavily on data available from the EPA. While many SRI analysts continue to weight the total environmental footprint of companies, there is an increased focus on a "best of class" approach. SRI analysts are interested in company environmental initiatives. The trend toward company environmental reporting is an important response to this demand.

This research is also beginning to be recognized for the value it can add to financial analysis. Traditionally, most social investment funds have had a split—in terms of both methodology and staff—between social or environmental research and the financial analysis critical to the stock selection process. A new, more integrated approach is a critical element of the current evolution in SRI. Indeed, some of the leading social investment firms may be on the cutting edge of identifying and quantifying the links between social, environmental, and financial performance.

The growing popularity of social investment is playing an important role in this scenario. Aided by the shift from defined benefit to defined contribution retirement plans, the number of socially screened mutual funds has grown over the past decade from a handful to more than a hundred, which now include offerings from some major brokerage firms. Once the province primarily of religious investors and highly committed high-net-worth individuals, SRI is now increasingly employed or demanded by foundations, pension funds, schools, labor unions, health care agencies and a much wider spectrum of individuals, both in the United States and abroad.

> Many 401(k) plans now offer a socially responsible investment vehicle. A 1997 study by the Social Investment Forum estimates that there is roughly $529 billion in screened funds, with approximately 37% of that, or $196 billion, screened to some extent on environmental issues.

Environmental Value Funds

A relatively new, more focused and increasingly popular approach to integrating environmental and financial analysis has emerged in Europe in the form of what are known as "environmental value" funds. These funds are constructed by integrating traditional investment analysis with an analysis to identify the top environmental performers in each target industry sector. This "best of class" approach does not exclude entire industry sectors. It also explicitly acknowledges a positive, identifiable link between what is good for the environment and what is good for shareholders.

Key factors in this approach include a range of quantitative indicators relating to climate change, ozone depletion, toxic release, intensity of water and energy use, environmental liabilities, and environmental management quality.

The Environmental Value Fund, established in 1996 by Storebrand, a Norwegian insurance concern, and Scudder Stevens and Clark (now Scudder Kemper Investments), has been successful in both generating assets and in competitive performance. The fund has outperformed its benchmark, the Morgan Stanley Capital International World Index, by an annual average of nearly 3%. Other European firms that have recently introduced funds based on this type of environmental value concept include United Bank of Switzerland, Credit Suisse, National Provident Investment, and the Sustainable Asset Management Group.

Environmental Value Research Services

The environmental value concept has not yet emerged in the form of actual investment vehicles in North America as it has in Europe. However, a number of firms have done substantial work designing new environmentally-based analytical tools to help portfolio managers and analysts uncover the "hidden" value potential from strategic environmental manage-

ment and thereby identify companies with superior stock appreciation potential. These firms include the Canadian-based Innovest and Sustainable Systems Associates and the Swiss firm Bank Sarasin.

Although the construction of each model varies somewhat, in general each attempts to balance a company's level of risk with its capacity to control that risk and to capitalize on environment-driven opportunities. On the risk side, the key factors being examined include:

- historical contingent liabilities;
- operating risk exposure arising from such factors as toxic releases, hazardous waste disposal, and product risk liabilities; and
- eco-efficiency and sustainability risk, arising from such factors as energy intensity, raw material usage, the durability and recyclability of a company's products, and a company's exposure to consumer value shifts.

Credit and Lending

The key issue for commercial lenders is how environmental performance influences the borrower's ability to generate cash flows to repay the loan. Since lenders do not share in the upside gains realized by a business, their primary interest is in the downside—the risk. Consequently, their focus has been on understanding and quantifying the nature and extent of a borrower's environmental liabilities, capital expenditures and operating costs required to meet existing and anticipated laws and regulations, and exposure to litigation as a consequence of concerns arising from a company's products or processes.

These types of environmental risks are well integrated into the credit approval process of most banks in developed countries and are increasingly being adopted in emerging markets through training and support provided by several multilateral institutions. However, a small but growing number of lending

institutions—led by the major Swiss and German banks—believe that a customer's eco-efficiency and the quality of its environmental management system are as important as environmental risk in today's increasingly sustainability-driven marketplace. Some of the specific metrics they are considering include energy intensity, toxic releases, materials use efficiency, contribution to ozone depletion, breadth and depth of environmental management systems, endorsement of an external environmental code of conduct, third-party verification of their environmental management system, and environmental auditing and training practices.

Moreover, some lenders believe that environmental performance is a robust proxy for overall risk and are not only using environmental aspects to decide whether a loan should be made but also to calculate the risk premium in some industry sectors.

> *The NatWest Group in the United Kingdom gives middle market firms with superior environmental performance an interest rate that is 100 basis points better than a similar credit applicant.*
>
> *Sumitomo Bank of Japan has started a new loan program that offers specially priced "eco loans" to help small- and mid-sized companies make fixed asset investments that capture significant operating efficiencies related to the use of raw materials and energy.*

Insurance Initiatives

The insurance industry is beginning to provide an additional avenue for translating environmental performance into earnings. In the past two years, 78 insurance companies across the world, primarily in Europe, Canada and Japan, have signed the United Nations Environment Programme's Statement on Insurance. This statement asks for public commitments to include the environment as one of the value-drivers in investment decisions.

More specifically, some insurers are using environmental criteria as factors in their policy negotiations with clients. For example, U.S. insurance specialists Willis Corroon announced that they will offer members of the Synthetic Organic Chemical Manufacturers Association a discount of up to 30% on premiums for environmental impairment liability insurance based on the degree of their Responsible Care® implementation.

As this trend grows, particularly in industries with relatively high insurance costs, the impact on costs and earnings is likely to be increasingly noted by analysts and investors and reflected in share price.

Profiting from Change—Analysts and Investors

Environmental initiatives offer the analyst and investor a new tool to assess a company's potential for success. If the analyst or investor has sufficient credible information about the company's initiatives and is able to grasp its significance, he or she will have an advantage over others who have not taken this factor into consideration. Even though the environmental context may not yet be familiar to the analyst or investor, the questions that need to be asked are not new. They deal with such things as the quality of company management, the risk to which the company is exposed, brand image and reputation, operating efficiency, growth, and market access.

> The analyst or investor can detect the presence of environmental drivers by looking to which company adopts eco-efficient practices, by observing an improvement in the way it recognizes and manages risks, through evidence of a keener general awareness and better quality of business management, and through the more effective identification of new business opportunities by the company. In this way, environmental drivers are not just about the environment. They can also influence a company's operational fitness, its product-quality enhancements, its use of processes and technology, and its recognition and development of new markets. In other words, environmental drivers are a powerful business tool.
>
> —World Business Council for Sustainable Development, *Environmental Performance and Shareholder Value*

Some analysts have begun to explore these questions. A number of collaborative forums have been developed to promote discussion about the relationship of environmental and financial issues. In the spring of 1998, the New York Society of Security Analysts convened its first-ever seminar series on the environment, called "Uncovering Value: The Links between Environmental and Financial Performance."

Similar forums have been organized by the analytical communities in London and Zurich. Last year, the European Federation of Financial Analyst Societies published a guidance document for integrating environmental efficiency factors in financial analysis and formed a working group to continue to advise their members.

V. Fiduciary Responsibility in a New Light

An emerging view of fiduciary responsibility may be the dramatic new factor that compels attention to the business value of the environment. Traditionally, many pension fund managers and other fiduciaries have refrained from looking at environmental and social issues on the grounds that these are ethical or moral concerns. They have believed that they could not consider these issues because their legal responsibility is to maximize the return on the funds with which they have been entrusted.

This view of fiduciary responsibility has begun to change. One of the common arguments against socially responsible investing has been that the inclusion of non-financial investment criteria violates the ERISA definition of fiduciary responsibility. In recent years this argument has been eroded. Most significantly, the U.S. Department of Labor recently issued an opinion that a "socially responsible" mutual fund would not necessarily be inconsistent with fiduciary standards under ERISA.

As fund managers pay more attention to the positive results of considering environmental factors, a real opportunity exists for leading companies. As they begin to take steps to identify and communicate strategic business value from the environment, fund managers will have a new set of options and responsibilities. They will be able to view the environment and

good environmental management as opportunities to enhance return on investment rather than simply as ethical issues. This will begin to turn the fiduciary responsibility from a prohibition on considering environmental factors into a requirement. Pension fund managers will have to consider these issues to meet their legal obligations.

> "....the selection of a "socially responsible" mutual fund as either a plan investment or a designated investment alternative for an ERISA section 404(c) plan would not, in itself, be inconsistent with the fiduciary standards set forth in sections 403(c) and 404(a)(1) of ERISA."
>
> —Pension and Welfare Benefits Administration, Department of Labor, letter to Calvert Group Legal Counsel, May 28, 1998

With pension funds having $6.57 trillion in assets and major ownership in publicly held companies at the end of 1997, according to the Conference Board, this will be a significant change. Companies that recognize the strategic value of their environmental activities, and that can develop and communicate the data, can spur this change in fiduciary responsibility and will benefit from it.

VI. Conclusion

Both companies and investors truly have a new opportunity to realize financial value from strategic environmental considerations. This is not a silver bullet, either for improving a company's performance or enhancing the market's perception of its value; the importance of environmental factors relative to factors such as innovation and financial control as well as sovereign risk and interest rates will vary from sector to sector, from company to company, and even from time to time.

However, environmental issues such as global climate change, endocrine disruptors, biotechnology, and others are resulting in profound structural change in some industry sectors. Ignoring environmental drivers could mean missing an important element of competitive advantage, both in a company's planning and in its assessment by analysts and investors.

But to take advantage of this opportunity companies must do a much better job of uncovering the business value in their environmental performance, rigorously measuring the results of that performance, and communicating these results both internally and externally in language that the investment community understands. Savvy analysts and investors, armed with this information, will have a new analytical tool and a potential competitive advantage over others who do not take this strategic information into account. Further, as companies demon-

strate real bottom-line advantage from their environmental initiatives, a more comprehensive definition of the fiduciary responsibility of fund managers will begin to multiply investors' response to these advantages. Companies that act first to define the financial-environmental connections could have a profound influence on how the financial community interprets and acts on environmental information when assessing opportunities within a sector and when allocating assets between sectors. The long-term implications for a company's share price and cost of capital could be significant.

> Investments will always be bets but those who take environmental drivers into account, whether on the company side or on the capital side, will improve their odds. To paraphrase Damon Runyon: "The race may not always be to the environmentally swift, nor the battle to the environmentally strong, but that's the way to bet."
>
> —World Business Council for Sustainable Development, *Environmental Performance and Shareholder Value*

Appendix A: Additional Sources

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Appendix B: Participants

Dorothy P. Bowers
Vice President
Environmental Safety & Policy
Merck and Company, Inc.

Robert Brady, CFA
Managing Director & Portfolio Manager
Smith Barney Asset Management

David L. Broughton
Director, Total Cost Assessment
Monsanto Company

Linda Descano
Senior Vice President, Environmental Affairs
Salomon Smith Barney Inc

Ralph Earle
President
The Assabet Group

Michael Finnegan
Managing Director
Investment Banking Americas
JP Morgan

Stuart Hart
Associate Professor of Management
Kenan-Flager Business School
University of North Carolina

Sara Schreiner Kendall
Director
Environmental Affairs
Weyerhaeuser Company

Lisa Leff, CFA
Director & Portfolio Manager
Smith Barney Asset Management

John H. Lickerman
Director
Social Investment Research
CAMCO
The Calvert Group

Robert Massie
Executive Director
CERES

David Mayer
Director of Environmental Performance and Pollution Prevention
Georgia-Pacific Corporation

Vanda McMurtry
Senior Vice President
Aetna Inc.

David Monsma
President's Council on Sustainable Development

Jeffrey Noll
Corporate Finance Manager
Treasury Department
Niagara Mohawk Power Corporation

LeRoy C. Paddock
Minnesota Attorney General's Office

Donald J. Reed, CFA
Senior Associate
World Resources Institute

Gary D. Risner
Federal Environmental Regulatory Affairs Manager
Weyerhaeuser

Dawn Rittenhouse
Business Sustainability & Product Stewardship Leader
DuPont

Ken Scott
The Calvert Group

Martin A. Smith
Chief Environmental Scientist
Niagara Mohawk Power Corporation

Martin A. Spitzer
Executive Director
President's Council on Sustainable Development

William Sugar
Senior Director
Environmental Affairs
Anheuser-Busch Companies

Kenneth B. Sylvester
Director, Pension Policy
Office of the Comptroller
City of New York

Paul Tebo
Vice President
DuPont Safety, Health, Environment Excellence Center

Ariane van Buren
Director, Energy & Environment
Interfaith Center on Corporate Responsibility

Thomas W. Zosel
Manager
Pollution Prevention Programs
3M Corporation

Staff:

John A. Riggs
Executive Director
Program on Energy, the Environment, and the Economy
The Aspen Institute

Susan Wade
Associate Director
Program on Energy, the Environment and the Economy
The Aspen Institute