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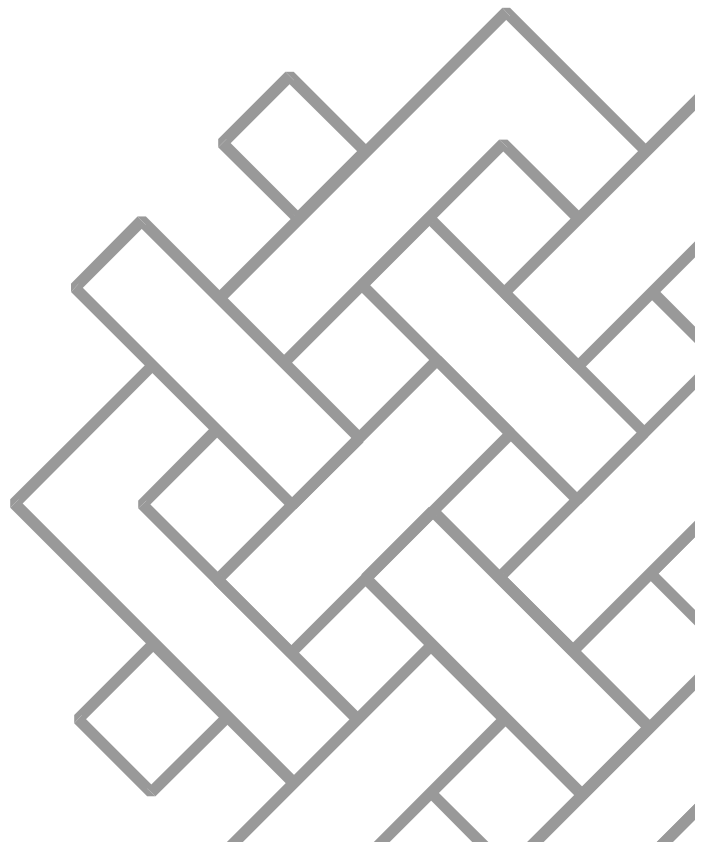
Green Shareholder Value, Hype or Hit?

BY

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**SUSTAINABLE ENTERPRISE
P E R S P E C T I V E S**

World Resources Institute



Introduction

Many companies and their consultants have recently tried to recast their environmental efforts in terms of benefits to shareholders. This represents a change in the role of corporate environmental functions from that of being a “green police officer” to being an integral part of the business. The focus on value creation is consistent with how a growing number of companies are thinking about environmental issues as a central part of their strategy. *Is all this talk of shareholder value real, or merely clever spin by environment, health and safety people?*

Environmentalists have long argued that green practices can make good business sense, and that shareholders should provide a broad reinforcement for environmental improvements. The hope is that investors will punish the environmental laggards because they destroy business value or miss opportunities, and reward those firms which have integrated environmental concepts into their core business strategies. *Is there evidence this integration of environment and shareholder value is happening?*

This *Sustainable Enterprise Perspectives* describes a state of play for how environmental strategies contribute to shareholder value and explores where this field might be headed. This piece is targeted at a corporate audience; investors have a slightly different vantage point on these issues. While there are noteworthy goings on in other financial areas such as bank lending and insurance, the focus here is on equity investment and firm value.¹

We start with three initial observations about the field of integrating environmental activities and shareholder value: first, mainstream investors and most

of the finance people within corporations are well behind their corporate strategy counterparts in understanding the connection between environmental and financial performance. Second, virtually all of the current corporate sustainable development activity focuses on environmental and not social issues. The final observation is that the field is nascent and subject to occasional exaggeration. Skepticism would well serve those who are following this topic.

This piece begins with a look at the descriptive and analytical work that has been done on relating environmental activities to shareholder value. We then turn to the early-stage activity on the investment side that has the potential to change how mainstream investors think about environmental issues. This formative work includes the development of new rating systems and new investment activities by a few vanguards in the finance industry.

I. Descriptive & Analytical Work

A. Describing the Connection Between Environmental Strategies and Financial Value

World Resources Institute (WRI) defines “environmental strategies” as business strategies in which environmental improvement is either an explicit objective or a necessary outcome. Our experience working with companies has led us to the conclusion that a focus on strategy and the value of those strategies is critical. There is a wealth of literature giving anecdotes of positive

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financial outcomes from corporate environmental activities.² While this literature may be useful in building the business case for improved environmental performance, it does not clarify the value of any specific strategy at a particular company.

A growing set of literature focuses on the ways in which environmental strategies can impact the financial fundamentals of companies in the abstract.³ This is an approach that generalizes about the strategies and meshes well with the economic profit measures, such as Economic Value Added (EVA),⁴ which have become quite popular in corporate America. The technique, however, lumps environmental strategies together and misses critical parts of equity valuation that are hard to obtain from financial fundamentals and earnings estimates, such as sustainable competitive advantage and quality of management. We offer the following framework as an alternative. It focuses on the effect of specific environmental strategies on financial fundamentals and other core concepts in equity valuation.

An Environmental Strategy Framework

Many observers think of the environmental performance of a company as a



FIGURE 1: 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 Market Redefinition
Focus	Compliance	Efficiency	Innovation Value Chain	Innovation
Main Financial Impacts	Reduces Earnings Reduces Risks Can Open New Markets	Increases Margins Reduces Risks Often Uses Less Capital & Increases Return on Equity	Increases Competitive Advantage	Increases Revenues Increases Competitive Advantage Diversification
Barriers to Integration	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

easily respond to future regulatory changes and potentially to enter restricted markets based on its reputation as a good citizen.

The second set of strategies involves Process Changes that reduce the environmental impact of producing goods and services. The objective in this strategy is to improve efficiency while reducing costs and future liabilities. While most examples and even the language itself raise images of industrial companies, service companies can also alter their processes to reduce their environmental impacts and lower costs. For example, retailers such as the Gap which have reduced the energy use of their stores while maintaining or improving their “atmosphere,” have made a process change.

single topic. In fact, it is really the product of several different types of management choices, each with its own set of financial implications and each presenting specific barriers which can prevent financial analysts from integrating these considerations fully into their valuations. Thus, it is helpful to start at the firm level with an understanding of how companies are actually implementing environmental strategies. We have developed a framework that many corporate executives have found helpful in understanding and communicating these different strategies, and that provides a solid platform from which to sort through the related financial issues. This framework is a four-level model depicted in Figure 1.

In the Franchise Protection strategies, businesses focus on protecting their franchise and preserving their right to operate. This used to require only compliance with regulations, but increasingly mere compliance is insufficient by itself to protect the franchise because the range of powerful threats to franchises has expanded. Shell’s experience with Brent Spar provided a highly-visible example. Franchise protection strategies are most often seen as a necessary cost of doing business, which reduce returns, but protect the value of assets including intangibles such as brands. Of course, consistent compliance also has the benefit of reducing risk. Going beyond minimum compliance positions the company to more

Managers have learned that preventing pollution and reducing waste is cheaper than cleaning it up. Much of what has been popularized under the heading of “eco-efficiency” involves operational changes that go beyond basic pollution prevention to minimizing throughputs of energy and materials. This increases margins, reduces working capital expenses, reduces operating risk and can even increase labor productivity. These strategies often require only modest capital investment, so they frequently also increase return on equity.

So far, the financial impacts discussed appear to be within the ordinary scope of fundamental financial analysis. There are, however, two factors that



create minor difficulties for analysts at this stage: 1) even within firms that profess to be eco-efficient, the use of these process improvements varies greatly across strategic business units; and, 2) operational changes tend to yield many small earnings improve-

The drive to improve products involves dramatically increasing the service content of the offerings, locking customers into the relationship by raising their switching costs, and building customer loyalty.

ments that don't appear significant until aggregated. One company, Baxter International, has responded to this challenge. This medical-products maker has carefully documented the net earnings impact of its process improvements resulting from their environmental efforts and publicly disclosed them in its annual environmental report. For 1996, the most recent year available, Baxter International reported a net earnings contribution from environmental activities of over \$100 million, the equivalent of 12.7% of the company's earnings for that year.

One difficulty encountered by financial analysts at this point is that many valuation techniques do not treat risk as a quantified variable. For example, comparative techniques, such as relative price-to-earnings and other fundamental ratios, do not easily account for the differences in risk among stocks being considered. This certainly does not mean risk is unimportant; it merely means that analysts using comparative techniques incorporate risk factors as

a qualitative step after applying quantitative models. This approach makes it difficult to quantify the valuation impact of reduced risk from superior environmental performance.

Relatively few large U.S. corporations have taken the concepts of environmental improvement much beyond this stage of process changes. Eco-efficiency, however, can be a broader agenda that goes beyond improvement in operations to include changes in products that involve both suppliers and customers. This moves into the third strategy, Product

Changes, which focuses on product stewardship driven by the desire to increase market share and pricing power by building loyalty and reputation among both customers and suppliers. Firms understand the life cycle impacts of their products and all that goes into their production. This knowledge can drive efforts to increase the reuse or recycling of their product, extend product life, and reduce product impact during use. The benefits of these strategies are that they can produce sustainable competitive advantage. One of the best examples of this strategy is Xerox's Asset Recycling Management (ARM) program which involves both designing copiers so that certain key parts are reusable, and offering customers a rebate if they turn in their old copier in exchange for a new one. In strategic terms, this raises the customers' costs of switching to a new vendor.

The fourth category of environmental strategies is the wide-open realm of developing entirely new products and new markets based on environmental

improvement as the source of insight. Here, firms redefine their entire businesses by creatively answering the question, "what business do we want to be in?" A good example is Monsanto's decision to exit most of its chemicals businesses through the spin-off of Solutia in favor of becoming a life sciences company. This choice about which markets to compete in has had a direct bearing on the overall exposure of the company to environmental risks. In what is perhaps a more striking example of applying environmental insight into new product development, Monsanto has formed a Sustainable Development unit that is focused on using the company's core technologies to address issues such as potable water in emerging countries.

In fact, the line between Product Changes and New Market Development is not always distinct. In a number of instances, the drive to improve products involves dramatically increasing the service content of the offerings, locking customers into the relationship by raising their switching costs, and building customer loyalty. The result could be seen as either an evolution of the product or as a new product. The impact of this environmental strategy is increased competitive advantage. An example of this strategy is the changing relationship between Ford in the UK and its paint supplier, DuPont. In their old business relationship, DuPont was paid based on the volume of paint used and had no incentive to help the customer use less of their product. Under revised business terms, DuPont is compensated based on the number of cars painted and has helped their customer dramatically reduce the amount of paint required per vehicle and the associated environmental impact.

Product Changes and New Market



Development strategies take the analyst out of the relatively straightforward evaluation of the impact on earnings and risk, and into the realm of competitive advantage assessment. While equity analysts certainly pay attention to this big picture, their real world is heavily focused on translating all that they know about a company into projected future earnings, a notoriously difficult and inaccurate process for even the best analysts. This speaks to the limitations of many traditional equity valuation techniques. While equity analysts understand sustainable competitive advantage, their methods for quantifying the value of those advantages are limited.

B. Statistical Studies

Most big changes in financial thinking and practices have their beginning in theory and validating research. The descriptive framework in the previous section constitutes the theory about the relationships between environmental strategies and shareholder value. There's been a boom in the validating research on the relationship between environmental and financial performance,⁵ which falls into four broad categories: event studies, regression analysis, model portfolios, and the addition of environmental variables to existing valuation models.

Event studies are a classic research technique that compares the financial performance of particular stocks relative to that of the market after the announcement of news about the company's environmental performance or regulatory position. The unsurprising results are that the market penalizes companies disclosing

negative environmental news and rewards those receiving good news. Event studies were originally developed to answer the question, "does the market care about this?" While this technique can capture the reaction of the market to specific environmental events, it does not reveal much about the value of long-term environmental performance overall.

The second category of statistical work is regression studies that explore the statistical correlation between environmental and financial performance. The approach is to use quantifiable measures of environmental performance for specific companies and to look for correlation with the financial performance over a large universe of companies over time. The question these studies try to determine is whether or not a correlation exists. Overall, these various studies use different methodologies, but reach the same overall conclusion that there is a small but statistically significant positive correlation between finan-

There is no reason to believe that environmental performance is an equal driver of value across all sectors and industries.

cial and environmental performance, although it may vary significantly by type of industry and environmental performance measure used.⁶

A third category of research uses the same data as the regressions, but applies the measures to screen out companies with poor environmental performance. The resulting portfolios are compared to unscreened portfolios. Model portfolio research is difficult to evaluate because even small changes

in the screens applied can have a large impact on the results. The question these studies try to answer is: Do the screens applied in traditional socially responsible investing necessarily limit returns? The general conclusion is that they do not, although there are some variations in the results. More importantly, a number of these studies have found that environmentally screened portfolios actually outperformed unscreened ones, with varying degrees of statistical certainty.⁷

The fourth category takes an existing model of valuation and adds environmental variables to see if they increase the explanatory power of the model. Only a single study we know of employs this approach, which asks what we believe is the most appropriate question: What does environmental performance tell us that we don't already know about financial performance? The study concludes that variables for environmental performance and the quality of the environmental management system both add value to a model of risk for stocks.⁸

All of the above analyses suffer from problems in the quality of environmental data used. Much of the publicly reported data is of fairly low quality and has substantial gaps. More importantly, no one really believes that the environmental performance of a firm is adequately captured by the publicly-available data such as release of toxics (TRI), spills and EPA enforcement actions, but researchers have used these data sets because they were available. In some studies, the environmental data used is proprietary, and thus the results are not reproducible by other researchers, a common standard for accepting results.⁹ The development of standard-



ized environmental reporting such as the Global Reporting Initiative (see *Sustainable Enterprise Perspectives*, May 1998) should eventually provide higher quality data that is reasonably comparable across companies.

The critique of these studies goes beyond the lack of good data to characterize the environmental performance of firms. We believe the question has not been properly framed in much of this research. Does it really make sense to look for a broad statistical correlation across a range of industries over time?

There is no reason to believe that environmental performance is an equal driver of value across all sectors and industries. Nor is it reasonable to lump all environmental strategies together. These approaches, which group dissimilar characteristics together and then look for relationships, run counter to what WRI has learned from companies about why they are pursuing these strategies in the first place: They aren't merely being green; they're being green because specific environmental actions make good business sense.

In addition, none of the studies are forward looking in that the environmental measures reflect how well positioned the company is to deal with environmental opportunities and challenges in the future. Instead, they use old data on historical performance that is both incomplete and limited to narrow aspects of environmental performance. Of course, shareholders are necessarily forward looking and interested in broad future opportunities.

The appropriate question for mainstream investors is not: 1) do investors care about critical environmental events? Clearly they do. Nor is it 2) do investors have to sacrifice returns

in order to limit the universe of possible companies in which to invest to those with decent environmental records? They do not. Nor is it 3) is there a statistical relationship between environmental and financial performance? There appears to be a positive one, but the vast majority of equity money is managed using investment styles that are not built primarily around statistical relationships. **The meaningful question today is 4) does an understanding of a company's environmental and social strategies and positioning add a useful insight to what investors already know about selecting stocks?**

While we are critical of most of the research in the field, don't lose sight of the important point that it all tends to say the same thing: there is no evidence that environmental excellence hurts shareholder returns *and* there appears to be a moderate positive relationship between environmental and financial performance. This point has inspired a few in the investment community to develop financial products that incorporate the environmental-financial connection.

II. Early Stage Investment Activity

If one can fairly judge the level of activity by the number of initiatives, then the action on environmental contribution to shareholder value is hot and heavy. We won't catalog all the separate forums on the topic, but will discuss two areas in which there have been potentially significant developments in

FIGURE 2
Number of Corporate Environmental Rating Systems by Category

Single Issue Systems	2
Liability Systems	6
Eco-Efficiency Systems	2
Strategic Systems	15
With Enviro-Ethical Dimensions	8

(Source: European Environmental Agency)

the private sector. The first is the emergence of information providers that distribute either data or ratings of the environmental performance of companies. The second is a relatively new style of money management that uses environmental performance as an indicator of superior investment performance.

A. Rating Systems

While there is little persuasive evidence mainstream investors are paying particular attention to environmental issues, a hardy group of entrepreneurs, academics and not-for-profits are offering investors specific information about various aspects of companies' environmental performance. In fact a study by the European Environmental Agency¹⁰ identified several dozen different rating systems (see Figure 2).

Clearly, only a few of these systems will find commercial value among mainstream investors. Several rating systems are targeted towards socially responsible investors. What is probably more interesting to a corporate audience is the type of criteria these various ratings organizations use (see Figure 3).

Based on the previous discussion of how to conceptually relate environ-



mental performance to shareholder value, the key criteria for evaluating a rating system should be the degree to which it is: 1) forward looking, 2) based on industry-specific value drivers (as opposed to generic data), 3) transparent and easily understood, and 4) capable of adding value to existing valuation methods for the relevant industry group. None of the rating systems we are familiar with meets all these criteria.

B. Eco-Efficiency Funds

Some argue that socially responsible investing (SRI) is a significant force in helping companies recognize shareholder value from environmental strategies. The traditional approach to SRI is to screen out companies which are undesirable because of their core business (tobacco, defense), their product mix (utilities with nuclear power plants), or social and environmental performance. Once these “bad actors” are removed from the investment universe, portfolio managers typically

pick stocks conventionally. In fact, in many of the largest SRI operations in the US, the functions of screening out stocks and picking stocks for investment are done by separate organizations.

Recently, a new breed of fund has emerged that takes an approach that is qualitatively different from that of standard SRI. These funds¹¹ use superior environmental (and in a few cases social) performance as a central criteria for picking stocks, rather than as a screening tool. These portfolios are typically filled with large cap stocks and a few innovators. Most of these funds use one of the ratings systems mentioned above as the means for evaluating the environmental performance of the companies. There are several interesting aspects to these funds. First, most are offered by conventional asset management institutions, not SRI specialists (e.g. Union Bank of Switzerland, Scudder Kemper, Storebrand, and Credit Suisse). Second, the early performance by several

of these funds has been impressive. While these funds remain small, the combination of these factors suggests the possibility that mainstream portfolio managers may see using environmental characteristics as possible selection criteria.

While a detailed analysis of the performance of these new funds is beyond the scope of this overview, we have included informa-

tion on the top equity holdings, countries and industries in which the fund is over- or under-weighted relative to its benchmark, and performance on two specific funds. While the approaches for evaluating environmental performance do not appear to be vastly different, the portfolios certainly are. At least as of this reporting period, Sustainable Performance Group appears to be placing a much greater emphasis on smaller, more innovative companies.

III. Around the Corner

So where is all this headed? We see four major areas that will be the focus of future activity.

A. Causality

The research consistently shows a positive relationship between environmental and financial performance. The rationale for why this is true includes the arguments for how environmental strategies lead to improved financial performance. An adjacent argument is that environmental performance merely reflects “good management.” A variation is that more profitable companies have more money and flexibility to devote to environmental efforts. All this begs the question of causality. Can anyone demonstrate statistically that good environmental performance causes good financial performance? Not yet, but this is the next area for new research. The closest anyone has come is to note that there appears to be a lag between improved environmental performance and improved financial performance.¹²

B. Integrating Social Performance

For most companies, the drive for en-

FIGURE 3

Sample Criteria Used by Comprehensive Corporate Rating Systems

- Greenhouse Gas Emissions
- Material Efficiency
- Toxic Releases
- Spills
- Energy Intensity
- Water Use
- Environmental Liabilities
- Quality of Environmental Management Systems
- Regulatory Compliance
- Hazardous Waste Generation
- Industry Environmental Risks
- Performance Improvement
- Strategic Opportunities from Environmental Drivers



FIGURE 4: Eco-Efficiency Funds

Storebrand Scudder Environmental Value Fund

<u>Top 5 Equity Holdings</u>	<u>% of Portfolio (12/31/97)</u>		
National Grid	2.93%	UK	Electric Utility
UNUM	2.87%	US	Insurance
MBIA	2.76%	US	Insurance
Exel	2.47%	USVI	Insurance
Bayerische Vereinsbank	2.33%	Germany	Commercial Bank

Underweight: US, Japan

Overweight: Germany, Switzerland, Financial Services, Chemicals

<u>Performance Benchmark:</u>	<u>Total Return</u>	<u>Relative to Benchmark</u>
<i>(MSCI-World Index)</i>		
1998 through May	17.1%	+3.1%
Since Inception (6/96) Annualized	29.8%	+5.0%

Sustainable Performance Group

<u>Top 5 Equity Holdings</u>	<u>% of Portfolio (3/30/98)</u>		
Whole Foods Market	8.1%	US	Foods
Ballard Power Systems	6.3%	Canada	Fuel Cells
Swiss Re	5.8%	Switz.	Insurance
BankAmerica	5.1%	US	Commercial Bank
ING Group	4.6%	Netherlands	Insurance

Underweight: Japan, UK, US (slight)

Overweight: Germany, Switzerland, Information Technology, Energy & Infrastructure, Early-Stage Companies

<u>Performance Benchmark:</u>	<u>Total Return</u>	<u>Relative to Benchmark</u>
<i>(MSCI-World Index)</i>		
1998 through March	19.7%	+1.6%
Since Inception (8/97) Annualized	18.7%	+8.6%

Environmental improvements is further along than efforts to integrate social issues into business strategy. Likewise, companies have done more to report their environmental results than they have their social impacts (see *Sustainable Enterprise Perspectives*, May 1998). Similarly, work on how socially-engaged companies outperform others is still in its infancy. There are studies, however, that lead the way. The

most significant shows that companies that are consistently successful and far outperform their peers tend to place a heavy emphasis on values, make long-term investments in employees, and pursue objectives other than profits.¹³

C. Scenario Analysis

One of the ways financial analysts might better understand the connections between environmental and financial

performance is through the use of scenario analysis. This technique involves postulating a diverse set of scenarios about the future and quantifying how different companies are positioned environmentally to deal with different possible futures. WRI Senior Fellow Robert Repetto is currently developing a scenario methodology using the forest products industry as an example.

D. Fiduciary Responsibility

Most institutional investors and investment advisors are legally bound to abide by a set of standards for investment decision-making. Originating in trust law, these standards say that those responsible for investing the assets of others have an obligation to engage in an investment process that is consistent with what a similarly situated prudent investor would use.¹⁴ This "prudent person" standard is joined by duties of loyalty and exclusive benefit, which essentially say that investment advisors managing money for others should focus only on what would be best for the beneficiary of the assets under management.

Many investors have interpreted this set of rules as preventing them from considering environmental issues when making investment decisions. The reasoning has been that environmental issues are a societal concern and not relevant to investment returns, and therefore, should not be considered. To do so would violate the duty of exclusive benefit. This has generally kept most U.S. pension funds from making socially responsible investments. It has also been invoked to block funds from



divesting out of tobacco companies and once, out of companies doing business in apartheid South Africa.

But consider the following jujitsu: 1) if the case is sufficiently strong that environmental performance and financial performance are linked, 2) then it would be imprudent **not** to consider a company's environmental performance when selecting an investment, and 3) environmental issues would move to the "other" side of the exclusive benefit rule and be considered part of the selection process that any prudent investor would ordinarily undertake. While this sounds farfetched now, it might not be so far off. Not so long ago, risky investments such as venture capital and even real estate were not ordinary parts of the portfolios of prudent pension funds. Then the "state-of-the-art" changed to understand the role these investments can play in large portfolios. Now, the average pension fund has nearly twenty percent of its portfolio in these once "forbidden fruits."

IV. So What?

We may be on the verge of something genuinely interesting here. There are several reasons to believe that the mainstream investment community could grow to understand environmental performance as a relatively important driver of shareholder value, at least in certain key industry groups. But the case for this happening is still mixed. Returning to the questions with which we started: Yes, it is real and not hype alone. Yes, the work-a-day world of investment is just beginning to respond.

While the majority of research points in this direction, most of it completely fails to address the key issues which could bring the bulk of mainstream investors to the table. Among the pri-

vate sector activities in this field, there is no evidence to date that the commercial efforts are any more than interesting innovations at the margin with little bearing on the \$14.3 trillion of assets in the hands of US institutional investors. 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.

More specifically, managers should understand the important details of how their company is valued in the marketplace and begin the process of gathering and organizing information about their environmental strategies as they relate to the valuation drivers. In a subsequent *Perspectives*, we'll give you more concrete steps for doing this illustrated with examples from your corporate peers.

For more information on WRI's work on green shareholder value, please contact Don Reed at 202-434-1987, or by e-mail at donr@wri.org. Watch for future Perspectives on partnerships, organizational change, strategic planning, green recruitment, and other related topics. We always welcome your comments and suggestions for improvement of the Perspectives series.

NOTES

¹For comprehensive sources on the activities of financial institutions of all types and environmental and social performance, see John Ganzi, *Corporate Environmental Performance as a Factor in Financial Industry Decisions*, U.S. Environmental Protection Agency, July 1998 and Delphi International & Ecologic GMBH, *The Role of Financial Institutions in Achieving Sustainable Development*, A Report to the European Commission (DG 11), November 1997.

² Among the best in this category is Jerald Blumberg, George Blum, Åge Korsvold, *Environmental Performance and Shareholder Value*, World Business Council for Sustainable Development, 1997.

³ Frank Figge and Stefan Schaltegger, *Environmental Shareholder Value*, WWZ/Sarasin Basic Report, March 1998.

⁴ Economic Value Added is a trademarked system of Stern, Stewart & Co. for measuring the economic profit — as opposed to accounting profit — of business units and whole companies.

⁵ For a fairly thorough overview of the body of research on this topic, see Roger Adams, "Linking Financial and Environmental Performance," *Environmental Accounting and Auditing Reporter*, Vol. 2, Issue 10. For a synopsis of this article and several others on the topic, see the web site of The Innovest Group (www.innovestgroup.com).

⁶ Scott D. Johnson, "An Analysis of the Relationship between Corporate Environmental and Economic Performance at the Level of the Firm," Doctoral Dissertation, University of California Irvine, 1995.

⁷ Studies finding superior performance of varying statistical significance in screened portfolios include Richard Clough, "Impact of an Environmental Screen on Portfolio Performance: A Comparative Analysis of S&P 500 Stock Returns," unpublished graduate thesis; Jonathan Snyder, CFA and Charles Collins, "The Performance Impact of an Environmental Screen," Winslow Management Company, 1993; and Laura Gottsman and Jon Kessler, "Smart Screened Investments: Environmentally-Screened Equity Funds that Perform Like Conventional Funds," US EPA, 1998.

⁸ Stanley Feldman, Peter Soyka, and Paul Ameer, "Does Improving a Firm's Environmental Management System and Environmental Performance Result in a Higher Stock Price?" ICF Kaiser Consulting, November 1996 and Stanley Feldman & Peter Soyka, "Capturing the Business Value of EH&S Excellence," *Corporate Environmental Strategy*, Winter 1997.

⁹ *Op. cit.* and the unpublished presentations of Matthew Keirnan, Innovest Group.

¹⁰ Åsa Skillius & Ulrika Wennberg, *Continuity, Credibility and Comparability: Key challenges for corporate environmental performance measurement and communication*, European Environmental Agency, February 1998.

¹¹ Examples include Storebrand Scudder Environmental Value Fund, Credit Suisse Equity Fund Eco-Efficiency, Sustainable Performance Group, SBC Eco Performance Portfolio - World Equities, SNS Asset Management's Return on Environment Fund, and Swedbank's Environmental Fund.

¹² Stuart Hart & Gautam Ahuja, "Does It Pay to be Green?: An Empirical Examination of the Relationship between Pollution Prevention and Firm Performance," paper, University of Michigan, 1994.

¹³ J. Collins & J. Porras, *Built to Last*, Century, Random House, 1995.

¹⁴ Bevis Longstreth, "The Prudent Man Rule Today — Variations on a Single Theme," *Modern Investment Management and the Prudent Man Rule*, Oxford University Press, 1987.

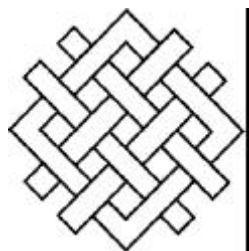


About WRI...

The World Resources Institute (WRI) is an independent center for policy research and technical assistance on global environmental and development issues. WRI's mission is to move human society to live in ways that protect Earth's environment and its capacity to provide for the needs and aspirations of current and future generations.

Because people are inspired by ideas, empowered by knowledge, and moved to change by greater understanding, the Institute provides—and helps other institutions provide—objective information and practical proposals for policy and institutional change that will foster environmentally sound, socially equitable development. WRI's particular concerns are with globally significant environmental problems and their interaction with economic development and social equity at all levels.

In all of its policy research and work with institutions, WRI tries to build bridges between ideas and action, meshing the insights of scientific research, economic and institutional analyses, and practical experience with the need for open and participatory decision-making.



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