



Clear Advantage:

Building Shareholder Value

ENVIRONMENT: VALUE TO THE INVESTOR



Preface

February 2004

The mission of the Global Environmental Management Initiative (GEMI) is to support business helping business improve environment, health and safety (EHS) performance, shareholder value, and corporate citizenship. GEMI has produced a series of tools that demonstrate how excellence in EHS can add shareholder value to companies. The GEMI "Value" journey began with *Environment: Value to Business* published in 1998 and continued with *Environment: Value to the Top Line* published in 2001.

The purpose of *Clear Advantage: Building Shareholder Value*, GEMI's latest tool in the series, is to enable businesses to measure, manage and communicate EHS value to the financial community or, in the words of Bob Brady, retired fund manager at Citigroup, to "*turn the intangibles into tangibles.*" EHS is among the intangible value drivers that are hidden sources of organizational power—from regulatory compliance that prevents liabilities, to proactively managing risk. Leveraging EHS resources can help create additional value for the enterprise through strategy execution, enhancing brand and reputation, boosting innovation and leadership.

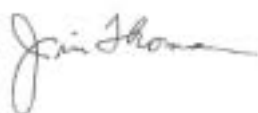
This tool is a resource and guide containing a variety of data and tools to assist managers in unlocking the value contained in activities they are required to perform but frequently regard as a cost of doing business—rather than as an opportunity to better position the enterprise with customers, investors and lenders, alliance

partners and current or prospective employees. Case studies from GEMI members help illustrate these opportunities.

Clear Advantage provides compelling evidence of the link between EHS activities and shareholder value. Because an enterprise's EHS function cuts across many areas of business, this report covers the EHS function as well as related organizational activities: community involvement, stakeholder relations, governance, transparency, and business continuity. In a climate of increased focus on corporate governance and shareholder activism, these issues will only increase in importance.

Utilizing the value drivers identified, this report will demonstrate that strengths in EHS can add value to the enterprise. Specifically, this report will show how companies can measure and disclose the strategic contributions of EHS to enhanced market valuation and identify EHS-related indicators that are linked to intangible value drivers.

The intended audiences for this tool are senior company executives, including CEOs, CFOs, and Investor Relations (IR) professionals; mainstream financial analysts and fund managers; and EHS and other managers. It can also provide members of the socially responsible investment communities with useful data, as well as guidance for EHS executives on how to better advise managements with whom they are engaged.



Jim Thomas, *Novartis Corporation*



John Harris, *Ashland Inc.*

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About The Global Environmental Management Initiative

The Global Environmental Management Initiative (GEMI) is a non-profit organization of leading companies dedicated to fostering environmental, health, and safety excellence and corporate citizenship worldwide. Through the collaborative efforts of its members, GEMI also promotes a worldwide business ethic for environmental, health and safety management and sustainable development through example and leadership.

The guidance included in this document is based on the professional judgment of the individual collaborators listed in the acknowledgements. The ideas in this document are those of the individual collaborators and not necessarily their organizations. Neither GEMI nor its consultants are responsible for any form of damage that may result from the application of the guidance contained in this document.

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Additional supporting information and resources, as well as an electronic version of this document, are available on the GEMI website, www.gemi.org.

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To succeed in today's global marketplace, companies must respond to the various market forces that demand sound Environment, Health and Safety (EHS) policies and practices. The more successful companies will also understand how these EHS policies contribute to shareholder value.

Experts have argued that, in effect, superior EHS performance is a proxy indicator for superior management capability. As such, it can effectively communicate an organization's ability to manage risk, reduce volatility, enhance transparency and build stakeholder trust.

Risk management, transparency and trust are organizational characteristics that markets value, although they do not appear directly on financial statements. A substantial body of evidence exists on how EHS practices contribute to the bottom line, including reductions in operating costs, insurance premiums, and capital costs. It is the contention of this document that EHS practices contribute to shareholder value in a broader and more strategic way: by building critical organizational capabilities. As such, the markets value a company's EHS performance every day, whether it contributes to that valuation exercise consciously or not.

Thinking about EHS as merely a cost of doing business is an opportunity lost. Organizations have much to gain from measuring, managing and disclosing the positive impact of EHS performance on shareholder value. Some of the facts, detailed below, suggest that investors, senior executives and analysts constitute a market for information related to EHS performance:

- 50 to 90% of a firm's market value can be attributed to intangibles like EHS.
- 35% of institutional investors' portfolio allocation decisions are based on intangibles like EHS performance.
- 81% of Global 500 executives rate EHS issues among the top ten driving value in their businesses.

This document provides a guide to communicating the value of EHS excellence. The document's goal is to show how companies can develop forward-looking tools focused on measuring the strategic contributions of EHS to enhanced market valuation.

Section 2, Making the Case, provides evidence to support the correlation between EHS performance and financial outcomes. It may be of greatest benefit to Investor Relations Officers (IROs).

Section 3, A Closer Look, provides ten important EHS-related value drivers and related case studies from GEMI member companies.

Section 4, From Concept to Practice, provides a methodology for EHS and IR colleagues to apply this new knowledge and engage with senior executives in order to effectively measure, manage and disclose the competitive advantage derived from superior EHS performance. Sections 3, 4 and the Appendices are likely to be of value to all managers and EHS professionals.

EHS Performance is Linked to Shareholder Value

The late 1990's and early 2000's were a turbulent period for the global investment community, with vast amounts of shareholder wealth being created and destroyed. Both institutional and retail investors have learned some painful lessons, re-examined their assumptions about what constitutes tangible and intangible value, and broadened their scope to consider characteristics that can lead to longer-term financial success.

One area of corporate performance that has begun to capture the attention of investment professionals is environmental, health and safety (EHS): a set of responsibilities that contributes directly to an organization's risk management profile and is sometimes also linked with "corporate responsibility" or "sustainability." This report explores the linkage between EHS performance and shareholder value creation. There is considerable evidence that EHS contributes to shareholder value in a variety of ways—not only through "tangible" contributions such as risk reduction and profitability improvements, but also through "intangibles" such as brand equity, human capital and strategy execution. In the words of one Chief Financial Officer (CFO):

"Every corporation is under intense pressure to create ever-increasing shareholder value. Enhancing environmental and social performance are enormous business opportunities to do just that."

Gary M. Pfeiffer,
Sr. Vice President & CFO, DuPont

EHS is an Intangible Driver of Market Value

In order to understand the full potential for EHS value creation, it is first necessary to clarify the concept of *intangible value drivers*. The investment community increasingly recognizes the importance of intangibles in the shareholder value equation. Leadership, strategy execution, brand, human capital and EHS performance are all currencies in today's marketplace. A report on the Intangibles Economy to the European Commission noted that:

"Intangibles such as R&D, proprietary know-how, intellectual property and workforce skills, world-class supply networks and brands are now the key drivers of wealth production while physical and financial assets are increasingly regarded as commodities."¹

The International Accounting Standards Board defines an intangible as an "identifiable, non-monetary asset without physical substance held for use in the production of goods or services, for rental to others or for administrative purposes."² This report adopts a broader view: "Intangibles" describes the human, intellectual, social and structural capital of an organization. Thus, intangibles include people, relationships, skills and ideas that add value but are not traditionally accounted for on the balance sheet.

According to the Organization for Economic Cooperation and Development (OECD), investment by public companies in intangibles such as brand, R&D and training has exceeded investment in tangibles like property, plant and equipment (PPE) since 1997.³

INTANGIBLE DRIVERS, OFTEN INCLUDING EHS, ACCOUNT FOR BETWEEN 50% AND 90% OF THE MARKET VALUE OF MOST FIRMS.³

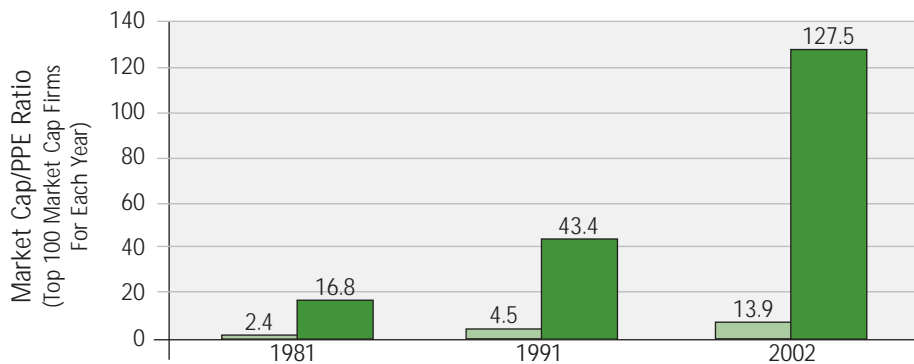


Figure 2-1

Market Cap v. PPE Over Time⁴

Legend:
■ Average
■ Maximum

Figure 2-1 shows, further, that a company's market value has increasingly become decoupled from PPE and has increasingly been far outweighing companies' tangible asset bases.

Research shows that non-financial performance accounts for up to 35% of institutional investors' portfolio allocation decisions.⁵ Further research in the U.S. and Europe demonstrates that between 50% and 90% of a company's market value can be explained by intangibles.⁶ Yet, a majority of executives in every industry studied believed that there were disconnects between the value drivers they felt were critical to the company's success and what was actually being measured and reported.

For the purposes of this report, a value driver is defined as *a fundamental and persistent characteristic of a business enterprise that influences its market value*. The report focuses on the role of EHS in strengthening these value drivers, with an emphasis on the importance of measuring and monitoring the links between EHS activities and outcomes of interest to Investor Relations.

Adding confidence to the importance of identifying key value drivers and assessing their contributions to shareholder value creation, a 1996 study entitled *Measures That Matter* established that the correlation between

intangibles and a company's price-to-earnings ratio varies according to industry. Figure 2-2 depicts how a one unit change in a score for each intangible can be related to both a short-term and a long-term percentage change in an industry's price-to-earnings ratio.⁷

How EHS-Related Intangibles Become Tangible Outcomes for Investors

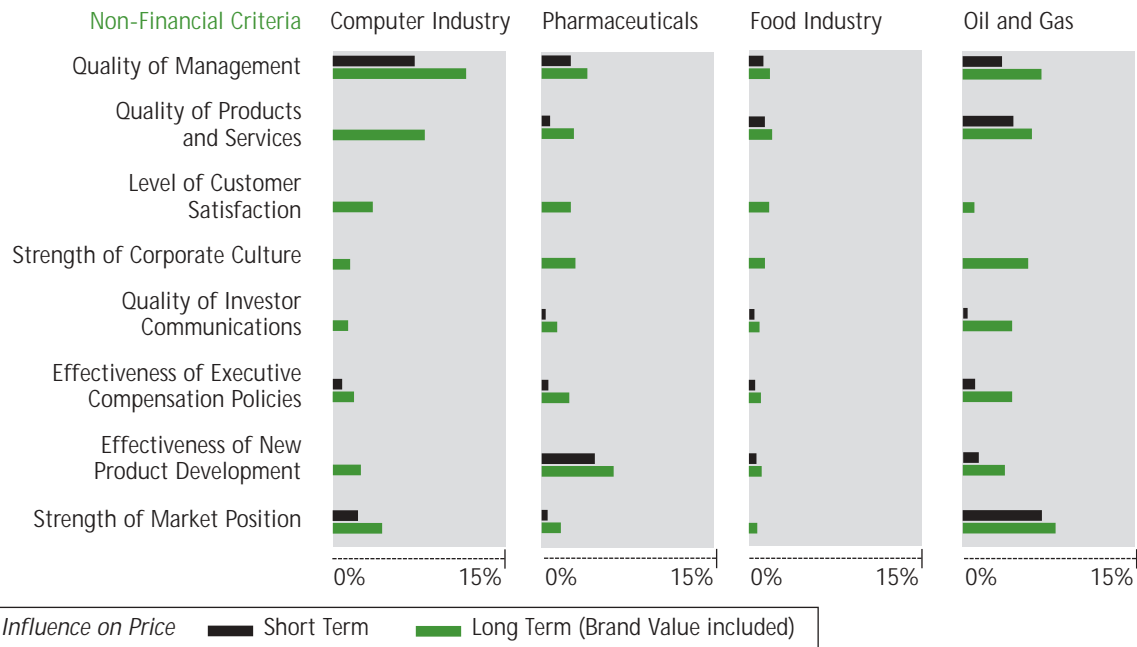
Past efforts to characterize EHS value contributions have focused largely on retrospective estimation of financial returns associated with EHS initiatives. That type of information may not be of interest to the investment community for several reasons:

- EHS financial returns are simply aggregated into common financial performance metrics (such as operating costs), and there is no benefit in singling out the relative contributions of specific departments.
- EHS contributions to the bottom line tend to be incremental in nature (such as converting wastes into by-products), and are generally seen as tactical rather than strategic.
- The more strategic contributions of EHS tend to be associated with non-financial value drivers, such as relationships and reputation, which provide a prospective, rather than retrospective, view of shareholder value.

35% OF INSTITUTIONAL INVESTORS' PORTFOLIO ALLOCATION DECISIONS ARE BASED ON INTANGIBLES LIKE EHS⁵

Figure 2-2

Relationship between Intangibles and P/E by Industry⁸



In contrast with past efforts, this report focuses on how improvements in EHS and social performance can strengthen a company's *intangible* assets in a number of ways that in turn lead to tangible shareholder value creation. The many pathways to shareholder value are illustrated in *Figure 2-3*; for example:

- Pro-active initiatives to address EHS issues can lead to new product innovation, development of new markets, and improved process technologies. For example, 3M and Bristol-Myers Squibb have incorporated product life cycle review into their new product development processes, resulting in faster times to market and reduced compliance burdens.
- Differentiation of a company through a reputation for corporate responsibility can enhance brand equity and strengthen its license to operate. For example, Dow and DuPont have been recognized as industry leaders through their initiatives to reduce air and water emissions in their global operations.

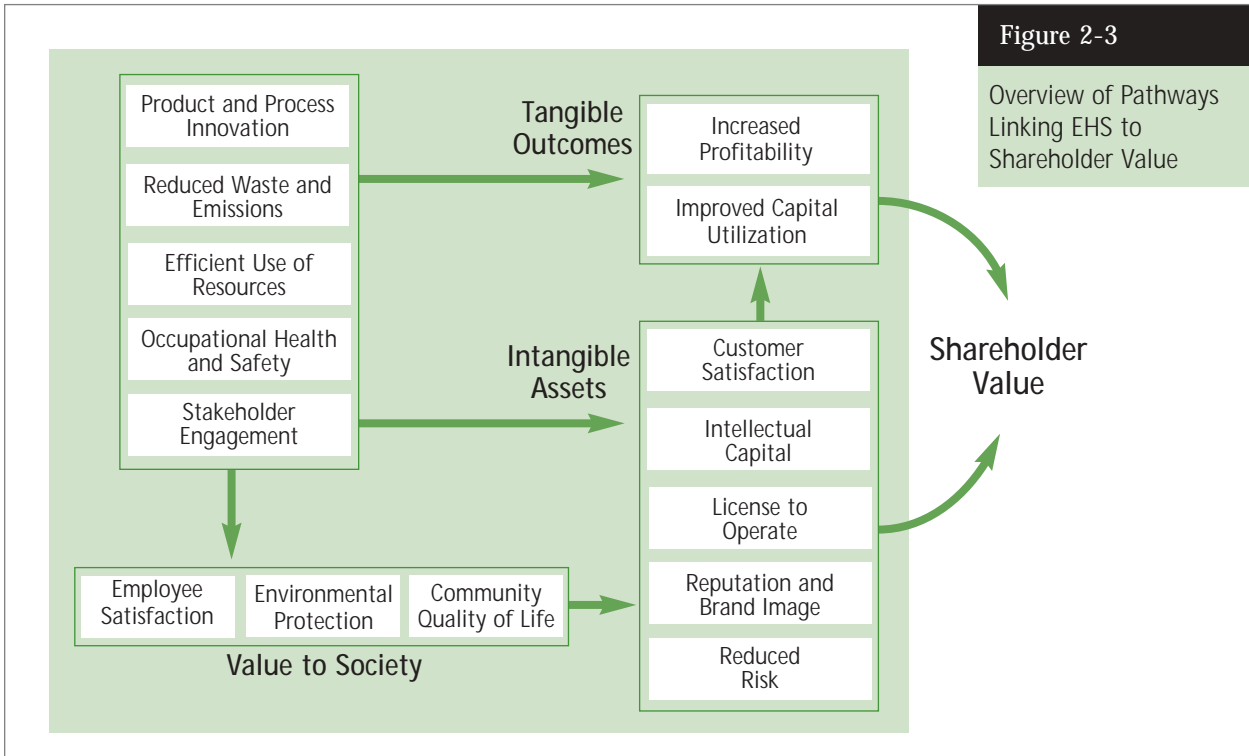
Corporate Initiatives Reflect the Demands of Global Capital Markets

The types of value creation opportunities cited above have existed for many years. Only recently, as a result of new forces in the business environment, has a broader awareness of these opportunities spread among leading multi-nationals, shareholders, regulatory bodies, non-governmental bodies and consortia. The evidence of growing interest in sustainability generally and EHS specifically is impressive.

- 68% of the 100 largest global companies issue EHS reports⁹
- 487 companies published corporate sustainability reports in 2001, up from 194 in 1995 and 7 in 1990¹⁰
- 81% of Global 500 executives surveyed rate EHS issues among the top ten value drivers for their business¹¹

These trends are partly attributable to increasing regulatory pressures, especially in

81% OF GLOBAL 500 EXECUTIVES SURVEYED RATE EHS ISSUES AMONG THE TOP TEN VALUE DRIVERS FOR THEIR BUSINESS¹¹



Europe. In April 2003, the New York Times reported that “the European Union is adopting environmental and consumer protection legislation that will go further in regulating corporate behavior than almost anything the United States government has enacted in decades.”¹² However, it has become clear that being proactive about EHS and sustainability makes good business sense. In the words of William Stavropoulos, CEO of The Dow Chemical Company:

“There is no question in my mind that business and the free enterprise system are essential to making sustainability work. Our focus at Dow is on hard-wiring it into our company in the same way we have fully institutionalized environment, health and safety into our culture and into our work and people processes. Our challenge is to make sustainability sustainable. Ultimately, the world will judge our commitment to sustainability not by what we say, but by what we do.”

Market demand for greater transparency, ethical behavior and corporate governance has led to an increase in voluntary disclosure, endorsed by the major exchanges in Europe

and the U.S, as well as greater scrutiny from major investors. In addition to customers, shareholders and employees, there is a broader collection of stakeholders that can influence the success of a business and are interested in EHS performance. These include: suppliers and business partners; regulators and government officials at the local, state and federal levels; neighboring communities; religious groups, advocacy groups and other NGOs; academic and research organizations; and, of course, the media. Many leading companies have established stakeholder outreach programs, often including extensive dialogue sessions and formation of external advisory panels. Some corporations have gone a step further by establishing formal alliances with specific environmental or public interest groups—see page 20 for an example of how FedEx Express is working with Environmental Defense’s Alliance for Environmental Innovation.

In short, EHS and social performance matter to stakeholders, whether it is diversity in the workforce to the labor markets, innovation and risk management to the capital markets, or pollution prevention to stakeholders in the

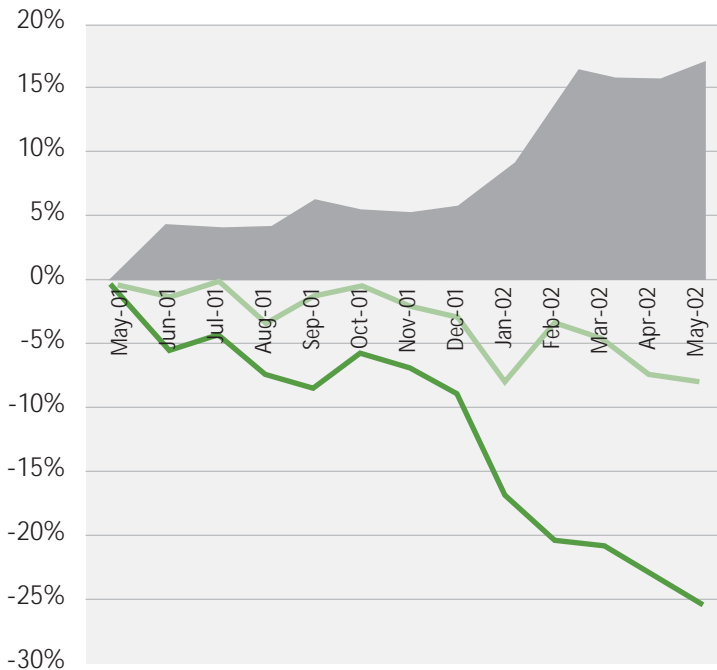


Figure 2-4

Analysis of Pharmaceutical Industry Stock Performance Based on EcoValue21® Rating Index¹³

Chart courtesy of Innovest

	May-01	Jun-01	July-01	Aug-01	Sept-01	Oct-01	Nov-01	Dec-01	Jan-02	Feb-02	Mar-02	Apr-02	May-02
■ Difference	0.0%	4.0%	3.7%	3.9%	7.1%	5.8%	5.2%	5.9%	9.0%	16.9%	16.5%	15.5%	17.2%
■ Top Half Average	0.0%	-1.4%	-0.2%	-3.5%	-1.5%	-0.8%	-2.3%	-3.0%	-8.3%	-3.5%	-4.7%	-7.7%	-8.2%
■ Bottom Half Average	0.0%	-5.4%	-3.9%	-7.4%	-8.6%	-6.6%	-7.5%	-8.9%	-17.2%	-20.4%	-21.2%	-23.3%	-25.4%

community. The growing environmental and social concerns of stakeholders present a unique opportunity for companies to better leverage their EHS capabilities. This will enable companies to both measure and manage the contribution of EHS and social performance to shareholder value.

A Growing Awareness in the Financial Community

Despite the surge of interest in EHS and sustainability, the majority of company financial officers, institutional investors and fund managers are reluctant to address environmental and social performance. However, a growing minority of investment professionals believes that it is worthwhile to consider the relationship between market value, EHS and social performance. In particular,

there is a heightened awareness of the contribution of non-financial performance to market value in such areas as corporate governance, transparency and business ethics.

EHS Excellence is an Indicator of Superior Management

Some analysts have argued that EHS performance is correlated with financial performance, and therefore that EHS excellence can be used as a proxy indicator for shareholder returns. The underlying logic is that effective management of EHS issues is a sign of good management, which drives good financial performance. For example, Innovest constructed an EHS management rating index called EcoValue21® as an investment analysis tool, and claims that it distinguishes companies with superior returns across a range of industries. *Figure 2-4* illustrates how, in the

VOTES RECEIVED IN FAVOR OF SHAREHOLDER RESOLUTIONS ON CORPORATE GOVERNANCE IN 2002 WERE TWICE THOSE RECEIVED IN 2001¹⁸

pharmaceutical industry, companies with above average ratings have outperformed companies with below average ratings by approximately 17 percentage points (1700 basis points) since May 2001.

Business Fundamentals go Beyond Audited Financials

The recent wave of accounting scandals in the U.S. has led investors and other corporate stakeholders to re-think their position on just what is "fundamental" to the valuation of a company. There is mounting evidence of the financial risks associated not only with corporate environmental liabilities, but of global problems such as climate change. Although analysts may not always speak the language of EHS and sustainability, Wall Street is gradually becoming aware of the importance of measurement and disclosure of non-financial elements of a business. For example, up to 86% of oil and gas industry analysts surveyed confirmed that company performance in regulatory compliance, employee health and safety, community service and lawsuits do indeed impact the value of a firm (see Figure 2-5).¹⁴

Concerns about global warming are also making some of Europe's largest insurance

companies keenly interested in greenhouse gas emissions. Insurers claim that in the next decade, the annual cost of global warming will rise to \$150 billion a year.¹⁵ In the absence of U.S. government mandates, several groups have formed, including the Energy Future Coalition and the Pew Business Environmental Leadership Council, to address the challenge of global warming. As financial executive Linda Descano of Citigroup noted,

"These issues are no longer environmental and social issues but are now recognized as strategic business issues."¹⁶

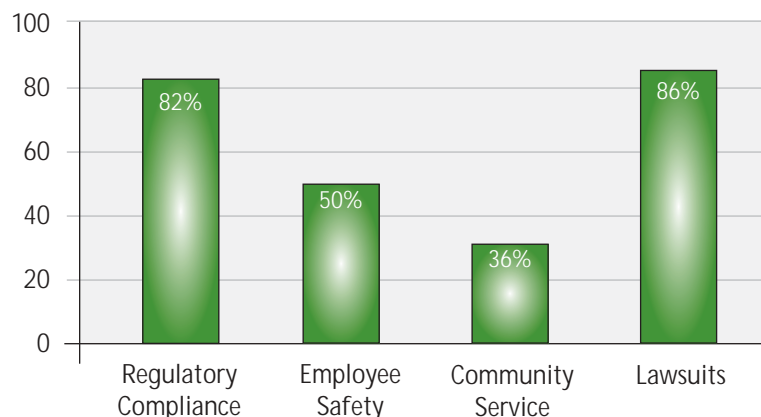
Shareholder Advocacy is Mounting

Shareholder advocacy interests have also focused on the issue of disclosure beyond that required by law. A recent report by the Rose Foundation provides a thorough review of the evidence linking environmental performance to financial performance, and recommends that fiduciaries of pension funds, foundations and charitable trusts should take active steps to encourage disclosure of environmental performance information.¹⁷

There is mounting evidence that shareholder advocacy can succeed through a variety of mechanisms—the formal shareholder proxy process, private dialogue, public dialogue using

Figure 2-5

Percent of oil and gas industry analysts who feel that selected EHS indicators impact the value of a firm.¹⁴



the media, or litigation as a last resort. The New York Times reports that "shareholders have filed 31 global warming resolutions with 23 companies in the United States in 2003 and 5 in Canada. The companies include auto manufacturers, electric power companies and oil companies."¹⁸ Over 800 resolutions were filed in 2002 concerning corporate governance issues. The votes received in favor of such resolutions were twice those received in 2001.

The stakes are increasing as multinationals in the finance community band together to support their arguments for EHS considerations in their finance portfolios. For example, ten leading banks from around the world announced in 2003 a set of voluntary guidelines called the "Equator Principles," whereby they intend to meet the International Finance Corporation's EHS guidelines in their projects in developing countries. This is an interesting and unprecedented expectation: banking clients must adhere to these principles, and this is relevant to *all* corporations. Principle #8 states that if a project goes out of environmental or social compliance, this constitutes grounds for a default on the loan.⁵⁵

In 2002, the Corporation of London, in partnership with international financial services firms, put forth a set of guidelines called The London Principles designed to elucidate "the role of financial services in sustainable development." Given that London has 58% of the global foreign equity market and is arguably, after New York, the most important financial center in the world, this document is extraordinary. In addition, the principles were endorsed by British Prime Minister Tony Blair.¹⁹

The Growth of Socially Responsible Investing (SRI)

There are now over 200 mutual funds, run by over 800 portfolio managers and analysts, dedicated to socially or environmentally responsible investing. In sum, socially screened portfolios are now more than \$2 *trillion*, over 10% of the \$19.9 trillion assets currently

under management in the U.S.²⁰ Different investment styles have emerged among funds using socially responsible, ethical or environmental criteria.²¹ The majority of the \$2 trillion figure consists of screened investments, but credible organizations in the past several years have been developing scoring and ranking tools that rate companies according to environmental, social and economic criteria. The Dow Jones Sustainability Index scores companies based largely upon their responses to extensive questionnaires,²² while the FTSE4Good Index analyzes EHS and social responsibility activities, with the stated intent of promoting a stronger business commitment.²³ These indexes have generally performed in line with or have outperformed the broader market averages.²⁴

Ten Intangible Value Drivers for Measuring EHS Performance

Identifying and improving upon a company's key value creation opportunities is only as useful as the ability to communicate these to interested stakeholders. To communicate more effectively the hidden value of EHS, the EHS community should adapt itself to the language and world-view of the investment community. In practice, the importance of specific EHS issues can vary greatly from company to company, and an EHS department needs to understand its company's business strategies and value drivers, and to develop its priorities accordingly. Effective communication between the EHS and the investor relations perspective can help focus on specific EHS value contributions in terms that are clear to investors.

The book *Invisible Advantage*²⁵ helps both individuals and companies better understand and communicate the profound degree to which intangibles are defining corporate value currently and revolutionizing the ways in which business is conducted. Key intangibles vary according to industry, but measures

related to management credibility, innovativeness, ability to attract talented employees and research leadership are consistently highly correlated with market value.²⁶ The GEMI EVI Work Group has identified ten intangible value drivers that reflect significant pathways for value creation through EHS and sustainability. These value drivers are listed in *Figure 2-6*, and form the basis for the subsequent sections of this report.

Utilizing these value drivers, this report demonstrates that (a) strengths in EHS and sustainability can add value to the enterprise, and (b) these strengths can be quantified in

the form of an index that is relevant to company valuation. Specifically, this report shows how companies can develop a forward-looking tool that focuses on measuring the strategic contributions of EHS and social performance to enhanced market valuation. The identification of EHS-related indicators that are linked to intangible value drivers is the subject of the next section.

Figure 2-6 The Measures that Matter

CUSTOMER	The ability to develop customer relationships, satisfaction and loyalty.
LEADERSHIP AND STRATEGY	Management capabilities, experience and leadership's vision for the future.
TRANSPARENCY	Does management communicate honestly and openly? Are its communications believed and trusted? Does it hold itself accountable?
BRAND EQUITY	Strength of market position. The ability to expand the market, perception of product/service quality and investor confidence.
ENVIRONMENTAL AND SOCIAL REPUTATION	How the company is viewed globally with regard to environmental concerns, community concerns, regulators' concerns, inclusion in "most admired company" lists and triple bottom line.
ALLIANCE AND NETWORKS	Supply chain relationships, strategic alliances, partnerships.
TECHNOLOGY AND PROCESSES	Strategy execution, IT capabilities, inventory management, turnaround times, flexibility, reengineering, quality, internal transparency.
HUMAN CAPITAL	Talent acquisition, workforce retention, employee relations, compensation, what makes a "great place to work."
INNOVATION	The R&D pipeline, effectiveness of new-product development, patents, know-how, business secrets.
RISK	The ability to effectively manage the balance between potential liabilities and potential opportunities.

Section 3

A CLOSER LOOK

This section describes and illustrates each of the 10 intangible value drivers listed in *Figure 2-6*, and suggests performance indicators that can be used to quantify their EHS aspects.

These are summarized in *Figure 3-1*. The next section presents a process for companies to identify, measure, communicate, and manage these drivers of shareholder value.

Figure 3-1

Indicators that Contribute to EHS Intangible Value Drivers

Value Driver	Sample Performance Indicators
CUSTOMER	<ul style="list-style-type: none"> • Customer satisfaction with EHS performance • Extent of customer relationships across product life cycle • Collaboration with customers on EHS solutions
LEADERSHIP AND STRATEGY	<ul style="list-style-type: none"> • Commitment to EHS/sustainability principles and goals • Articulation and execution of EHS strategy • Expression of diverse EHS views at Board level • Level of reporting for EHS function
TRANSPARENCY	<ul style="list-style-type: none"> • Disclosure of governance policies & procedures • Stakeholder engagement • Timeliness of communications • Quality and depth of EHS/sustainability reporting
BRAND EQUITY	<ul style="list-style-type: none"> • Perception of brand as environmentally and socially responsible • Value-added due to product stewardship • Presence in environmentally or socially-screened investment funds
ENVIRONMENTAL AND SOCIAL REPUTATION	<ul style="list-style-type: none"> • Regulatory compliance record • Third-party recognition and awards • Participation in EHS/sustainability consortia • Community development and philanthropy
ALLIANCES AND NETWORKS	<ul style="list-style-type: none"> • Collaboration on EHS/sustainability throughout the supply chain • Partnerships with EHS/sustainability-oriented organizations • Participation in industrial ecology networks
TECHNOLOGY AND PROCESSES	<ul style="list-style-type: none"> • Leadership in EHS/sustainability technologies & business practices • Design for EHS/sustainability processes and results • Energy and material conservation • Ecosystem impact minimization
HUMAN CAPITAL	<ul style="list-style-type: none"> • Workforce diversity, employee benefits and compensation • Employee rights and empowerment • Perception and awards as a "great place to work"
INNOVATION	<ul style="list-style-type: none"> • Leadership and patent position in EHS technologies • Cost savings through EHS/sustainability innovation • EHS-related product or service differentiation
RISK	<ul style="list-style-type: none"> • Inherent product or process hazards • Effectiveness of risk prevention and risk management • Effective response to challenges and opportunities.

CUSTOMER The ability to develop customer relationships, satisfaction, and loyalty

- Customer satisfaction with EHS performance
- Extent of customer relationships across product life cycle
- Collaboration with customers on EHS solutions

Meeting basic customer expectations is no longer sufficient. When competitors are an arms-reach or a “click away,” fostering solid customer relationships is essential. These relationships extend beyond the product or service transaction—many customers now expect environmental and social responsibility as well. For example, the U.S. Federal government, which purchases \$200 billion annually in goods and services, has adopted Comprehensive Procurement Guidelines that give preference to energy efficient, environmentally effective, and bio-based products. Many large manufacturers have adopted similar EHS procurement criteria. In the European Union, “green” purchasing is becoming more common among consumers, backed by a policy directive that promotes sustainable consumption through reduced consumer packaging and energy efficiency.

The Philippines as Satisfied Customer: Mirant Corporation

Mirant’s Philippine operations and involvement in the Philippine rural electrification program have earned the company many coveted

environmental performance and corporate citizenship awards. They have also been recognized as a top employer in the Philippines. These accomplishments and corporate commitment have helped sustain a positive working partnership with the Philippine government. In ensuring a license to operate through corporate citizenship, Mirant can be more certain of a license to grow in the market when additional investments are warranted.

Measures related to EHS performance in enhancing customer relationships include:

- Extent of disclosure of the environmental/ social impacts of products and processes
- Customer loyalty and price tolerance attributable to EHS differentiation
- Extent of customer relationships throughout the life cycle of the product
- Third-party feedback and customer satisfaction awards
- Collaboration with customers on EHS-related innovations or customer solutions.

Customer Satisfaction through Environmental Services: Ashland Inc.

Ashland Distribution Company, a division of Ashland Inc., offers a one-source, ‘closed-loop’ process to not only supply chemicals, plastics and other materials, but also to manage hazardous and non-hazardous waste streams for customers. Ashland’s Environmental Services group, leverages a value-added customer service from the in-house expertise and capabilities gained while handling these issues for Ashland’s own chemical businesses. It offers a range of processing

and treatment options, compliance assurance and industry-leading service throughout North America.

Key Intangibles:
Customer, Technology and Processes

Sample Leading Indicators:

- Customer cost of ownership for purchased chemicals
- Customer loyalty and retention
- Revenue from environmental management services

LEADERSHIP AND STRATEGY

Management capabilities, experience, vision for the future

- Commitment to EHS/sustainability principles and goals
- Articulation and execution of EHS strategy
- Expression of diverse EHS views at Board level
- Level of reporting for EHS function

*"Environmental protection is a complex undertaking, but the laws of nature are simple. We will provide leadership on the journey to an environmentally sustainable future, with efficient products and creative recycling systems."*²⁷

Carly Fiorina

Chairman and Chief Executive Officer, HP

The growing importance of transparency and corporate responsibility has made EHS and sustainability commitment an essential element of corporate leadership and governance. Chief Executives and Boards of Directors are increasingly sensitive to the expectations of shareholders, employees, and other stakeholders.

Measures of EHS performance relevant to leadership and strategy include:

- Commitment and policies with regard to EHS/sustainability principles and goals
- Effectiveness of management in articulation and execution of EHS strategy, including dialogue and engagement with external stakeholders (see [Transparency](#), page 13)
- Diversity and independence of the Board, including the number of outside Directors
- The level of reporting for the EHS/sustainability function.

Integrating EHS into Business Strategy: DuPont

One of the world's foremost proponents of integrating EHS issues into business strategy is Chad Holliday, CEO of DuPont, who served as chair of the World Business Council for Sustainable Development (WBCSD). DuPont no longer views EHS and social performance as separate thrusts, but instead has woven them into its three corporate strategic priorities:

- **Knowledge intensity** - creating products and services that deliver greater value to customers and shareholders with less physical mass
- **Productivity** - improving operating efficiency and capital utilization while reducing the supply chain environmental footprint
- **Integrated science** - seeking technological innovations that improve quality of life, e.g., by enhancing safety, recyclability, or nutrition.

DuPont has effectively bridged the communications gap between EHS performance and financial performance by emphasizing the contributions of EHS to key intangible value drivers, such as innovation and technology.

Key Intangibles:
Leadership and Strategy, Innovation

Sample Leading Indicators:

- Shareholder value added per pound of product
- Operating efficiency improvements attributable to eco-efficiency
- Percent of new products with differentiated EHS/sustainability features

COMMUNICATION AND TRANSPARENCY

Does management communicate honestly and openly?
Are its communications believed and trusted?
Does management hold itself accountable?

- Disclosure of governance policies and procedures
- Stakeholder engagement
- Timeliness of communications
- Quality and depth of EHS/Sustainability reporting

Effective communication can be the linchpin of corporate reputations; negative impacts can be dramatic when stakeholders are not given the information or ability to make an informed choice.²⁸ Transparency has become a critical business issue. The Sarbanes-Oxley Act is the legislative incarnation of the spotlight that investors, consumers, and employees now shine on the financial statements of a company.²⁹ GEMI holds NGO transparency workshops and is developing a new tool to address transparency challenges.³⁰

Indeed, companies may pay a price for *not* managing the disclosure of their information, given the ease with which consumers and regulators can now access information on corporate practices. When the Toxic Release Inventory (TRI), a U.S. EPA database of waste management activities, was first disclosed, shares of publicly-traded companies reporting data markedly declined in the short-term.³¹ The implication is that investors updated their expectations of future returns for high TRI companies. This feedback from the market prompted change: The firms with the largest decline in market value subsequently responded by reducing emissions more than their industry peers.³²

Companies stepping up to this demand for information disclose not only credible financial statements, but also their environmental and social policies and procedures. One recent study shows the relationship between companies that disclose more detailed information about their governance and higher shareholder return.³³ Though this correlation is not conclusive, it does underscore the validity of transparency in governance as a value driver.

Sample measures related to transparency and communication include:

- Disclosure of governance policies and procedures, including:
 - ◉ Disclosure of Director share ownership requirements
 - ◉ Issuance of reports, policies, guidelines, and procedures concerning EHS/Sustainability, dialogue meetings with stakeholders, disclosure of business process improvement initiatives
 - ◉ Stating how these policies relate to existing international standards
 - ◉ Tying executive and employee compensation to meeting or exceeding internal standards and guidelines
 - ◉ "Continuous" reporting or book-keeping; timeliness of financial and non-financial information disclosure beyond quarterly or annual filings
- Extent of stakeholder engagement and dialogue:
 - ◉ Number of community advisory panels at manufacturing sites
 - ◉ Cooperation or alliances with non-governmental organizations (NGOs)
 - ◉ Employee involvement in EHS/Sustainability policies and practices
- Timeliness of communications: e.g., responses to unplanned incidents or releases
- Quality and depth of EHS/Sustainability reporting:
 - ◉ Commitment to quantitative indicators and goals
 - ◉ Adherence to international reporting standards
 - ◉ Candidness about gaps and needed improvements

Transparency in Bioethics Policy: Bristol-Myers Squibb

Bristol-Myers Squibb (BMS), a global manufacturer of pharmaceuticals, recently recognized that an increasing number of clinical trials are being conducted in developing nations. In keeping with its social responsibility commitment, the company formed a Bioethics Committee and developed policies regarding ethical issues in clinical trials, such as readability of forms and informed consent on behalf of children or disadvantaged subjects. One important consideration is that clinical research should be done in a population that will derive benefit from that research, implying that the resulting products should be available to the patients in that region. Another example is the emerging area of protection of privacy in *pharmacogenetics*, which seeks to predict disease vulnerability or treatability in specific genetic groups. Since bioethics is an evolving area, the company continues to reconsider and refine its policies.

BMS was approached by the Calvert Group, a socially responsible investment firm, to learn more about its corporate responsibility and ethics programs. During a meeting between Calvert and BMS researchers, the bioethics policies were featured as an ethical research example. Calvert has lauded these policies as a pharmaceutical industry model. At their suggestion, rather than keeping its bioethics policies confidential, the company has decided to make them available upon request to interested stakeholders.

The transparency dialogue between Calvert and BMS supported Calvert's decision to include the company in the Calvert Social Index, which is used as a basis for inclusion into many of its mutual funds. As a result of its transparency and leadership in the area of ethical research policies, Bristol-Myers Squibb hopes to be recognized not only by the investment community, but also by the global populations that it serves. It is plausible to expect that governments, research institutions, and civil society will acknowledge the company as a trusted partner in the conduct of future clinical trials, and that this will translate into competitive advantage in growing international markets.

Key Intangibles:

Transparency, Environmental and Social Reputation

Sample Leading Indicators:

- Inclusion in socially responsible funds
- Penetration into international markets
- Clinical trials conducted in developing nations that will benefit from research

BRAND EQUITY

Strength of market position, the ability to expand the market, perception of product/service quality, investor confidence

- Perception of brand as environmentally and socially responsible
- Value-added due to product stewardship
- Presence in environmentally and socially-screened investment funds

Many GEMI companies (such as Coca-Cola, Intel and Johnson & Johnson) are household names, and there have been many attempts to calculate a monetary value of such brands. For example, these brand names consistently score high on Interbrand's annual ranking of the "World's Most Valuable Brands."³⁴ Some companies have successfully tied their brand to an environmentally-friendly image, and have leveraged this image to improve consumer awareness and customer loyalty.³⁵

Measures of brand equity that relate to EHS and sustainability include:

- Perception of the brand as environmentally and socially responsible—this can influence

customer loyalty, lender and investor scrutiny, cost of capital

- Value added due to product stewardship—the commitment of a company to support the safe and responsible use of its products throughout the life cycle
- Eco-labels and other certifications earned
- Inclusion of the company in environmental and social responsibility investor screens, such as Dow Jones Sustainability Index or FTSE4Good.

Sizing Up the Footprint: Hewlett-Packard (HP)

The merger of Hewlett-Packard (HP) and Compaq united two companies that had long pursued a commitment to EHS performance and sustainability. "HP strives to develop programs that reduce our environmental footprint, as well as those of our customers and partners," said Walt Rosenberg, Vice President, Corporate, Social and Environmental responsibility, HP Corporate Affairs. The company has incorporated "design for environment" methods into its product development processes and worked with suppliers to reduce EHS impacts associated with its products.

The EPA has awarded its 2003 Environmental Achievement Award for U.S. EPA Region 9 to HP's product recycling solutions facility in Roseville, California.

HP is the only technology company to have its own computer hardware recycling facilities in the

United States. With its partners, HP operates one of the world's largest hardware recycling facilities. HP's environmentally sound management of end-of-life hardware turns unwanted products into valuable commodities that can be reused to produce new products, reducing the burden on the Earth's resources.³⁶

Key Intangibles:

Brand Equity, Environmental and Social Reputation

Sample Leading Indicators:

- Reduction in emissions, waste, and energy consumption per product unit shipped
- Percent of product mass recovered and recycled at end-of-life

ENVIRONMENTAL AND SOCIAL REPUTATION

How the company is viewed globally in terms of environmental concerns, community concerns, regulators' concerns, inclusion in "most admired company" lists, triple bottom line

- Regulatory compliance record
- Third-party recognition and awards
- Participation in EHS/sustainability consortia
- Community development and philanthropy

A company's reputation for environmental and social responsibility can have an important impact on strategic issues, such as access to capital and global markets. While the primary negotiating levers for most businesses are based on economics, concern for EHS and sustainability can be a differentiator. Some host governments may even demand adherence to sustainable development principles as a price of entry. Measurement and reporting of EHS performance and corporate citizenship initiatives also help to build better relationships with stakeholders, especially at the local level.

Measures related to sustainability reputation include:³⁷

- Regulatory compliance record (e.g., violations, penalties, incidents), as well as shareholder activism and public criticism
- Third party recognition and awards for corporate citizenship or EHS excellence
- Participation in consortia that promote EHS and sustainability, such as GEMI or the World Business Council for Sustainable Development (WBSCD)
- Community development and philanthropy, including donations, local investments, and voluntary in-kind assistance.

Building a Reputation for Sustainability: 3M

3M has a strong commitment to sustainable development through environmental protection, social responsibility and economic progress. Its sustainability policies and practices are directly linked to its four fundamental corporate values:

- Satisfying its customers with superior quality and value
- Providing investors an attractive return through sustained, high-quality growth
- Respecting its social and physical environment
- Being a company that employees are proud to be part of

3M has been recognized as a sustainability leader by the Dow Jones Sustainability Index and has achieved high rankings for quality of management and innovation. The Harris Annual Reputation Survey ranked 3M as the tenth most reputable U.S. company in 2002. 3M believes that its sustainability reputation translates into shareholder

value by (a) demonstrating that 3M is a well-managed company that addresses both risks and opportunities, (b) enhancing brand preference amongst consumers, and (c) attracting and retaining a diverse and talented work force.

Key Intangibles:

Environmental and Social Reputation, Brand Equity, Human Capital

Sample Leading Indicators:

- Recognition as a sustainability leader by government, NGOs and business groups
- Inclusion in environmentally- or socially-screened funds
- Product preference by consumers

ALLIANCES AND NETWORKS

Supply chain relationships, strategic alliances, partnerships

- Collaboration on EHS/sustainability throughout the supply chain
- Partnerships with EHS/sustainability-oriented organizations
- Participation in industrial ecology networks

Businesses over the years have come to accept the claim that “to build a company or a capability without regard for the chain in which it is embedded is a recipe for disaster.”³⁸ Scrutinizing a company's supply chain with an EHS lens can reveal the choices and opportunities a company has to cost-effectively improve performance. Raw materials and new technological concepts, for example, may demand choices between higher-polluting or cleaner-burning energy sources. Materials sourcing can lie squarely in the scope among other strategic considerations. Manufacturers can choose product designs that are upgradeable, with the potential for customer lock-in with a service relationship.

The Global Brand With a Local Reach: The Coca-Cola Company

The network of local businesses that Coca-Cola has built is as impressive as its global brand. In over 200 countries, Coca-Cola operates with local partners. Even in geographies far from its world headquarters such as in the Middle East, Coca-Cola employs 20,000 people directly and 200,000 including retail and supply jobs.³⁹ Their products are produced, sold, and distributed by authorized local bottling partners, employing one million local citizens.

Zahi Khouri, chairman of the National Beverage Company, a Middle Eastern bottler that is 15 percent owned by Coca-Cola, said in an interview with *The Economist* that Coca-Cola strongly supports local management of operations in other countries.³⁹ Coca-Cola is the second biggest corporate investor in the West Bank region.

Measures that indicate leverage of EHS/sustainability in alliances and networks include:

- Collaboration on EHS/sustainability improvement through supply chain relationships, including outsourcing, collaborative innovation, and procurement policies.
- Extent of outsourcing (e.g., cost of goods, materials, and services purchased)
- Percentage of suppliers that meet or exceed voluntary environmental performance standards
- Extent to which supplies are sourced locally versus globally
- Number of alliances and joint ventures
- Explicit use of EHS and sustainability criteria in selection of suppliers and business partners
- Partnerships with EHS/sustainability-oriented organizations, including NGOs, governments or other groups
- Participation in industrial ecology networks, in which waste byproducts of one company become feedstocks for another company.

GEMI's Supply Chain project is documenting how collaborative relationships between suppliers and customers can improve overall supply chain performance from both a financial and EHS perspective. These types of opportunities are also being explored by the Suppliers Partnership for the Environment (SP), a recently established automotive industry consortium.

The Michigan Source Reduction Initiative (MSRI): The Dow Chemical Company

In April 1999, Dow Chemical completed a two-year collaborative program with the Natural Resources Defense Council (NRDC) and five local activist groups to voluntarily reduce waste and emissions at the Michigan Operations site. The project fostered broader efforts within Dow to shift from traditional environmental compliance to pollution prevention and further integrate EHS concerns into business decision making.

MSRI was a participatory process involving direct collaboration between Dow managers and environmental activists to first establish reduction targets and then agree on pollution prevention actions. A full-time external expert was also retained by Dow to help identify the greatest opportunities for waste minimization and emission reduction and to provide a credible technical resource for the MSRI participants.

Results:

- **Environmental**

The MSRI project set an aggressive goal of 35% reduction in waste and emissions. This goal was actually exceeded—targeted emissions were reduced by 43%, and targeted wastes by 37%. The total reductions achieved were over 10 million pounds per year of wastes and about 1.5 million pounds per year of air emissions, and some waste streams, such as formaldehyde, were virtually eliminated. Consequently the TRI emissions from the Midland, Michigan site for 1998 were 41% lower than 1997.

- **Economic**

The cost savings and process improvements that MSRI delivered were exemplary. The reductions will be paid for in less than one year, which translates to an overall rate of return of 180%—a savings of over \$5.4 million per year with a total one time capital expenditure of \$3.1 million. Dow was the first company to harness the Six Sigma methodology to directly improve EHS performance.

- **Social**

MSRI involved a multi-stakeholder, participatory endeavor that enabled community participants to gain an understanding of Dow's decision-making process, and helped to establish common ground. Relationships with all stakeholders involved in the project improved dramatically.

Key Intangibles:

Alliances and Networks, Transparency

Sample Leading Indicators:

- Measures of company's ability to prevent pollution at its source, versus the capital required for pollution control
- Measures of the amount and quality of various stakeholder dialogues
- Environmental gains and competitive advantage due to process modifications

TECHNOLOGY AND PROCESSES

Strategy execution; IT capabilities, inventory management, turnaround times, flexibility, reengineering, quality, internal transparency

- Leadership in EHS/sustainability technologies & business practices
- Design for EHS/sustainability processes and results
- Energy and material conservation
- Ecosystem impact minimization

The ability to exploit new practices is a critical element of sustained competitive advantage.⁴⁰

In the past few decades, companies have begun to introduce strategic frameworks and processes that take environmental costs and benefits into account.

Design for Environment (DfE)⁴¹ is one such tool, where environmental criteria are brought on board early in the product development stage. When combined with a Life Cycle Assessment (LCA), these tools can not only improve the environmental performance of a product during its use phase, but also simplify a product's end-of-life disassembly, reuse, recycling and disposal. Total cost assessment (TCA) has been another useful management tool since the late 1980's, and when combined with environmental considerations can give a candid picture of total costs and benefits (see Section 4 for further discussion on TCA).

Employing such tools at all levels of the organization takes a commitment either through the provision of information about the tool or process, or by employing incentives and compensation schemes. Companies that stand out as leaders in organizational technologies and processes will understand and quantify the benefits of such tools, and provide a combination of information and incentives to improve the measurable performance.⁴²

Measures of superior technology and process performance include:

- Leadership in EHS/sustainability technologies:
 - ◉ Investment in alternative energy, bio-based products, etc.
 - ◉ Adoption of sustainable process technologies

- Leadership in EHS/sustainability business practices:

- ◉ Speed and quality of EHS due diligence
- ◉ Incentives to develop "beyond compliance" processes and technologies

- Design for EHS/sustainability processes and results:

- ◉ Incorporation of EHS/sustainability criteria into product realization process
- ◉ Collaboration with suppliers on life cycle impact reduction

- ◉ Materials and energy use reduction in product and process design

- ◉ Reductions in pollution, greenhouse gas emissions, hazardous wastes, etc.

- ◉ Improvements in product upgradeability, longevity, re-usability, etc.

- ◉ Reduction in product maintenance requirements and cost of ownership

- Energy and material conservation:

- ◉ Initiatives to use renewable energy sources and to increase energy efficiency

- ◉ Percentage of the weight of products sold that is reclaimable at the end of the products' useful life and percentage that is actually reclaimed

- Ecosystem impact minimization:

- ◉ Brownfields re-development initiatives

- ◉ Land use policies and habitat restoration

- ◉ Ecological footprint reduction

Excellence in technology does not necessarily require leading-edge innovation. In many cases it simply involves applying available expertise and know-how to devise beneficial, cost-effective solutions. Moreover, technology does not refer only to the "hard" technologies associated with product design and process engineering; it also includes the "soft" technologies associated with business processes and decision-making.

Utilizing Advanced Technology: FedEx Express

FedEx Express, the Memphis, Tennessee-based company that invented the express package delivery market, has been upgrading its ground-based delivery operations. In May 2003, FedEx Express announced it had agreed to purchase 20 hybrid delivery trucks, the vanguard in a program that has the potential to eventually replace its fleet of 30,000 medium-duty express delivery vans. FedEx Express is the first U.S. company to adapt the technology for diesel delivery vehicles on such a large scale.

Hybrids, which combine a high-efficiency diesel or gas engine with an electric motor, have both financial and environmental advantages. They require less maintenance because they run cleaner, and the braking systems last longer because the motor itself helps to decelerate the vehicle while recapturing kinetic energy. Through a combination of fuel savings and lower maintenance costs, FedEx Express expects to recoup some of the higher acquisition costs of the hybrid vans. As production levels rise, these costs will come down (and savings increase). FedEx Express is working with Environmental Defense's Alliance for Environmental Innovation to develop the environmental performance specifications for the new vehicles.

The scale of FedEx Express' commitment is likely to transform the economics of hybrid commercial vehicles, potentially enabling them to be mass-produced and more affordable for smaller companies. Thus, FedEx Express is helping to jump-start a technology that could have widespread economic and environmental benefits. In a recent report, consumer consultant J.D. Power & Associates Inc. estimated there will be more than 500,000 hybrid vehicles on the road by 2008 with trucks accounting for 40% of that number.

Key Intangibles:

Technology and Processes, Innovation, Alliances and Networks

Sample Leading Indicators:

- Percent of fleet utilizing alternative engine technology
- Life cycle operating and maintenance costs per vehicle
- Energy consumption per vehicle mile

HUMAN CAPITAL

Talent acquisition, workforce retention, employee relations, compensation, what makes a "great place to work"

- Workforce diversity, employee benefits and compensation
- Employee rights and empowerment
- Perception and awards as a "great place to work"

In a service-oriented economy, human capital is critical to organizational success, whether a company is product or service-oriented. Researchers have begun to quantify, in various ways, the effects of investment in human capital. For example:

- A study of 405 public companies found that a well-managed workforce can add up to 30% to a company's market value.⁴³
- A study of 40 companies found those ranking in the top half for training expenditures per employee had higher net sales and higher gross profit per employee than those in the bottom half; they also had a higher and faster-growing market-to-book ratio.⁴⁴
- A study of 29 professional service firms in 15 countries indicated that raising employee satisfaction by 20% can boost financial performance more than 40%.⁴⁵

Measures of EHS contributions to human capital include:

- Workforce diversity, employee benefits and compensation:
 - ⊙ Composition of senior management and governance bodies, including female/male ratio and other indicators of diversity as culturally appropriate.
 - ⊙ Net employment creation and average turnover
 - ⊙ Employee benefits beyond those legally mandated
 - ⊙ Clear organizational goals, incentives and performance measures
- Employee rights and empowerment:
 - ⊙ Freedom of expression and tolerance for individuality
 - ⊙ Average training investment per employee per year
 - ⊙ Incentives for employee volunteerism, education and career development
 - ⊙ Culture of continuous improvement, including employee health and safety.
- Perception and awards as a "Great Place to Work."

Commitment to Employees: Intel Corporation

Intel was ranked number three in *Business Ethics* 2003 list of best corporate citizens. The magazine explains that ethics at Intel "include careful attention to employee safety—so much that CEO Craig Barrett insists he be sent an e-mail report within 24 hours any time one of his firm's 80,000 employees loses a single day of work to injury. 'This policy allows us to look at the root causes of all accidents and figure out what we can do to prevent them from occurring again,'" said Dave Stangis, Intel's Director of Corporate Responsibility. In 2000, Intel's worldwide injury rate was just 0.27

injuries per 100 employees, compared to an industry average of 6.7.

Key Intangibles:

Human Capital, Environmental and Social Reputation

Sample Leading Indicators:

- Awards and recognition
- Employee satisfaction surveys
- Employee health and safety statistics

INNOVATION The R&D pipeline, effectiveness of new-product development, patents, know-how, business secrets

- Leadership and patent position in EHS technologies
- Cost savings through EHS/sustainability innovation
- EHS-related product or service differentiation

Service, product and process innovations can all improve EHS performance as well as add overall value to a corporation. Devising innovative ways to meet or beat compliance targets may not only help reduce costs; it has also helped steer environmental regulation in a direction beneficial to producers as well as to social/environmental well-being.⁴⁶

Measures of EHS/sustainability contributions to innovation include:

- Leadership and patent position in EHS technologies:
 - ◉ Level of R&D investment in addressing regulatory requirements

- ◉ Licensing revenues from EHS technologies
- Cost savings through EHS/sustainability innovations, including operating costs, capital costs, service and support costs, or product takeback costs
- EHS-related product or service differentiation, e.g., ability to extract a higher margin.

Innovation and Environmental Benefits: Johnson Controls, Inc.

Johnson Controls, Inc. (JCI) is the world's largest manufacturer of automotive interiors and automobile batteries, and a global leader in control systems and commercial facility management. JCI has achieved growth through innovation, while remaining committed to its values, including integrity, customer satisfaction and EHS excellence.

JCI began decades ago to promote battery recycling and develop a reverse logistics infrastructure. Today, the recycling rate of battery lead exceeds 93%, far higher than any other commodity, and 48 states require lead-acid batteries to be recovered. In addition, lead and plastic process wastes are recycled for re-use in new batteries and other products such as X-ray shielding. Continuing innovations in battery technology include design for disassembly and development of higher voltage batteries to support electronic control systems that will improve fuel efficiency and reduce emissions in future vehicles.

As a leader in facility management, JCI focuses on making commercial buildings more energy efficient, safe, secure and comfortable. For example, in building control systems, JCI's mercury-free thermostats provide a competitive advantage in many applications (e.g., schools, hospitals). One important innovation was the Energy Saving Performance Contracting approach, in which energy efficiency upgrades are financed through JCI and repaid through energy savings. This approach is projected to achieve \$95 billion in energy savings and 1.3 billion tons of carbon dioxide emission reductions between 1990 and 2020.

Key Intangibles:
Innovation, Risk

Sample Leading Indicators:

- Energy/materials use per consumer product unit
- Competitive advantage in bidding for contracts
- Reduced cost of ownership and liability risks for customers

RISK The ability to effectively manage the balance between potential liabilities and potential opportunities

- Inherent product or process hazards
- Effectiveness of risk prevention and risk management
- Effective response to challenges and opportunities

Proactive investing in environmental measures beyond those required by law can be good for the bottom line, while limiting downside risk.⁴⁷ Damages and hefty litigation fees are incentive enough to manage proactively the risk of unplanned incidents such as spills, workplace accidents or product-related injuries. More importantly, such incidents may result in costly business interruptions as well as adverse publicity that can compromise brand equity and reputation.

Risk management also has a positive aspect—the ability of a firm to pursue promising business opportunities that involve uncertainty. A company that is able to rapidly and effectively discern potential obstacles or liabilities, e.g., through a due diligence process for acquisition of new assets, is better equipped to enhance long-term shareholder returns. Likewise, a company that exercises product stewardship, while advising customers and suppliers on how to minimize hazards in their own operations, enhances both its own risk profile and its perceived value as a business partner.

Insurance Companies Re-think Risk Profiles

Swiss Re believes that companies that have poor compliance records or are lacking in plans to mitigate climate change risks, are more likely to attract shareholder lawsuits. Accordingly, the insurance giant has stated that it may drop insurance for the directors and officers of those companies who may be specifically targeted by shareholders.

On the positive side, the effective risk management program of Occidental Petroleum Corporation has been recognized by insurance

companies, resulting in Occidental being offered access to additional insurance capacity at preferred rates.

Measures related to effectiveness in EHS/sustainability exposure and risk include:

- Intrinsic product and process hazards, such as presence of toxic constituents
- Effectiveness of risk prevention and risk management, including:
 - ⊙ Prevention of risks
 - Frequency of internal audits
 - Investment in meeting upcoming regulatory requirements
 - Accrued environmental liabilities, fines, warnings and penalties
 - Rate of worker days lost per 200,000 hours
 - ⊙ Mitigation of impacts
 - Crisis response and crisis management performance
 - Waste recovery and recycling programs, whether in compliance with or in addition to regulatory initiatives
 - Workers compensation case management costs
 - Costs of unplanned business interruptions
- Effective responses to challenges and opportunities:
 - ⊙ Proactive policies to address regulatory initiatives and consumer preferences, e.g., policies to prepare for climate change pressures, use of emissions trading schemes, product take-back regulations and consumer privacy issues
 - ⊙ Proactive experimentation with environmental technologies such as joint implementation, emissions trading, pollution-prevention technologies
 - ⊙ Corporate citizenship and stakeholder engagement initiatives

Assuring Business Continuity: Novartis

Novartis is one of the world's leading healthcare companies. The company has had a long history of risk management, using a variety of tools to assess risks associated with new projects and acquisitions, as well as ongoing operations. For example, Novartis sites are required to annually maintain a "risk portfolio," a matrix that screens various risks in terms of their potential impacts and level of control. This information is rolled up to the Group level, and is used to improve management awareness and support priority-setting in resource allocation.

Novartis has initiated a new program that addresses *business continuity* by assuring that all business interruption risks are properly anticipated and managed. Costly business interruptions can potentially be triggered by a variety of circumstances, from an unintentional release of hazardous materials to a failure of critical information systems. The Health, Safety and Environmental Department has the responsibility to develop a framework for assuring business continuity, including risk identification, contingency planning, crisis management and disaster recovery. In addition, looking beyond the fence line, Novartis has established a product stewardship program to anticipate potential risks associated with design, material acquisition, distribution and use of its products; for example, the company might choose to eliminate chemical constituents with undesirable properties.

Key Intangibles:

Risk, Environmental and Social Reputation

Sample Leading Indicators:

- Number of risks classified "high" for each business unit
- Percent completion of business continuity plans
- Percent of product stewardship risk analyses completed

Through identification of important EHS-related value drivers, companies can improve their competitive position and financial performance over the long run. However, EHS value contributions are not meaningful to the investor unless they are properly articulated and communicated.

Section 2 "Making the Case" and Section 3 "A Closer Look" are relevant for senior company executives, mainstream financial analysts or fund managers, and investor relations professionals. This section is intended as a practical primer for the EHS professional, working in collaboration with other corporate functions. This section, "From Concept to Practice" presents a step-by-step process for identifying, measuring, communicating and managing these value drivers. The intent of the process is to help EHS professionals and their companies gain recognition for EHS excellence from their own internal investor relations function, from the investment community and from other stakeholders.

Linkage Between EHS and IR

In its "Standards of Practice for Investor Relations," the National Investor Relations Institute (NIRI) defines Investor Relations as:

"... a strategic corporate marketing activity combining the disciplines of communications and finance that provides present and potential investors with an accurate portrayal of a company's performance and prospect...Marketing in this context does not mean 'selling' a company's securities, but rather a process of identifying target audiences and educating them about the present and potential value of those securities."

The NIRI document further notes that the importance of quality of management to investors suggests that those investors need to know whether management can articulate a vision and whether they have the resources to

accomplish that vision. To the extent that EHS excellence can logically be understood to be part of that vision, there is a clear role for EHS professionals to assist the Investor Relations Officer (IRO), the CFO and the company in achieving its goals.

The Clear Advantage Process

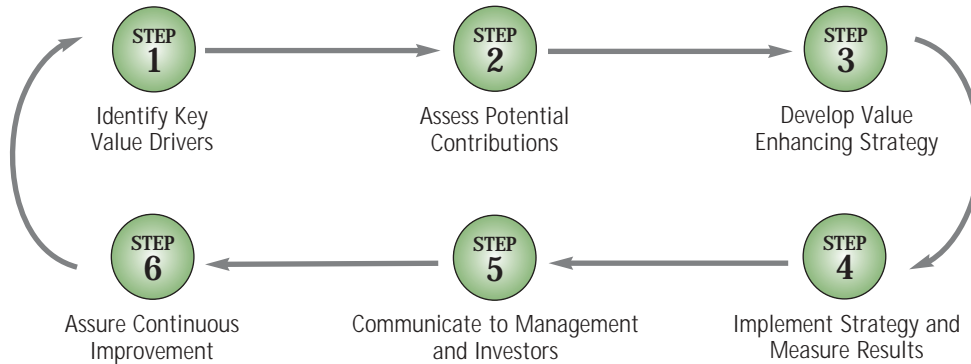
Communicating EHS excellence as part of a corporate vision requires a systematic process that enables companies to recognize and take advantage of opportunities for value creation. This section presents the *Clear Advantage* process that has been developed to address the needs of GEMI's participating member companies (see page II). The design of this *Clear Advantage* process is deliberately generic, so that it can be adapted by virtually any manufacturing or service enterprise.

The *Clear Advantage* process, depicted in *Figure 4-1*, consists of six cyclical steps, and follows the familiar pattern of "plan, do, check, act" that underlies most contemporary business process designs. Therefore, it will be simple for companies to incorporate the desirable features of *Clear Advantage* into their existing value creation processes.

It is recommended that the *Clear Advantage* process be carried out by a cross-functional "value creation team," under the guidance of an "EHS value champion." The value champion for this type of initiative is frequently from EHS management, although a champion from another senior management function (e.g., CFO) could yield wider acceptance and greater legitimacy. In addition to EHS and IR, other functions that may participate on this team include strategic planning, new product development, marketing, operations, finance, engineering and human resources.

Figure 4-1

The Clear Advantage Process



STEP 1 - Identify Key Value Drivers

Identification of value drivers is the starting point for any effort to enhance shareholder value. As described in Section 2 "Making the Case," a value driver is defined as *a fundamental and persistent characteristic of a business enterprise that influences its market value*. Authentic value drivers are *fundamental* in that they represent a strong, intrinsic characteristic of an enterprise. They are *persistent* in that they will have a lasting impact on value regardless of market fluctuations.

The nature and relative importance of these value drivers varies by industry, geography and economic setting. It is likely that the strategic planning and/or investor relations groups within a company will be able to provide an initial list of perceived value drivers.

The following are guidelines for identifying your company's value drivers and related EHS contributions:

Action Items

- ✓ With the help of internal strategic planning, investor relations, and other groups, develop a generally accepted list of key value drivers for your company. It is best to perform this exercise without preconceptions about where EHS improvements might contribute the greatest value. The value drivers that have been identified by GEMI members in *Figure 2-6* may provide a useful starting point. These are

believed to be the most common but the list is not all-inclusive

- ✓ Based on the team's expertise and insights, evaluate how EHS activities contribute to these key value drivers
- ✓ Develop a generally agreed upon ranking or clustering of the list of key drivers in terms of relative importance. Two ways of achieving this are through informal consensus or having team members rank the drivers and calculate averages
- ✓ To the extent possible, develop an understanding of your company's strengths or weaknesses in these driver categories vis-à-vis competitors. Are there particular value drivers for which improvement would be particularly advantageous?

For Your Toolkit

Perform an Intangibles Assessment

It may be helpful to assess the relative strength of your company's intangible assets through simple surveying techniques. There are a number of approaches; one example is an existing tool called the "Invisible Advantage Diagnostic" (available at <http://www.predictiv.net>). Such questions may be adapted in order to help assess the relevance of EHS to each intangible value driver. For example, the following hypothetical question explores how EHS capabilities are linked to the Innovation process.

Illustrative example of a diagnostic question

To what extent does your organization leverage its EHS capabilities to support product and process innovation?

- EHS capabilities are not linked to the innovation processes in a systematic way
- EHS considerations occasionally motivate adoption of new technologies aimed at emission control and/or waste reduction
- EHS knowledge is incorporated into facility engineering to systematically improve operating efficiency and safety, or
- EHS knowledge is applied systematically to encourage innovation in both facility engineering and new product development

STEP 2 - Assess Potential Contributions

In order to identify the highest leverage opportunities, a company needs to move beyond the qualitative identification of intangible value drivers and develop an understanding of the relative magnitude of each.

A variety of different conceptual frameworks have been developed for characterizing the tangible and intangible assets that drive long-term performance. If a company has already adopted one, then it makes sense to utilize that framework to further explore EHS opportunities. The following *Figures 4-2* and *4-3* summarize two frameworks that are in common use today.⁴⁸

One of the most widely used frameworks is the "Balanced Scorecard," popularized by Kaplan and Norton,⁴⁹ which proposes broadening

financial performance measurement to include three major non-financial perspectives that are leading indicators of financial success: Learning and Growth, Internal Business Process Excellence, and Customer Relationships. This framework is illustrated in *Figure 4-2*.

Another important framework is the "intellectual capital" model developed by Stewart⁵⁰ and others, which includes the following categories of intangible assets:

- Human Capital - skills and knowledge of management and employees
- Structural Capital - patents and proprietary data, methodologies or processes
- Relationship Capital - bonds with customers and suppliers, and brand identity

Leading companies such as DuPont and General Electric have systematically worked to substitute intellectual capital for physical capital in order to increase shareholder value—this is in line with a notion that intangible assets are less expensive to maintain than tangible ones. The EHS value drivers in Section 3 can be mapped into the intellectual capital framework using an approach similar to the Balanced Scorecard example (see *Figure 4-3*).

While the frameworks discussed are extremely robust and flexible, they do not provide guidance to practitioners on what intangibles need to be emphasized within each of these

Figure 4-2 Balanced Scorecard Framework



Figure 4-3

How GEMI Intangible Value Drivers Populate the Balanced Scorecard Framework

Balanced Scorecard Framework		GEMI Intangible Value Drivers	
		Value Driver	Description
Financial Perspective	Transparency	Openness of an organization with regard to sharing information about how it operates.	
	Risk	The ability to effectively manage the balance between potential liabilities and potential opportunities.	
Internal Perspective	Technology and Processes	Strategy execution; IT capabilities; inventory management; turnaround times; flexibility; reengineering; quality; internal transparency.	
	Human Capital	Talent acquisition, workforce retention, employee relations, compensation; What makes a "great place to work."	
Learning Perspective	Innovation	The R&D pipeline; effectiveness of new-product development; patents; know-how; business secrets	
	Leadership and Strategy	Management capabilities; experience and leadership's vision for the future.	
	Alliances and Networks	Supply chain relationships; strategic alliances; partnerships.	
Customer Perspective	Customer	The ability to develop customer relationships, satisfaction, and loyalty.	
	Brand Equity	Strength of market position. The ability to expand the market, perception of product/service quality, investor confidence.	
	Environmental and Social Reputation	How the company is viewed globally such as: environmental concerns, community concerns, regulators' concerns, inclusion in "most admired company" lists, triple bottom line.	

broad perspectives. In particular, they do not provide explicit linkages between the strength of a company's intangibles and the financial performance of interest to investors. Step 3 will focus on measurement of financial value drivers and account for the impact of intangible assets.

For this step in the *Clear Advantage* process, EHS management should assess how it can make the greatest contribution to value. This is ultimately a creative exercise. The following action items are by no means exhaustive, but they should help to articulate and assess the most promising opportunities.

Action Items

- ✓ Create a set of hypotheses about areas of EHS performance that represent significant opportunities for value creation
- ✓ For each hypothesis, identify the value driver or drivers from *Figure 2-6* that can be improved (e.g., customer satisfaction)
- ✓ State the specific contribution and value outcome (e.g., design changes to a product

line resulting in customer benefits such as lower cost, convenience, etc.)

- ✓ Repeat steps, this time starting with *Figure 2-6* and brainstorming the value drivers that can be affected by EHS performance.

For Your Toolkit

Assess Total Costs

A helpful tool for identifying value creation opportunities is total cost assessment (TCA), a method for quantifying all EHS costs, both internal and external, associated with a business decision.⁵¹ TCA is a comprehensive process to identify potentially hidden environmental and health costs and to mitigate future risks and contingent costs for industrial processes, products or facilities. Costs that may not have been previously considered are generally associated with allocated overhead charges and/or potential future costs, including hidden impacts on the environment and human health, as well as internal intangible costs. For example, the potential future costs associated with carbon dioxide emissions can be considered in developing a strategy for carbon management.

STEP 3 - Develop Value-Enhancing Strategy

The next step in the *Clear Advantage* process is the development of a strategy for capturing new opportunities to enhance shareholder value. Given an initial set of hypotheses about value creation opportunities, it is important to consider each in a strategic business context. The box below describes some frameworks that attempt to do so by linking value-based indicators to shareholder returns. The intangible value contributions described in this tool may be considered in addition to other value-based management models.

EHS Intangibles as Leading Indicators

Steps 1 and 2 helped to identify and rank the important drivers for creating and sustaining value and competitive advantage. These insights can then be applied to develop a unique model for an individual company. As illustrated in *Figure 4-4*, many of the EHS performance indicators discussed in Section 3 can be configured as inputs to a company-specific model of intangible value creation.

It is likely that most public companies already have approximately 70 percent of the information required to begin constructing such a model. These data almost always reside

VALUE ENHANCING STRATEGY FRAMEWORK *examples*

Value-Based Management and Intangibles Valuation

The 1990s saw a growing strategic emphasis on frameworks for value-based management - i.e., the realization of corporate value through identification, measurement and management of the drivers of customer value and shareholder returns. These methodologies included economic value added (EVA) measures that are claimed to approximate shareholder returns, and strategic management accounting systems that provide information concerning the current and expected states of strategic uncertainties.

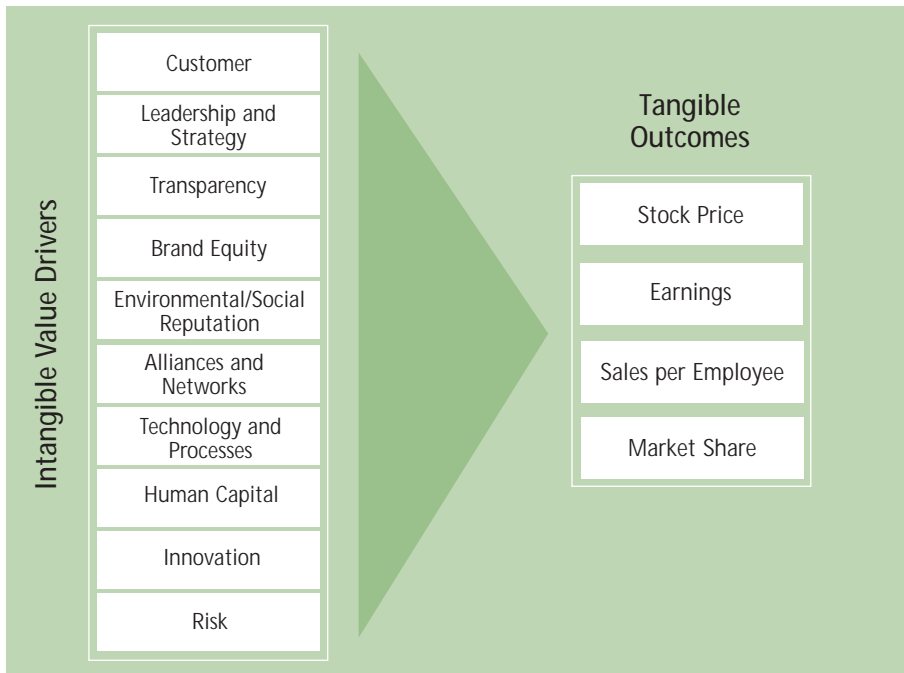
EVA has been a popular value-based indicator—approximately 40% of Fortune 500 firms have used EVA or some variant for strategic planning purposes.⁵² Other mechanisms like EBITDA (Earnings Before Interest, Taxes, Depreciation and Amortization) and pro forma statements of earnings have also gained widespread use. Research suggests that as many as 65 percent of *Fortune 500* companies have experimented with such models.⁵³ All three approaches have supporters and detractors. They are mentioned here because of the recognition they enjoy, not because they are recommended.

The past two decades have also witnessed new experimentation with intangible asset valuation. Both financial and non-financial value drivers were determined from organizational strategy and value chain analysis and hypothetical models were created by fitting together these drivers and estimating their impact on one another. This enabled assessment of how changes in value drivers impact financial results and shareholder value. PriceWaterhouseCoopers, Cap Gemini Ernst & Young and New York University Professor Baruch Lev have all developed such models.

Intangible Assets and Hard Financial Outcomes

Adding confidence to the importance of identifying key value drivers and assessing their potential contributions in Steps 1 and 2, *Decisions That Matter*, a study published in 2001, identified critical drivers of long-term economic value from the point of view of senior corporate financial executives.⁵⁴ The study also assessed the performance consequences of gaps between measures for internal decision-making and external reporting. More than 80% of executives surveyed perceived a gap between the information they received from their own companies and what they actually believed was critical to measure. Moreover, the size of gaps within companies (i.e., the difference between what companies measure and what they believe is important) was strongly correlated with stock price, market value and other "hard" performance data.

Figure 4-4



Conceptual Model of Intangible Value Creation

in operational databases controlled at the business unit or functional staff level, rather than in corporate financial databases. By mining what is already known from a host of qualitative evidence and quantitative measures, and seeking to identify indicators of EHS excellence that cut across all their business functions (procurement, supplier relations, product design, etc.), companies can obtain a more comprehensive view of EHS value creation. The model characterizes the potential contributions of EHS function to a spectrum of intangible assets, and thus shows how EHS results are linked to financial outcomes.

The advantage of this sort of quantitative modeling is that it permits more informed communication between EHS, Investor Relations, Treasury and Chief Financial Officer staffs about the expected impact of investments in EHS activities, and underscores the linkage between the intangible value drivers and firm performance. It conducts the dialogue in the language of finance, which is first and foremost, in monetary terms.

Action Items

- ✓ In a collaborative setting, consider the opportunities selected in the first 2 steps and then state goals for influencing particular value drivers
- ✓ Justify these goals in terms of expected outcomes (e.g., customer loyalty)
- ✓ Identify specific, measurable indicators of improvement for both the value drivers and anticipated outcomes
- ✓ Evaluate the costs, risks, and benefits associated with the strategy, in comparison to the risks of maintaining status quo
- ✓ Develop an action plan, with clear accountabilities, for realizing the proposed improvements and assure compatibility with existing business priorities.

For Your Toolkit

Determine Metrics

Make a list of the types of information/data your organization is currently collecting to support those drivers, including where they reside in your organization. While many organizations collect data to be used in the measurement and monitoring of progress, most of it tends to reside

in disparate parts of the organization and is never collectively compiled. What concepts are explained well by current measurement systems? Where are they lacking? Chances are it is the drivers of intangible value that are most neglected.

Of available data, determine which can be used as proxies to represent the EHS drivers. These proxies should be measurable, comprehensive, and generally accepted as reliable indicators toward the understanding of a particular concept. Multiple measures should be gathered for each intangible driver to aid in its robustness. And, keep in mind that even if these measures are less than ideal, they can likely be used as a good starting point to help you and other key management understand where your organization currently stands with regard to these value drivers.

STEP 4 - Implement Strategy and Measure Results

The strategy developed in Step 3 provides a basis for launching implementation. Armed with this sort of framework, a company can identify, measure and begin to manage the ways in which its EHS/Sustainability activities affect other operations and outcomes. Used in concert with cases, anecdotes and historical trend data, the quantitative model presents a comprehensive picture to senior executives, investment professionals and to all of an organization's concerned constituencies. It enables informed discussion of (a) how EHS can improve financial performance, and (b) the magnitude of financial improvements that can be expected. Thus, a company can begin to meaningfully analyze the return on its investment in EHS resources.

Action Items

- ✓ Identify and secure the needed resources, including senior management endorsement and cross-functional collaboration
- ✓ Gather needed data to measure both the effectiveness of internal process changes

designed to influence value and outcomes

- ✓ Expand the strategy previously developed to assign detailed implementation responsibilities to value creation teams
- ✓ Convene periodic team meetings to evaluate progress and adjust the ongoing action plans as appropriate
- ✓ Remain watchful for signals of change that may run contrary to previously conceived strategic assumptions and rationale.

For Your Toolkit

Benchmark Your Performance

Once you have a baseline of strategically important EHS factors defined, it is important to understand where your company stands currently and benchmark against competitors. Starting with a snapshot of your present organization relative to these factors, you can assess your position relative to your competitors. Once EHS contributions to market value are measured, organizations have a much better sense of where they stand and what needs to be changed in order to improve.

STEP 5 - Communicate to Management and Investors

Realization of shareholder value through EHS improvements requires recognition of value by the investment community. Therefore, effective communication is an essential component of the *Clear Advantage* process. The subject of intangible value drivers in general, and of EHS contributions in particular, is still relatively new. Environmental and social performance messages fall outside of mainstream investor communications. Accordingly, careful design of these value creation messages is needed to assure that they are both easily understood and responsive to investor interests.

Apart from coordinating the *Clear Advantage* process, the EHS value champion (and/or internal alliance, industry coalition, etc.) must play a critical advocacy role in bringing the value creation opportunities and results to the attention of internal management.

The format and language in which the value creation message is framed must be carefully chosen. In addition to assisting in the construction of these messages, the EHS value creation team may need to assist in the development of supporting materials for investor communication.

Action Items

- ✓ Monitor quantitative and qualitative implementation results to capture evidence of successful value creation
- ✓ Develop internal communications regarding successful outcomes for presentation to senior management and investor relations
- ✓ Advocate incorporation of the EHS value message into investor communications
- ✓ Support development of investor communication materials as needed
- ✓ Establish a mechanism to record EHS contributions and to validate the long-term impacts on value drivers and market valuation.

For Your Toolkit

The returns to transparency far outweigh the returns to secrecy. Communicate the changes that you are making both within the organization and outside.

While information itself is of limited competitive value, what you do with that information can make a great difference to your key stakeholders. Now, more than ever, companies need to help their stakeholders, both internal and external, rebuild a sense of trust through the actions and commitments of corporate leaders. Transparent communication to employees, customers, suppliers, industry groups, investors and Wall Street analysts about intangible valuation can have many positive outcomes. After all, it is not just having particular information but rather what you do with it that is truly important. If you can show why a certain EHS factor is critical, and if you can improve your company's performance in this area as well as measure its impact on performance outcomes, you will gain critical credibility in the eyes of key stakeholders.

STEP 6 - Assure Continuous Improvement

The final step in the *Clear Advantage* process is, in reality, an ongoing process - assuring that the initial promise of EHS value creation is realized through systematic monitoring and continuous improvement. This can be designed and carried out by members of the EHS value creation team.

Action Items

- ✓ Monitor the execution of the value creation strategy and capture lessons learned
- ✓ Promote regular evaluation and refinement of the strategy, including selected value creation opportunities, goals, and mechanisms for action
- ✓ Research and understand company experience with investor communications that address EHS value creation and recommend improvements
- ✓ Monitor changes in the competitive landscape and company characteristics that might prompt adjustment of the *Clear Advantage* process
- ✓ Monitor the selected company performance indicators and remain alert for leading indicators of significant changes
- ✓ Review and re-consider key value drivers, hypothesized pathways to value, and business rationale, as appropriate
- ✓ Conduct periodic, informal surveys of internal staff to assure that the *Clear Advantage* process is operating effectively and efficiently.

Clear Advantage provides compelling evidence of the link between EHS activities and shareholder value. Because an enterprise's EHS function cuts across many areas of business, this report covers the EHS function as well as related organizational activities: community involvement, stakeholder relations, governance, transparency and business continuity. In a climate of increased focus on corporate governance and shareholder activism, these issues will only increase in importance.

Risk management and trust are among the characteristics influenced by the organizational activities noted above. The capital markets value them, although they do not appear directly on financial statements. A substantial body of evidence exists on how EHS practices specifically contribute to the bottom line, including reductions in operating costs, insurance premiums and capital costs. It is the contention of this document that EHS practices contribute to shareholder value in a broader and more strategic way: by building critical organizational capabilities.

This report also serves as a practical primer for the EHS professional, working in collaboration with other corporate functions, by providing a step-by-step process for identifying, measuring, communicating and managing value drivers. The intent of this process is to help EHS professionals and their companies gain recognition for EHS excellence from their own internal investor relations function, from the investment community and from other stakeholders. Hopefully this enables companies to recognize and take advantage of opportunities to create a *Clear Advantage* for their company and *Build Shareholder Value*.

These questions are intended to serve as guidelines in a discussion between staff members of corporate Environment, Health & Safety and Investor Relations.

- 1) Please rate your level of familiarity with the record of your company's Environmental, Health and Safety programs.

(1 to 10 scale from "not at all" to "extremely").

NOT AT ALL									EXTREMELY	
1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>	6 <input type="checkbox"/>	7 <input type="checkbox"/>	8 <input type="checkbox"/>	9 <input type="checkbox"/>	10 <input type="checkbox"/>	

- 2) If you answered 4 or above to Question 1, have you ever communicated this record to members of the sell or buy side investment communities as part of your corporate IR strategy?

- A Yes
B No

- 3) If yes, please describe the reaction you received.

(1 = indifference, 10 = great interest).

INDIFFERENCE									GREAT INTEREST	
1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>	6 <input type="checkbox"/>	7 <input type="checkbox"/>	8 <input type="checkbox"/>	9 <input type="checkbox"/>	10 <input type="checkbox"/>	

- 4) If no, was it because

- A You think the securities analysts and portfolio managers don't care
B You think the story is too negative
C You think it is too risky to share this sort of information
D Other stories about the company are more central to the corporate strategy
E You believe you need to know more yourself before disclosing this material

- 5) Would you be interested in learning more about the evidence of the positive correlation between EHS programs and financial performance like stock price, P/E ratio?

- A Yes
B No

- 6) If yes, what sort of information would you like?

- A Quantitative data
B Case studies
C Narrative examples
D Other, please explain

- 7) If no, why not?

- A You think the securities analysts and portfolio managers don't care
B You think the story is too negative
C You think it is too risky to share this sort of information
D Other stories about the company are more central to the corporate strategy
E You believe you need to know more yourself before disclosing this material

- 8) Please rate your level of interest in working with the EHS executives in your corporation to incorporate the value creation message into your company's IR strategy.
(1 to 10 scale from "not at all" to "extremely" interested).

NOT AT ALL									EXTREMELY	
1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>	6 <input type="checkbox"/>	7 <input type="checkbox"/>	8 <input type="checkbox"/>	9 <input type="checkbox"/>	10 <input type="checkbox"/>	

- 9) If you answered 4 or above to Question 6, would you want to:
- A Incorporate this material into a larger message about the effect of various intangible on corporate value creation
 - B Focus solely on EHS or
 - C Both

- 10) To what degree do you think that socially responsible investing has a significant impact in investment decision-making?
(1 to 10 scale from "not at all" to "extremely").

NOT AT ALL									EXTREMELY	
1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>	6 <input type="checkbox"/>	7 <input type="checkbox"/>	8 <input type="checkbox"/>	9 <input type="checkbox"/>	10 <input type="checkbox"/>	

- 11) Over the next five years, to what degree do you think that socially responsible investment will become a more significant issue in investment decision-making?
(1 to 10 scale from "not at all" to "extremely").

NOT AT ALL									EXTREMELY	
1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>	6 <input type="checkbox"/>	7 <input type="checkbox"/>	8 <input type="checkbox"/>	9 <input type="checkbox"/>	10 <input type="checkbox"/>	

- 12) Would you like to learn more about what other companies are doing about disclosing this sort of information?
- A Yes
 - B No

If yes, please describe your particular interests.

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Analyst. Employee of a brokerage or fund management house who studies companies and makes buy-and-sell recommendations on their stocks. Most specialize in a specific industry.

Balance sheet. Also called the statement of financial condition, it is a summary of the assets, liabilities, and owners' equity.

Book value. A company's book value is its total assets minus intangible assets and liabilities, such as debt.

Brand equity. An intangible value-added aspect of particular goods otherwise not considered unique.

Business case. A rationale for making a business decision, usually involving quantitative analysis of costs, benefits and trade-offs.

Buy side analyst. A financial analyst employed by a non-brokerage firm, typically one of the larger money management firms that purchase securities on their own accounts.

Cash flow. Earnings before depreciation, amortization and non-cash charges (sometimes called cash earnings).

Corporate citizenship. Company activities concerned with treating the stakeholders of the firm ethically and in a socially responsible manner.

Corporate governance. The system by which business corporations are directed and controlled. The corporate governance structure specifies the distribution of rights and responsibilities among different participants in the corporation.

Corporate Social Responsibility (CSR). Commitment to uphold the rights of citizens and communities, behave according to accepted ethical standards, and contribute to socio-economic development and quality of life.

Correlation. A statistical correspondence between two or more variables.

Earnings Before Interest, Taxes, Depreciation and Amortization (EBITDA). An indicator of a company's financial performance calculated as revenues less expenses, excluding tax, interest, depreciation, and amortization.

Earnings Per Share (EPS). A commonly used financial indicator, calculated by dividing a company's net income by its number of outstanding shares.

Eco-efficiency. A measure of the resource intensity of a company's operations, including the inputs of materials and energy required to manufacture and deliver a unit of output.

Environmental performance. The performance of a business or facility according to selected indicators of environmental impact.

Environment, Health and Safety (EHS). A professional discipline concerned with protection of the environment, human health, and safety through the application of scientific, engineering, and management methods.

Full disclosure. A policy under which publicly held companies must disclose all material information that might affect investment decisions to all investors at the same time (implemented in SEC Regulation FD—Fair Disclosure).

Generally Accepted Accounting Principles (GAAP). A technical accounting term that encompasses the conventions, rules, and procedures necessary to define accepted accounting practice at a particular time.

Global warming. Gradual increase in average temperatures at the earth's surface, believed to result from the "greenhouse effect" due to increased atmospheric concentrations of carbon dioxide and other gases.

Human capital. The set of skills which employees acquire on the job, through training and experience, and which increase their value in the marketplace.

Income statement. A statement showing the revenues, expenses, and income (the difference between revenues and expenses) of a corporation over some period of time.

Institutional investor. An investor that is not an individual and may be a foundation, endowment, pension fund, or the like.

Intangible asset. A non-monetary asset, including people, ideas, networks, and processes, which is not traditionally accounted for on the balance sheet.

Intellectual capital. Knowledge that can be exploited for some money-making or other useful purpose, including the skills and knowledge that a company has developed about how to make its goods or services.

Investor Relations (IR). A strategic corporate marketing activity, combining the disciplines of

communications and finance, that provides present and potential investors with an accurate portrayal of a company's performance and prospects.

Leading indicator. A predictive indicator of anticipated performance that can be observed prior to the period of performance.

Liability. A financial obligation, or the cash outlay that must be made at a specific time to satisfy the contractual terms of such an obligation.

License to operate. The ability of a corporation or business to continue operations based on ongoing acceptance by external stakeholder groups.

Market value. (1) The price at which a security is trading and could be purchased or sold. (2) The value investors believe a firm is worth; calculated by multiplying the number of shares outstanding by the current market price of a firm's shares.

Net present value. The amount of cash today that is equivalent in value to a payment, or to a stream of future cash flows minus the cost.

Non-financial performance. The performance of a business measured in terms of non-financial aspects such as environmental and social responsibility.

Performance. The percentage change in a portfolio's value over a specified period.

Price elasticity. A measure of price-sensitivity in the marketplace: the percentage change in the quantity of a product divided by the percentage change in the price.

Price-to-Earnings ratio (P/E). The multiple of earnings at which a stock sells, determined by dividing current stock price by current earnings per share (adjusted for stock splits).

Proxy. Document intended to provide shareholders with information necessary to vote in an informed manner on matters to be brought up at a stockholders' meeting.

Return on Investment (ROI). A measure of a corporation's profitability, equal to a fiscal year's income divided by common stock and preferred stock equity plus long-term debt. ROI measures how effectively the firm uses its capital to generate profit.

Risk. (1) The possibility of losing rather than gaining. (2) A measure of price fluctuation relative to a broad market gauge. (3) The possibility of an adverse incident due to the presence of hazards or uncertainties.

Screened portfolio investing. The application of social criteria to conventional investments, such as stocks, bonds, and mutual funds.

Sell side analyst. a financial analyst who works for a brokerage firm and whose recommendations are passed on to the brokerage firm's customers.

Shareholder resolution. A recommendation or requirement, proposed by a shareholder, that a company and/or its board of directors take action presented for a vote at the company's general shareholders' meeting.

Socially Responsible Investing (SRI). The incorporation of an investor's social, ethical, or religious criteria into the investment decision-making process.

Stakeholder. Any party that has an interest, financial or otherwise, in a firm - stockholders, creditors, bondholders, employees, customers, management, the community, and the government.

Supply chain. A sequence of suppliers and customers that add value in the form of materials, components, or services, ultimately resulting in a final product.

Sustainability. Conditions or characteristics supportive of sustainable development, encompassing the environmental, social, and economic aspects of a corporation.

Tangible asset. An asset whose value depends on particular physical properties, including reproducible assets such as buildings and non-reproducible assets such as land.

Transparency. Openness of an organization with regard to sharing information about how it operates. Transparency is enhanced by using a process of two-way, responsive dialogue.

Triple bottom line. A framework for sustainable development that defines three fundamental aspects of corporate performance—economic, environmental, and social.

Value creation. Activities that generate shareholder value for a company, e.g., value-based management.

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 4. Exercise equity ownership to promote efficient and sustainable asset use and risk management
 5. Provide access to finance for the development of environmentally beneficial technologies
 6. Exercise equity ownership to promote high standards of corporate social responsibility by the activities being financed
 7. Provide access to market finance and risk management products to businesses in disadvantaged communities and developing economies.
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"Every corporation is under intense pressure to create ever-increasing shareholder value. Enhancing environmental and social performance are enormous business opportunities to do just that."

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"There is no question in my mind that business and the free enterprise system are essential to making sustainability work. Our focus at Dow is on hard-wiring it into our company in the same way we have fully institutionalized environment, health and safety into our culture and into our work and people processes. Our challenge is to make sustainability sustainable. Ultimately, the world will judge our commitment to sustainability not by what we say, but by what we do."

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