

# **LINKING ENVIRONMENTAL PERFORMANCE TO BUSINESS VALUE: A North American Perspective**

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## **I. Acknowledgements**

One of the conclusions of the CEC meeting Financing and the Environment: Disclosure of environmental information in North America, held in New York in 2002, was that there is a need to work with experts from finance and business to analyze the business value case for taking environmental issues into account in financial and business decisions. In a follow-up meeting organized jointly with UNEP-FI in New York City in 2003, the identification of this need was repeated. In response, Environment Canada and the CEC forged a partnership to develop a baseline analysis of the current state of the business value case (i.e., the profitable financial performance for specific companies, industries, and the people who invest in and extend credit to these companies) for environmental performance. Conscious of the need for broader partnership on this issue, a network of organizations and individuals coordinated by Environment Canada and made up of experts and practitioners from the finance, business, academic and nongovernmental sectors was asked to participate in the development of the project, review the results of the study and provide recommendations on how to communicate the findings.

The CEC and Environment Canada would like to thank the network for its support and review of this report. We would also like to thank all of the participants in the expert review process for their comments and guidance, which have increased the relevance and credibility of this report. The CEC and Environment Canada would like to thank the authors, John Ganzi of Environment and Finance Enterprise, and Eric Steedman and Stefan Quenneville of Metamorphoses Consulting, for their contribution to examining and distilling this information on the business value case for environmental performance. Finally, we would like to acknowledge and thank our three countries' ministers of the environment (the CEC Council) for carefully listening, taking an interest in and supporting this line of work at the North American level.

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## II. Executive Summary<sup>1</sup>

The Commission for Environmental Cooperation (CEC) of North America and its Parties, the governments of Canada, Mexico and the United States, are working strategically to influence all sectors of the economy to improve environmental performance and move toward sustainable development. Demonstrating the relationship between environmental and financial performance (the “business value case”) is a critical first step to supporting the work in this direction. The “business value case” refers to the financial bottom line impact of environmental issues and variables—in laymen’s terms, how a company’s environmental performance affects its financial performance. Previous work by the CEC, Environment Canada (EC) and their partners in the business and financial sectors suggests that engaging business and the financial sector in integrating environmental information into financial market decisions hinges on identifying, measuring, analyzing and communicating how and where improved environmental performance can lead to increased business value. A research study was therefore undertaken to review and analyze international research examining the linkages between environmental performance and business performance, with an emphasis on the North American context. This report communicates the findings of the study and is intended for individuals and organizations from a variety of sectors that have an interest in understanding how environmental performance contributes to business value and financial performance. This report also recommends where further research and analysis is required on this issue, and it is hoped that it will contribute to additional engagement.

The report blends a review of existing research on the business value case with interviews with a small group of recognized experts<sup>2</sup> in order to establish a baseline of business value case information, enhanced by the experience of expert practitioners. The report was also enriched through being reviewed by experts from the financial sector, nongovernmental organizations and industrial corporations.<sup>3</sup> It is hoped that this extensive review process with practitioners will help refine the understanding of the business value case for environmental performance and move forward from debating whether the business value case exists to measuring where and how it is established and engaging in areas where more work is needed.

As a review of existing business value case literature, the findings of this report capture a broad spectrum of analytical and conceptual approaches and indicators for environmental and financial performance. While this approach to the research precludes broad definitive conclusions about the business value case for environmental performance, it provides valuable direction on where future efforts are needed. Indeed, among the key findings of this report is that there is a need for a clear conceptual framework to more systematically link indicators of environmental and financial performance and thereby enable companies to integrate environmental information into management, operation and capital investment decisions and to communicate the risks and benefits to stakeholders in the financial sector.

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<sup>1</sup> If you wish to review the full report please contact Chantal Line Carpentier at [clcarpentier@ccemtl.org](mailto:clcarpentier@ccemtl.org) or Andrea Moffat at [andrea.moffat@ec.gc.ca](mailto:andrea.moffat@ec.gc.ca).

<sup>2</sup> A list of interviewees is available in Annex A.

<sup>3</sup> A list of expert reviewers and their unedited comments is attached as Annex B.

## Key Findings

### *Status of the Business Value Case*

- **A large part of the research reviewed suggests a positive correlation between environmental and financial performance; however, a rigorous conceptual framework to systematically link environmental and financial indicators is needed.**

Overall, the business value case research indicates a positive or, at minimum, neutral correlation between environmental and financial performance. The strength of observed correlations depends on timing, sample set and which financial and environmental variables are examined. Business value case research is strongest when aggregating information at the sector and portfolio level and weakest at linking specific environmental performance metrics with specific financial value metrics (e.g., emissions to return on investment). In either case, the specific mechanisms behind observed correlations are not yet documented and causal links have not been established. A conceptual framework to systematically capture statistically rigorous relationships between specific environmental and financial indicators is needed to improve understanding of the appropriateness of specific indicators and to identify where correlations are strongest at the sector, firm and issue level.

- **Documenting the financial implications of specific environmental initiatives at the company level is needed to facilitate corporate measurement, integration and communication of environmental performance information into financial decision-making, internally and by external stakeholders.**

Most companies are not disclosing and may not be gathering environmental information and data in a fashion that is usable for making financial decisions.<sup>4</sup> The interviews, literature review and expert review carried out as part of this research suggest that most companies do not have the measures of their environmental impacts needed to allow them to quantify the related costs and/or benefits to their business. This lack of information could be potentially significant to both companies and the financial sector, as suggested by some research indicating that companies can face divergent levels of financial exposure to the environmental issues relevant to their sector. Business value case research must establish specific measures that can be integrated into management, operational and capital investment decisions and facilitate the communication of risks and benefits to stakeholders in the financial sector.

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<sup>4</sup> Business value case data may be gathered internally and not published.



## ***Communication and Language Barriers***

- **Poor communication and dissemination of research on the business value case are barriers to financial sector engagement; where links between environmental and financial performance are found, they must be presented in a more consistent, coherent and coordinated way.**

While the quality and sophistication of research and analysis on the business value case have improved, infiltration of the information into mainstream business and finance communities continues to be inhibited by poor documentation, communication and dissemination. Interviewees and expert reviewers note the overall lack of compatibility and comparability of environmental data and difficulty in demonstrating a causal link between disparate environmental and financial performance metrics as key communication barriers. However, most financial analysts, particularly in North America, are not actively looking at the business value case, even where research demonstrates that one exists. This is in part a result of a lack of consistent, coherent and coordinated communication of links between environmental and financial performance and because the communication of environmental risks, liabilities and opportunities has generally not been aligned with the lexicon of mainstream finance. In addition to addressing these issues, some have suggested that there is a need to ensure that information on the business value case is disseminated through business and financial channels, rather than environmental and corporate responsibility outlets.

- **Business value case researchers may not be examining the right questions.**

Financial sector engagement and interest in the business value case is not just a question of terminology and communication, it is also a matter of whether researchers are asking the questions that meet financial analyst and investor information needs. For example, most business value case research is backward-looking (asking whether past stock price movements are correlated with past TRI releases, for example) and therefore does not respond to the forward-looking needs of financial analysts. More research is needed to test whether observable environmental variables can predict superior or inferior future financial performance. More research is also needed to identify financial analyst and investor information needs.

## ***North American Engagement in the Business Value Case***

- **Despite pockets of leadership, North American financial institutions, industrial firms and governmental agencies are, by and large, not proactively supporting the link between environmental and financial performance.**

European leadership in corporate social responsibility has resulted in the support of banking and institutional investors, who are actively working on the development and application of environmental business value metrics. The same cannot be said in the North

American context. While there is a growing and increasingly well-coordinated private and public sector effort to enhance understanding, development and communication of the business value case in the North American context, coordination is limited to specific environmental (most notably, climate change) and corporate governance (most notably, transparency and disclosure) issues rather than the integration of the full range of environmental issues into overall business strategy.

- **In North America, the socially responsible investment (SRI) community has been one of the key drivers of analyses and communication of the business value case.**

The SRI community has been particularly effective in identifying areas and cases where there is a direct correlation between business value and environmental and social issues. However, SRI represents only about 3.3 percent of total combined retail and institutional assets in Canada (Social Investment Organization 2002) and 11.3 percent of assets in the US (Social Investment Forum 2002).

### ***Role of the Public Sector***

- **Governments have an important role to play in supporting the development and communication of the business value case.**

An integrated and coordinated approach across a number of departments and agencies, specifically including industry, finance and commerce ministries, is needed. The main roles for governments identified in this review are:

- supporting efforts to identify and address research and communication gaps;
- increasing use of market mechanisms and tax incentives and disincentives;
- supporting the availability of transparent and comparable environmental information;
- effecting stronger regulatory control and better enforcement of current environmental laws and regulations, with stiffer penalties for noncompliance;
- setting and enforcing corporate governance standards;
- through strengthened securities regulators, enforcing and increasing disclosure of environmental risks, costs and liabilities, as well as other aspects of environmental performance;
- catalyzing and leveraging partnerships, especially with financial and business/industry departments, agencies and nongovernmental organizations in order to engage effectively the financial sector; and
- in the case of environmental agencies in particular, working on making environmental information available to the financial community in useful formats, and cooperating more effectively with securities regulators and accounting oversight bodies.

### III. Introduction

The Commission for Environmental Cooperation (CEC) of North America and its Parties, the governments of the United States, Mexico and Canada, are working strategically to influence all sectors of the economy to improve environmental performance and move toward sustainable development. Demonstrating the relationship between environmental and financial performance (the “business value case”) is a critical first step to supporting the work in this direction. The “business value case” refers to the financial bottom line impact of environmental issues and variables—in laymen’s terms, how a company’s environmental performance affects its financial performance. Previous work by the CEC, Environment Canada (EC) and their partners in the business and financial sectors suggests that engaging business and the financial sector in integrating environmental information into financial market decisions hinges on identifying, measuring, analyzing and communicating how and where improved environmental performance can lead to increased business value.

A research study was undertaken to review and analyze international research examining the linkages between environmental performance and business performance, with an emphasis on the North American context. It focuses on identifying where the business value case is solidly established, where it is weak and where there are gaps in knowledge and practice. This report communicates the findings of the study and is intended for individuals and organizations from a variety of sectors that have an interest in understanding how environmental performance contributes to business value and financial performance. The report also recommends where further research and analysis is required on this issue and it is hoped that it will contribute to additional engagement.

As this report presents a review of the existing business value case literature, its findings capture a broad spectrum of analytical and conceptual approaches to the business value case, particularly in terms of their use of a variety of measures of environmental performance and financial value. For example, environmental performance may be measured as a function of company-reported emissions data or, alternatively, based on whether a company has an environmental management system in place. Similarly, share price performance, net income, and return on investment have been used as proxies for financial performance. While this wide variety of approaches to measuring both environmental performance and financial value makes broad definitive conclusions problematic, evidence as well as the experience of practitioners in business and finance suggests that, in certain circumstances, improved environmental performance will lead to improved financial performance, either through tangible (e.g., eco-efficiency) or intangible (e.g., reputation) business value effects.

Taken as a whole, the large and growing volume of business value case research generally shows a positive or, at minimum, neutral correlation between a firm’s environmental performance and its financial performance. Notwithstanding this generally positive evidence from the research and consulted practitioners, however, it is not always explicit how and to what extent environmental information is integrated into mainstream financial decisions.

Research and the interviews with experts suggest a number of explanations for this lack of integration:

- industry may not be gathering environmental performance data in a manner that facilitates their integration into management, operational and capital investment decisions or the identification and communication of concordant financial risks and benefits;
- whatever data industry is gathering on the business value case are generally not being distributed outside the firm;
- where data are disclosed, companies are not effectively linking this information with risks or performance in their communications to financiers;
- research linking environmental and financial performance is either framed inappropriately to capture the interest of mainstream financiers, or the research questions being asked are not those that mainstream financiers are interested in;
- business value case research results have not been presented in a coherent or comparable way that is understandable or usable by mainstream financiers; and
- financiers do not have easy access to business value case information or do not see its material relevance to firm performance in terms of direct impact on profitability or competitive position relative to sector peers.

It should be noted, however, that important information on the business value case, particularly as it relates to the use of environmental information by financial analysts, may not be captured in the publicly available research used in this report. As interviewees pointed out, some of the most sophisticated research on the link between environmental and financial performance is being held on a proprietary basis within various institutions.

While the inherent limitations of this approach to the research may preclude broad definitive conclusions about the business value case for environmental performance, the approach does provide valuable direction on where future efforts are needed. By balancing analytical research with interviews with recognized experts and then having practitioners critically review the conclusions and recommendations, the report establishes a baseline context to help guide future research and engage stakeholders in further work on the business value case for environmental performance within a North American context. It is hoped that this extensive review process with practitioners will help refine our understanding of the business value case for environmental performance and move us forward from debating whether the business value case exists to measuring where and how it is established and engaging in areas where more work is needed.

## **Methodology**

The development of this report took place in three major phases: (i) a detailed review of business value case literature identified by the researchers and a network of experts and practitioners coordinated by Environment Canada; (ii) interviews with a select group of experts (30% of the selected individuals declined to participate, which included most of the Canadians and Mexicans selected); and (iii) an expert review of a draft version of the report by practitioners and other stakeholders.

The first phase included an extensive review and analysis of approximately one hundred research studies related to the business value case, focused on the following topics: business and sustainability, environment as a value driver, corporate social responsibility, the roles of investors and fiduciaries, climate change risk and the roles and responses of the many stakeholders engaged in the business value case (i.e., government, investors, customers, creditors, companies and nongovernmental organizations). The literature was gathered in October of 2003; papers published after September 2003 were not included in the literature review. All additional bibliographical references and citations provided by the expert reviewers are included in a supplemental bibliography at the end of this report.

In phase two of this report, interviews were conducted with twenty recognized experts in the field, drawn primarily from the financial services industry and academic communities.<sup>5</sup> The interviews were conducted either in person, by e-mail or by telephone. The interviewees were asked five questions related to their:

- general opinion on the current status of the business value case, including in leading sectors or companies;
- recommendations on specific documents on the business value case that should be reviewed as part of the research for this report;
- perceptions of equity analysts' response to the business value case;
- thoughts on engaging mainstream financiers on the business value case, and;
- ideas on how the Commission for Environmental Cooperation (CEC) and Environment Canada should disseminate the completed research findings/report.

The interview results were integrated into the report and inform its analysis of the current state of the business value case for environmental performance.

Finally, in phase three, this research was subject to an expert review process. The expert review helped to ensure that the report correctly reflects the current thinking and evidence on the business value case and that it is relevant to experts from a range of sectors. Six practitioners from the financial sector, nongovernmental organizations, industrial corporations and academic institutions participated in the review process. The reviewers were asked to critically review the report, confirming that key pieces of research had been considered in the analysis and that the report presents a comprehensive and balanced assessment of the business value case from the perspective of identifying where future research and engagement are needed. Reviewers were also asked to identify gaps in the business value case analysis and provide recommendations to address these gaps and strengthen the business value case. They were also asked to recommend how to communicate and disseminate this work. The expert reviewers' comments that fall within the scope of this paper have been distilled and incorporated into this report.<sup>6</sup> In addition, the specific comments of the reviewers and the authors' response to the overall comments are included as annexes to the report (see Annex B and C).

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<sup>5</sup> A list of interviewees is available in Annex A. In the text, their contributions are acknowledged with the reference "expert interviewees."

<sup>6</sup> They are acknowledged in the text with the reference "expert reviewer."

## **Structure of the Report**

The first section of the body of this report (part IV-A) provides an analysis of the current state of the evidence concerning the business value case through a detailed review of qualitative and empirical studies. The subsequent three sections (parts IV-B to IV-D) divide the research according to industry, finance and public sector engagement and action related to the business value case. Section V synthesizes the results presented in the previous sections to identify gaps, barriers and opportunities to deepen understanding of and engagement in the link between environmental and financial performance. Analysis of these gaps, barriers and opportunities is the basis for the recommendations presented in the final section of the report.

## **IV. Linking Environmental Performance to Business Value**

### **A. Current State of Evidence Linking Environmental Performance to Business Value**

The most predominant sign of the growing interest in the business value case is the explosion of research over the last decade. Mainstream research in this area began in the late 1980s as a result of the negative financial performance of companies that improperly managed asbestos and thus acquired Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) liabilities. Since then, and especially since 2000, the volume of research on the link between environmental and financial performance has increased exponentially (see Annex D for a detailed timeline).

Today, available information on the business value case spans a wide range of approaches, from quantitative analytical research (i.e., statistical analysis, financial methodologies) to more conceptual work (i.e., surveys and interviews) and from cross-sectoral analyses to specific company- and sector-level case studies. When aggregated, this body of research indicates that, in most situations, integrating a wide range of environmental criteria (from both a risk and opportunity perspective) into financial decision-making processes (both by the industrialist investing in plant, equipment and systems, and the investor investing in specific pooled investment vehicles) leads to improved financial performance or, at a minimum, does not hurt financial performance. From a risk perspective, environmental criteria can add value by, for example, ensuring that the management systems are in place to decrease costs of environmental compliance and incidents. From an opportunities perspective, environmental criteria can add value to a company by, for example, ensuring stakeholder support for the building of a new facility.

Despite this general conclusion, the research itself reveals that conclusive evidence on the business value case is scarce. The wide variety of approaches and variables used to assess both environmental performance and financial performance make the establishment of a universal business value case problematic. This is in part due to the lack of a common framework to analyze these relationships and identify the most appropriate indicators. In addition (and likely also a result of the lack of a common framework), even where correlations between

environmental and financial performance have been established, causation remains elusive. For example, do profits cause companies to invest in improving their environmental performance or does environmental performance lead to future financial success (expert reviewer)?

Given the complexities of potential variables, both on the environmental performance side and financial valuation side, a universal business case may ultimately be impossible to establish. In addition, the research draws attention to a number of research gaps. For example, micro-level analyses that draw strong and comparable conclusions from specific valuation approaches are lacking. Even where the evidence is relatively strong, the key environmental performance metrics required to make it relevant to mainstream financiers are virtually non-existent.

### ***Qualitative Research Context***

Early research on the business value case is principally qualitative and focused primarily on the reputation and risk avoidance aspects of corporate social responsibility. More recently this work has expanded its focus to examine environmental and social performance as drivers of business and financial value. This expansion has included work on a broader understanding of value creation, drawing linkages to corporate governance issues and tracking external drivers (e.g., government actions) of the business value case. The increase in research has been driven by a combination of factors, including the growth and maturation of the socially responsible investment (SRI) industry, increased academic attention to the issue and, to a lesser extent, government interest. However, because many of the business value effects of environmental performance are intangible and/or have no agreed-upon metric to measure them, a direct valueion correlation, let alone causation, remains elusive.

There are differences in approach and focus on the business value case between Europe and North America. The United Kingdom is clearly a leader in the production of qualitative research. Some of these studies have examined the impetus for voluntary corporate leadership in the United Kingdom and how legislative, investor and larger societal pressures have driven this process. These studies have also helped to define the limitations and barriers in existing legal, fiduciary and financial systems, explaining how these could change to create rewards for and thus motivate improvements in corporate environmental performance. For example, case studies of corporate environmental initiatives have shown that employees, customers, nongovernmental organizations and investors/investment advisors are important drivers of corporate behavior and that many firms have derived financial and business value from a wide range of environmental actions. However, these same studies also indicate clearly that research has so far failed to demonstrate conclusively that “responsible” businesses necessarily deliver improved shareholder value (Little 2003; Cowe and Porritt 2002; and James et al. 1998). It is uncertain whether this failure to demonstrate a conclusive link between responsible business practices and shareholder value is because the research is unable to discern the correlation or whether the correlation is simply not there. For example, a specific question that has yet to be effectively answered is, how can one recognize that a company may “go too far” or “invest too much” in environmental or sustainability actions, to the detriment of profits and financial success?

While qualitative studies from Europe and the United Kingdom focus on a comprehensive societal-level view of sustainability (economic, environmental, social), research coming out of the US tends to be much more specific and quantitative in its approach. Among the most noted of this body of work is *The Environmental Fiduciary: The case for incorporating environmental factors into investment management policies* (Goodman et al. 2002), which reviews the significant body of academic and anecdotal evidence on the business value case. The review found that “hidden” environmental liabilities and risks have in some cases depressed earnings and shareholder value and that investment managers should be paying more attention to environmental issues in their policies and investment decision making. Fiduciary-oriented issues raised by the report include the potentially significant risks of environmental mismanagement as well as macroeconomic environmental factors, such as global climate change, that threaten portfolio value (see also Environmental Capital Markets Committee 2000; Emerson, Bonini and Brehm 2003; Repetto and Austin 2000; Innovest 2002).

There is also an increase in work being undertaken to examine long-term aspects of the business value case. The Australian-based *Mays Report* suggests that the business value case is deserving of greater prioritization by investors seeking sound long-term investments, and by companies seeking to attract long-term capital. In the case of investment analysts, environmental considerations benefit investors by providing a deeper understanding of long-term business risks. In parallel, companies can benefit by using environmental information to improve investor insight into their management skills with a view to improving the total worth (market capitalization levels) of the company (Mays 2003).

### ***Quantitative Research—Moving to Macro-level and Indices Studies<sup>7</sup>***

There are a growing number of well-constructed macro- and index-level research efforts that quantify the business value case at an aggregate level. These studies examine portfolios of companies across a spectrum of industries. Most are US-focused, perhaps in part because of the public availability of mandated Toxic Release Inventory (TRI) data for a large number of firms in several industries. The availability of TRI data has allowed these US studies to capture some of the only research available based on quantitative emissions data.<sup>8</sup> In the EU, the incompatibility of country- and sector-level corporate environmental emission data has inhibited the development of this type of research (Wagner 2001). Environmental emissions data have helped to support some quantitative research; however, good emissions data are not a panacea. Strong micro-level analysis of the link between environmental and financial performance requires broader management data, including data on the processes and mechanisms a company uses to identify and assess environmental opportunities and risks.

The first studies reviewed in this section of the report examine research comparing firms within the same country that face similar regulatory and disclosure requirements. The second set of

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<sup>7</sup> A more in-depth examination of the quantitative research has been provided in the report because of the interest in the North America markets in the quantification of the link between environmental performance and financial performance.

<sup>8</sup> Canada’s National Pollutant Release Inventory (NPRI) captures similar emissions data as the US TRI system; however, even on a North American level, emissions data are not fully comparable (CEC 2003).



studies make intra-firm comparisons for multinationals with operations in multiple countries with differing regulatory requirements.

A number of emission-based studies provide some of the most convincing empirical evidence demonstrating the financial value of environmental performance. Key recent examples of this work are reviewed below.

A recent study by Bagozzi, Epstein and Wisner (2003) found a specific correlation between management strategy and environmental performance at 179 large US companies in a variety of industries. Management commitment, strategic planning and proactive programs could explain approximately one-third of environmental performance, according to the study, which applied a rigorous multi-trait and multi-method statistical approach. The authors draw a clear link between these “policy variables” and overall firm performance, making the assertion that environmental performance has a positive and significant association with financial performance through return on investment and earnings growth (Bagozzi, Epstein and Wisner 2003).

An analysis of emissions data from 652 US manufacturing firms between 1987–1996 found evidence of an association between pollution and financial performance, noting that companies with good environmental performance, as measured by total Toxic Release Inventory (TRI) emissions per company, tended to experience superior financial performance<sup>9</sup> relative to their industry peers (King and Lennox 2001). Some of the issues one should consider when looking at any study that relies heavily on TRI data is that: a) TRI aggregates emissions of varying toxicity by weight; b) TRI aggregates releases by destination; c) many industries, such as intensive animal farming, are highly polluting, but not through toxic releases, and would be given an unrealistically “good” ranking by the TRI; and d) firms within the same industry may differ in TRI releases for reasons unrelated to environmental management, such as product mix or age of plant, which could lead to misinterpretation of statistical associations (expert reviewer). Another related study in the late 1990s examined the economic and environmental performance of 243 companies (all members of the Fortune 500 and variously located in industrial sectors) over a two-year period (Russo and Fouts 1997). This study found that companies with superior environmental performance<sup>10</sup> had higher returns on investment compared to their competitors, even after accounting for other contributors to profitability, such as sales growth and market position.

Separately, financial accounting measures such as return on equity (ROE) and return on assets (ROA) have been shown to improve with better environmental performance, while the inadequate disclosure of environmental liabilities has been found to have a compounding negative effect on the financial results of poor environmental performers; when environmental disclosure is understated, investors cannot adequately assess future earnings or share value, and,

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<sup>9</sup> The dependent variable for the analysis is financial performance as reflected by Tobin’s  $q$ . Tobin’s  $q$  measures the market valuation of a firm relative to the replacement costs of tangible assets. Essentially, it reflects what cash flows the market thinks a firm will produce in the future.

<sup>10</sup> The study applies a resource-based view related to environmental performance, considering resources and capabilities in the following combinations: (1) physical assets and the technologies and skills required to use them; (2) human resources and organizational capabilities, which include culture, commitment, and capabilities for integration and communication, and (3) the intangible resources of reputation and political acumen.

when risks are eventually revealed, “not only does the true cost of the liability drive down corporate value, but trust is eroded, and management may have difficulty attracting capital. In this way, undisclosed environmental liabilities create a double drag on shareholder value and should be of special concern to fiduciaries” (Blake-Goodman, Kron and Little 2002, 28).

While the above research provides support for a connection between environmental and financial performance, few studies establish a direct causal link between emissions and financial performance (and those that do are challenged as not valid), highlighting a need for further statistically rigorous micro-variable analysis.

Other work broadens this research to examine the business value case in the context of US-based multinationals operating in countries with relatively weaker environmental standards. This research sampled 89 S&P 500 US-based multi-nationals in the manufacturing or extractive industries with production facilities in developing countries, which for the most part have weaker environmental standards and often significantly weaker enforcement activity. Analysis of the environmental and financial performance of this sample found that adoption of global environmental standards by multinational enterprises did not constitute a liability that depressed market value and suggested that positive market valuation is associated with the adoption of a single stringent environmental standard around the world. This finding has a clear message for governments that the race to lower environmental standards as a competitive advantage does not equate to increased company value (Dowell, Hart et al. 2000; Epstein and Roy 2003).

There is also evidence that regulated pollution reduction has a positive impact on financial value. For example, Konar and Cohen (1997) conclude that a 10% reduction in emissions of toxic chemicals resulted in an average US\$ 31 million increase in market value. The study also relates the market value of firms in the S&P 500 to objective measures of their environmental performance, showing that environmental performance had a significant effect on the intangible asset value for publicly traded firms in the S&P 500. Firms that had a poorer environmental performance track record also had lower intangible asset values, after controlling for other standard variables known to affect firm financial performance. The average “intangible liability” for firms in the sample was US\$ 360 million, or approximately 8.4 percent of the replacement value of tangible assets.

Using real-world data on more than 300 of the largest public companies in the US, Feldman et al. (1996) evaluated the hypothesis that improved environmental management practices and performance result in higher stock price.<sup>11</sup> Their work suggests that environmental improvements might lead to a substantial reduction in the perceived risk of a firm, with an accompanying increase in a public company’s stock price of perhaps five percent. The study concludes that investments in environmental management and improved performance can be justified, in many

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<sup>11</sup> The study uses a conceptual model that links the evaluation of corporate environmental management systems and environmental performance to the market value of publicly traded corporations. The model consists of five causally linked components: corporate environmental management systems; environmental performance; environmental signaling; firm risk, including environmental risk; and firm value, including shareholder wealth gains (or losses) resulting from changes in environmental risk.

cases, on purely financial grounds, and that the net financial impact of prospective environmental investments can now be evaluated more fully than before.

There have also been a number of aggregate analyses of the available research on environmental and financial performance that further substantiate a positive correlation between environmental performance and business value. Murphy (2002) summarizes twenty of the leading empirical studies conducted in the past ten years correlating the relationship between environmental management and corporate profitability. These studies tested a wide variety of environmental performance indicators against a range of financial measures and found that positive environmental performance was linked with positive financial results, and that negative environmental performance led to negative results. Taken together, these studies also suggest that no single environmental criterion or financial measure can be isolated as the sole indicator of the environment/finance relationship, reinforcing the observation that the evidence of the links between environmental and financial performance becomes weaker as the scale of examination, or number of variables, becomes smaller. This evidence reveals that, at a micro-level, the research done to date is still inadequate to support a solid, universally accepted business value case for environmental performance. It also indicates that macro-level analysis must be multivariate in nature, with well thought-out dependant and independent variables based in theory. To capture intangible value, business value case research could draw upon marketing and advertising theories, which are also focused on identifying intangible value drivers such as brand and reputation.

<b>Measuring Environmental Performance and Financial Value: Research<sup>12</sup> Approaches</b>		
To illustrate how the business value case has been established, the following table lists a small sample of the measures of environmental/financial performance reviewed for this report.		
<b><u>Proxies of Financial Value</u></b>	<b><u>Proxies of Environmental Performance</u></b>	<b><u>Source of Information</u></b>
Stock Price	<ul style="list-style-type: none"> <li>The original research and follow-up 4 years later broke the S&amp;P 500 into two groups, based on 4 specific environmental criteria. Those seen as best environmental performers outperformed others by 70 BPs over the 22-year back test period.</li> </ul>	Snyder and Collins 1993; Clough 1997
Stock Price	<ul style="list-style-type: none"> <li>Based on an assessment of the effect of the passage of the Superfund Amendments &amp; Reauthorization Act (SARA), the study analyzed different chemical firms viewed as leaders and laggards in the industry. It confirmed that leaders in disclosure suffered much less negatively.</li> </ul>	Blacconiere and Northcut 1995
Stock Price	<ul style="list-style-type: none"> <li>This was an event study that looked at 6 specific environmental events (e.g., Valdez, passage of CERCLA, etc.) and their effects on share prices of major US-based insurance firms. In general, it showed either no difference between environmental leaders and laggards in effect from positive events or a material difference from negative events.</li> </ul>	Ganzi and Neubert 1995
Stock Price	<ul style="list-style-type: none"> <li>Based on impact of Valdez accident. Showed proactive firms suffered less than those seen as laggards.</li> </ul>	White 1996

<sup>12</sup> This table attempts to provide a high-level synopsis of the financial and environmental linkages reviewed in the research studies. The lack of detail regarding the description of the metrics is a reflection of the complexity and difficulty of communicating the results of business value case research in a concise manner. This points to the need for the development of comparable information and metrics.

Stock volatility	<ul style="list-style-type: none"> <li>Sample of 327 Fortune 500 firms studied for their approach to environmental management (EMS, environmental measures, and TQM). Volatility of price reduced significantly for leaders.</li> </ul>	Feldman, et al. 1996
Return on Investment (ROI)	<ul style="list-style-type: none"> <li>An evaluation of 243 firms from the S&amp;P 500 over a two-year period showed a greater ROI for firms with superior environmental performance, according to a set of criteria established by the researchers.</li> </ul>	Russo and Fouts 1997
Return on Equity (ROE) and Return on Assets (ROA)	<ul style="list-style-type: none"> <li>Business value was shown to improve with better environmental performance, by driving down costs and thereby increasing future earnings. In contrast, a compounding negative effect on the financial results of poor environmental performers was seen.</li> </ul>	Blake-Goodman, Kron, & Little 2002
Stock Price	<ul style="list-style-type: none"> <li>Group of indicators used on breaking S&amp;P into two groups to evaluate share price return. Showed a modest positive correlation.</li> </ul>	Kessler and Gottsman 1998
Net Income	<ul style="list-style-type: none"> <li>By looking closely at TRI data in the US, the researchers found a clear link between cleaner firms in the same industry and higher net income.</li> </ul>	King and Lennox 2001
Stock Price	<ul style="list-style-type: none"> <li>The study (looking at 89 of the S&amp;P 500) showed that firms with a global environmental standard that exceeds most nations' own regulatory regimes actually generated a higher stock price.</li> </ul>	Dowell, Hart, and Yeung 2000
Net Income	<ul style="list-style-type: none"> <li>An evaluation of the pulp and paper industry that looked at differences across firms (leaders and laggards) in the sector as to their exposure to future financially material environmental risks.</li> </ul>	Repetto and Austin 2002
Net Income	<ul style="list-style-type: none"> <li>179 USA-based firms in a range of industries were evaluated on systems and organizational design relative to environmental issues. The researchers found that a strong focus on these issues enhanced net income.</li> </ul>	Bagozzi, Epstein and Wisner 2003

Despite these sample findings (and well over a 100 other examples are available), drawing overall conclusions on the relationship between environmental performance and business value remains difficult, at least partially due to the limitation of or gaps in the research. Examples of these gaps and limitations include the following:

- Event studies show that the influence environment-related events (positive or negative) have on stock market performance of firms is only short-term in nature, which suggests that analysts should not be including environmental performance as part of their long-term valuations. (Murphy 2002; Knight and Pretty 2001).
- Earlier studies generally suffer from problems such as small sample size, unclear differentiation in companies' approaches to environmental performance, and a lack of controls for larger economic issues (Murphy 2002; Konar and Cohen 1997; Russo and Fouts 1997).
- It is difficult to assess to what degree the variability encountered in the results is due to methodological artifacts (i.e., whether portfolio studies, event studies or regression analysis were used to scrutinize the relationship) or other factors, such as the environmental performance measures used, the sectors analyzed, the countries covered, or the economic performance measures applied (Wagner 2001). This is primarily because no common analysis framework based in economic, financial and marketing theory has been developed to guide research and the testing of business value case hypotheses.

Some of the most recent work on the business value case has begun to address these concerns through the development of forward-looking company-level environmental risk assessments. For example, Repetto and Austin (2000) have developed a scenario-based methodology, consistent with established financial valuation techniques, to assess companies' prospective financial exposure to environmental risks. This methodology has been applied to the pulp and paper sector

(Repetto and Austin 2000), oil and gas sector (Austin and Sauer 2002), utility sector (Repetto and Henderson 2003) and the automotive sector (Austin et al. 2003).

Key findings include the following (Repetto and Austin 2000):

- Pending environmental issues could markedly influence companies' input costs, revenues, asset values and, hence, shareholder value, but financial exposure to pending environmental issues varies considerably among companies. One company is likely to see shareholder value enhanced by pending environmental issues, while other companies face probable losses in market value of at least ten percent. Therefore, environmental issues can create winners and losers within the same industry.
- Undisclosed information about companies' environmental performance and exposure could be of significant value for investors. Though environmental issues can affect financial performance, company reporting falls short of the full and adequate disclosure required for material issues, as set out in US Securities and Exchange Commission (SEC) rules and guidelines. This finding applies both to companies that stand to benefit and those that stand to lose from environmental disclosure.

## **Summary**

The review of the research points to a connection between company environmental and financial performance—i.e., a business value case for environmental performance. The business value case is empirically strongest when aggregated at the portfolio or sector level. This “macro-level” evidence captures a range of approaches to measuring both environmental performance and financial value. The business value case becomes harder to determine when the scope of environmental and financial variables being examined is narrowed. Indeed, this challenge and the general lack of such “micro-level” variable analyses or a theory-based macro-level framework means that existing research on the business value case for environmental performance is weakest when attempting to correlate specific measures of environmental performance to specific measures of financial value.

The experts interviewed as part of the development of this report consistently mentioned that the principal reason for the lack of an established business value case is that no accepted standard of environmental value-driver(s) exists. The literature generally supports this point. For example, Cowe and Porritt (2002, 19) note:

The evidence for a link between improved corporate responsibility and financial out-performance is also mixed. Studies suggesting a universal correlation—that Corporate Social Responsibility (CSR) always pays—have not been supported by later research. But there is growing evidence that, in certain companies, and at certain times, improving CSR in certain ways will lead to financial out-performance.

While the analytical data and studies done in the last five years usually show a positive or, at minimum, neutral correlation between environmental criteria and financial performance, there has not been a related increase in the effectiveness of dissemination, due in part to

inconsistencies in the use and understanding of terminology related to the issues. One reason for this is that almost all the research done to date is backward-looking, but financial markets and analysts are forward-looking. Even if past environmental and financial performance are positively correlated, it does not imply that future environmental and financial performance would be predictably related—in reality, efficient capital markets theory would hold that they would not.

Europe leads in terms of looking at the business value case, but the absence of harmonized requirements for reporting corporate environmental emission release data, along with methodological weaknesses, has prevented the development of empirical backup to support the strong qualitative work that is being produced (Wagner 2001). The US has produced perhaps the most solid body of empirical evidence regarding the business value case, which nonetheless must be improved substantially if it is going to have an impact. What currently exists in the US must be more effectively distilled and disseminated to the North American capital markets in a language that analysts understand. Overall, improved quantity and quality of environmental and financial performance information and better integration of this information into business strategy and risk communication would be of assistance to environmentally oriented investors in both Europe and North America.

### **Overview of Support for the Business Value Case: Top 20 Documents Reviewed<sup>13</sup>**

The following table lists the most relevant papers reviewed in producing this report, and whether a paper supports a positive, negative or neutral correlation between environmental and financial performance. Note that these papers do not necessarily use the same measures of environmental performance or financial value.

<b>Author</b>	<b>Date</b>	<b>Title of Report</b>	<b>Supports Business Value Case (Positive, Neutral, Negative, N/A)</b>
Austin, D. et al.	2003	<i>Changing Drivers: The impact of climate change on competitiveness and value creation in the automotive industry</i>	Positive
Blake-Goodman, S., J. Kron and T. Little	2002	<i>The Environmental Fiduciary: The case for incorporating environmental factors into investment management policies</i>	Positive
Bowers, R. and D. Aaron	2003	<i>Socially Responsible Investing</i>	Positive and Negative
Business in the Environment	2001	<i>City Attitudes Survey: Investing in the future</i>	Neutral
Coles, D. and D. Green	2002	<i>Do UK Pension Funds Invest Responsibly? A survey of current practice on socially responsible investment</i>	Neutral
Coulson, A. and ISIS Asset Management	2002	<i>A Benchmarking Study: Environmental credit risk factors in the pan-European banking sector</i>	Positive and Negative
Cowe, R. and J. Porritt	2002	<i>Government's Business—Enabling corporate sustainability</i>	Positive
Emerson, J., S.	2003	<i>Blended Value Map: Tracking the intersects and</i>	N/A

<sup>13</sup> A summary of the top twenty documents reviewed for this report can be obtained from the CEC Web site <<http://www.cec.org/>> or Environment Canada Web site <<http://www.ec.gc.ca/cei>>.

Bonini and K. Brehm		<i>opportunities of economic, social and environmental value creation</i>	
Environmental Capital Markets Committee.	2000	<i>Green Dividends? The relationship between firms' environmental performance and financial performance</i>	Positive
Ganzi, J. and A. DeVries.	1998	<i>Corporate Environmental Performance as a Factor in Financial Industry Decisions</i>	Positive and Negative
Ganzi, J., B. Erbiste et al.	2003	<i>Environmental, Social, Health and Safety Risk Management Manual for Financial Institutions</i>	Neutral
Gilding, P. et al.	2002	<i>Single Bottom Line Sustainability: How a value centered approach to corporate social responsibility can pay off for shareholders and society</i>	Positive
Innovest Strategic Value Advisors, Inc.	2003	<i>Carbon Disclosure Project 2003—Carbon finance and the global equity markets</i>	Positive
Innovest Strategic Value Advisors, Inc.	2002	<i>Value at Risk: Climate change and the future of governance</i>	Positive
Little, Arthur D.	2003	<i>Speaking the Same Language: Improving communications between companies and investors on corporate responsibility</i>	N/A
Mays, S. and BT Financial Group	2003	<i>Corporate Sustainability—an Investor Perspective: The Mays report</i>	Positive
Murphy, C.	2002	<i>The Profitable Correlation between Environmental and Financial Performance: A review of the research</i>	Positive and Negative
Pearce, B., et. al.	2002	<i>Sustainability Pays</i>	Positive
Plinke, E.	2002	<i>Share Performance and Sustainability—Does environmental and social performance have any influence on share performance?</i>	Positive
Repetto, R., and D. Austin	2002	<i>Pure Profit: Financial implications of environmental performance</i>	Positive
Repetto, R., A. MacSkimming and G.C. Isunza	2002	<i>Environmental Disclosure Requirements in the Securities Regulations and Financial Accounting Standards of Canada, Mexico and the United States</i>	Positive and Negative
Wagner, M.	2001	<i>A Review of Empirical Studies concerning the Relationship between Environmental and Economic Performance—What does the evidence tell us</i>	Positive and Negative

## **B. Industry Sector Response to the Business Value Case**

### ***Environmental Performance and Business Value***

There is evidence that some companies are realizing benefits from improved environmental performance (Blake-Goodman et al. 2002), though how and to what extent environmental practices generate business value varies across and even within sectors. Studies of corporate environmental leaders suggest a variety of potential sources of value. Improved environmental performance can, for example, reduce operating costs and increase efficiency, facilitate access to markets, reduce insurance and lending rates, enhance employee recruitment and retention,

improve stakeholder relations and, in some cases, lead to improved share price performance (Conference Board of Canada 2001). At the same time, companies are feeling the impact of environmental risks on their bottom line—in a 2003 survey of senior executives in the US, 35 percent reported a business transaction failure related to an environmental issue (CFO Research Services 2002).<sup>14</sup>

Despite these findings and pockets of corporate environmental leadership, broad adoption by industry of corporate environmental initiatives in North America, and globally, has not occurred. UNEP's 2002 industry assessment found that "in most industry sectors, only a small number of companies are actively striving for sustainability. The majority of companies are still doing business as usual" (UNEP 2002, 9). In addition, Epstein (2003) suggests that even companies that are proactive are not realizing the full financial potential of improvements to their environmental management.

While this general lack of leadership may be a response to an overall lack demand by investors for environmental management, the growing divide between leaders and laggards suggests that the majority of companies is not necessarily taking into account the potential advantages and disadvantages that environmental issues present across its sectors. For example, a series of publications by the World Resources Institute has demonstrated for a number of sectors that the unevenness with which environmental issues strike across industry makes them potential sources of competitive advantage and disadvantage (Repetto and Austin 2000; Austin and Sauer 2002, and 2003). As an example, the first in this series of papers found that companies in the pulp and paper sector face highly variable liabilities and risks related to pending environmental issues. The unevenness of the potential costs associated with addressing these risks and liabilities also means that companies impacted more greatly than their peers are forced to internalize more of the costs than their competitors, thereby reducing their competitiveness (Repetto and Austin 2000).

### ***Measuring, Communication and Disclosing***

For corporate environmental leaders, the challenge is therefore to identify the potential competitive advantages of their environmental positioning and effectively communicate the value, both tangible and intangible, of their environmental performance to investors, customers and stakeholders. Furthermore, by communicating these benefits to government leaders, they may succeed in facilitating a more supportive public policy environment—one that better supports corporate leadership. Successful communication along these lines is seen by many as a fundamental building block for advancing the business value case. Recognition of corporate leadership by institutional investors and through supportive public policy would entrench and enhance competitive advantages for early adopters of environmental technologies and business practices, effectively rewarding leadership through the capital markets (Forum for the Future 2002; Blake-Goodman, Kron and Little 2002).

There are few examples of companies achieving a clear line of communication between their environmental practices and a quantifiable competitive advantage. While a majority of large

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<sup>14</sup> This number is nearly double (60%) within the heavy-manufacturing sector.



publicly traded companies is measuring environmental performance to some extent, most of these are not communicating the results publicly (Canadian Institute of Chartered Accountants [CICA] 2000; Forum for the Future 2002) and many do not know the associated costs of their environmental management (Epstein 1996). At the same time, most companies measuring environmental performance are not using this information to benchmark their performance, set targets or report publicly on performance progress (expert interviewees). Nor are they reporting to shareholders on how their performance may represent financial risks, liabilities or opportunities. For example, a 2003 study of the US's largest carbon dioxide-emitting companies found that while many companies are measuring greenhouse gas emissions from their facilities, none has set baselines to control emissions from its products and only eight have set firm targets to stabilize or reduce their facility emissions (Cogan 2003). By extension, the research also concludes that many of these same companies face climate change-related financial risks and liabilities that are not being meaningfully disclosed (see, for example, Cogan 2003; Austin and Sauer 2002).

Studies have found that there are large differences in how much companies disclose about their environmental performance, both among regions and countries and within regions and countries.<sup>15</sup> The US and the UK demonstrate the highest levels of required disclosure globally, with Latin American and Asian emerging markets requiring the least (Sandeep and Dallas 2002). Still, public disclosure and the quality of corporate social responsibility data are generally weak. For instance, of the top 250 UK-quoted companies, 91 made no significant public disclosure about their environmental activities in 2001 (Business in the Community 2001). The study also questions the quality of the data being reported. Despite US disclosure activity, evidence suggests that the corporate commitment is stronger in Europe. A recent survey of European CEOs found they consistently assigned a higher level of significance to the importance of environmental, financial, and social credibility than did their North American counterparts (Brady 2003). This finding is also reinforced by recent European Community-sponsored research (Commission of the European Communities 2002). Nevertheless, the American Bar Association is launching a committee, which includes Canadian as well as American lawyers, on disclosure of environmental information.

Much speculation remains as to how the finance-environmental connection can best be made. While academic analysis of company reporting reveals that most companies have not reached a point where they have explicitly captured and communicated links between their financial performance and environmental performance, there are signs of progress (Epstein and Roy 2003; Stratos 2003). Levels of reporting are improving both in quantity and quality. For example, a recent survey of corporate reporting in Canada found a 75-percent increase in the number of reporters and that companies are improving their ability to both articulate the role of sustainability in their business and measure their performance. However, consistent with findings elsewhere in the world, the survey also notes that “few companies are reporting metrics that measure the financial contribution of sustainability performance other than the cost savings from activities to enhance eco-efficiency” (Stratos 2003, v). It is unclear whether this represents an unwillingness to disclose at this level, or whether the metrics for measuring the financial

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<sup>15</sup> The Global Reporting Initiative (GRI) is an example of an international, multistakeholder effort to provide guidance on corporate sustainability reporting, in order to improve comparability of information (<<http://www.globalreporting.org/>>).

contribution of environmental performance simply do not exist, or whether the findings are not made public by the private sector.

Capturing the “right” data to disclose has been difficult. At present there are virtually no formal governmental policies or requirements (e.g., GAPP or FASB in the US) that cover environmental or social accounting standards, and only marginal “official” guidance is offered on accounting treatment of such issues. Two exceptions are the UK’s Financial Reporting Standard 12 and International Accounting Standard 37, whose appendices draw on environmental examples to illustrate accounting treatment and highlight the importance of environmental considerations (The Association of Chartered Certified Accountants 2003). Prior to this, CICA, in 1993, issued a major study on accounting for environmental costs and liabilities, which was later used as the basis for a UN group’s recommendations. In addition, CICA’s proposals on environmental performance reporting (1994) and the widely known GRI Guidelines (2002) offer some guidance to companies, though not necessarily in a form most useful and accessible to investors or financial analysts. Since 1993, CICA’s annual reporting awards program has offered an award to companies leading the way in environmental performance reporting. CICA’s MD&A Guidance, issued in 2002, also recommends disclosure of environmental and social performance metrics where these are relevant to measuring progress/performance as one of a company’s key performance drivers.

### ***Connecting the Corporate and Financial Sectors***

Notwithstanding the work described above, the general lack of formal, legally binding standards and guidance on corporate environmental disclosure represents a potentially major barrier to effective communication of the business value case, since some of the most relevant information about the bottom-line benefits of environmental performance, such as environmental costs and efficiencies, are buried in other activity areas of income statements (Bagozzi, Epstein and Wisner 2003). For example, when looking at the extraction industries, the financial community has expressed a need for better indicators to fully understand and evaluate companies. However, the sectors are often not ready to report on the full range of indicators despite their efforts at the sectoral level to start agreeing on these indicators. This is illustrated by a recent PricewaterhouseCoopers survey where, “Investors and analysts identified 22 and 17 indicators respectively, as being particularly important out of a list of 32. Of these indicators, only a few fall into the traditional financial reporting category. As a result, significant gaps exist between companies’ ratings of the importance of key indicators and the ratings given to these indicators by investors and analysts” (PricewaterhouseCoopers 2003).

This disconnect between financial sector information needs and corporate disclosure of the positive and negative financial impacts of environment risks, liabilities and opportunities is a significant barrier to the development and potential impact of the business value case. While the importance of disclosing material risks is well understood, it is clear that environmental risks are not being widely measured or properly disclosed (CEC and UNEP 2003).

Some financial professionals also believe that proactive environmental management provides a leading indicator of good general management practices within a company. However, corporate

environmental communication has so far largely failed to couch environment accounting and reporting in these terms and is thus not written in a language that analysts find useful or even understand (GEMI 1998; Forum for the Future 2002). This position was strongly held by the experts involved in the development of this report. Some have suggested that this is a result of companies' focusing too exclusively on other stakeholders, such as environmental groups, plant communities, regulators and customers when writing their corporate environmental reports (GEMI 1998). Others have suggested the need for more specific engagement of analysts than afforded by corporate environmental reporting alone. For example, Gilding, Hogarth and Reed (2002) suggest that an examination of environmental issues within overall corporate business strategy and communication is necessary to engage analysts, since sustainability reporting is not a stand-alone strategy.

The results of the Carbon Disclosure project 2002 survey are another sign of the growing level of acceptance among company managements of the need to more effectively capture and communicate environmental performance information.<sup>16</sup> When asked by 35 institutional investors (representing assets in excess of US\$ 4.5 trillion) for relevant information relating to greenhouse gas mitigation, Financial Times 500 Global Index companies revealed a mounting and remarkably broad consensus among major global companies on the need for action on climate change. Fully 80 percent of the survey respondents explicitly acknowledge the importance of climate change as a business risk, revealing that the financial impacts of climate change extend well beyond the obvious, emissions-intensive sectors. In addition, approximately 35–40 percent of the respondents (i.e., about 30 percent of the total survey universe) report that they are taking concrete action to address the business risk of climate change for their companies (CSR Europe et al. 2003; Innovest 2003; Innovest and Audlug 2002).

Moving the corporate environmental agenda forward in a progressive way will require a broadly accepted mandate. “All parties have a role to play in deepening the understanding of the relationship between corporate sustainability and shareholder value. The long-term nature of sustainability means it has a role to play as a lead indicator of future investment performance” (Mays 2003, 26). However, even the most comprehensive business value case reporting by companies will do little good if investment banking research and reports fail to communicate this information adequately and effectively. The old adage of what gets measured gets managed holds here.

### ***Governance has a Role***

Among the actions being taken is the integration of environmental performance considerations into broader corporate governance strategies. Seventeen of the world's twenty largest corporate emitters of greenhouse gases report that they have conducted a board-level review of global warming. In addition, each of these companies reports having a board committee charged with oversight of the company's environmental affairs (Cogan 2003). While most profiled companies

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<sup>16</sup> The second report from the Carbon Disclosure Project was released on 19 May 2004. Over the last year, the number of participating institutions nearly tripled, to 95 from 35. In the same time period, represented assets more than doubled, to over US\$10 trillion from US\$4.5 trillion. In addition, responses to the survey from the FT500 companies are also up, from 47% to 59%. To access the reports go to: <<http://www.cdproject.net>>.

have adopted basic governance reforms to guide their environmental management practices, few have developed comprehensive, proactive governance response strategies to address the financial risks and opportunities posed by climate change. For example, only three of the 20 world's largest greenhouse-gas emitters have made attainment of greenhouse gas emission targets a factor in executive and plant manager compensation, even though all 20 companies have other environmental links to compensation for at least some of their employees (Cogan 2003).

## **C. Financial Sector Response to the Business Value Case**

Overall, the review of the literature indicates very limited engagement of the mainstream financial sector in the business value case. This is also supported by the interviews with experts, who generally agree that little is being done in North America or globally by equity analysts to integrate the business value case into decision-making. It is possible, however, that the integration of environmental data into financial models is being gathered and held on a proprietary basis. Publicly available research on the business value case, therefore, may not fully capture an accurate assessment of the use of environmental information.

### ***Mainstream Equity Analysts***

There is some evidence, from Europe and the UK in particular, to suggest that equity analysts do pay attention when decisions relating to corporate responsibility or sustainable development are likely to have material implications on earnings (Cowe and Porritt 2002). An annual survey conducted by London-based Business in the Environment confirms positive movement by sell-side analysts focusing on environmental and social issues (expert interviewees). In the 2002 survey, when asked directly about the importance of environmental factors, 33 percent of analysts said it was "quite or very important" in their evaluation of companies, compared to only 20 percent in 1994. The figures for social issues have increased by an even wider margin, from 12 percent to 34 percent in the same period.

A survey of fund managers and analysts by CSR Europe in 2003 also highlights some interesting findings:

- 79% of fund managers and analysts believe that social and environmental risk management has a positive impact on a company's market value in the long-term, but no impact in the short-term;
- 59% of fund managers and analysts believe social and environmental reputation crises are important or very important considerations when making an investment decision;
- 52% of fund managers/analysts believe that social and environmental considerations will become a significant aspect of mainstream investment decisions in the next two years;
- 40% agree that they grant a premium to companies with a good CSR performance; and
- 56% are dissatisfied with corporate reporting and communications (CSR Europe et al. 2003).

Time frames and their correlation to higher levels of risk are a critical factor for investors. The research and experts interviewed noted that investment time horizons are one of the top drivers

for including environmental performance considerations in investment decisions. At present, time and risk horizons for return on investment (ROI) may be longer for environmental performance than most investors or corporations are willing to accept, which impedes the business value case (expert interviewees). Pension investors may be a point of access for supporting long-term investment time horizons that correspond more closely to return on investments for environmental performance (expert interviewees).

### ***Creditors***

Compared to mainstream equity analysts, the credit side of the financial sector has a longer and more active history of engagement in the business value case, since this sector appears to have acknowledged the fact that environmental risks contribute to credit risk. The UNEP Finance Initiatives has been an international focal point for engaging commercial banks in the link between environmental, social and financial performance since it was established in 1992. A new sustainability initiative called the Equator Principles was launched by a number of banks in the spring of 2003 and is a good example of a best practice commitment by the financial sector. The Equator Principles commits signatories to ensuring that all project financing deals are developed in a manner that is socially responsible and reflects sound environmental management practices. The Principles also stipulates that signatories will not provide loans to projects where the borrower will not or is unable to comply with specific environmental and social policies and processes.<sup>17</sup>

Now signed by approximately 20 global financial institutions, the Equator Principles serves as the new industry standard or benchmark for looking at how seriously banks approach the issue of credit risk management related to large credit extensions and environmental and social considerations. It is interesting to note that the vast majority of participating institutions are European-based, with a small Asian contingent, one US bank, and two Canadian members.

### ***Socially Responsible Investment***

The leading proponents of the business value case within the financial sector are socially responsible investment (SRI) organizations. These organizations integrate environmental, social and/or ethical considerations into standard financial sector tools such as portfolio screening, shareholder engagement and community investment to generate financial returns. Socially responsible investing has evolved a great deal beyond its roots of simple negative screening, with best-in-class investing being perhaps the best means to ensure portfolio diversification and thereby mainstream acceptance (expert interviewees).

Based on the research, the mainstream investment community overall appears to marginalize the concept of socially responsible investing (SRI), and there is also confusion regarding the definition and meaning of the SRI term. That said, however, socially responsible investment has a small (albeit fast-growing) percentage of assets under management globally and so does not yet

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<sup>17</sup> Web link to the Equator Principles: <<http://www.equator-principles.com/principles.shtml>>.

have the financial weight to significantly influence mainstream financial players. SRI represents only about 3.3 percent of total combined retail and institutional assets in Canada (Social Investment Organization 2002) and 11.3 percent of assets (Social Investment Forum 2002) in the US.

Bowers and Arron (2003) provide an exhaustive data analysis of environmental and sustainability mutual funds. This allows the potential investor to evaluate exactly how environmental- or sustainability-driven funds are doing versus their benchmarks and other comparative points (e.g., the S&P 500). A growing number of Web-based resources also provide SRI performance data. By providing this type of information, social investing can exert greater influence as a credible mainstream investment style.

There is clearly a need to align communication of environmental risks, liabilities and opportunities within the lexicon of mainstream finance. “Standardization of information must be facilitated. The SRI community recognizes that communications would be greatly improved if a single, centralized database of information on companies’ CSR performance were available” (Little 2003).

#### **D. Public Sector Response to the Business Value Case: Geographic Perspectives**

While a detailed legislative and policy review of public sector engagement in the business value case is beyond the scope of this report, much of the existing business value case research helps to provide an overall perspective on the role the public sector has been and/or could be playing to support the development and communication of the business value case for environmental performance.

The public sector has and does, of course, play a key role in establishing the business value case through the development and enforcement of environmental regulations and fines for noncompliance. Some expert reviewers noted that stronger enforcement of existing environmental regulations and more consistent application of larger fines for noncompliance would go a long way to internalize the costs of corporate environmental impacts and thereby drive a link between environmental and financial performance.

However, environmental regulation is not the only role that governments can or do play and, internationally, governments have been actively engaged in the development and promotion of the business value case—from both a legislative and a policy point of view.

The European Commission has been particularly active in working towards the implementation of a common corporate social responsibility governance framework to help guide and define the future of European CSR policy. This work, including a 2001 green paper, *Promoting a European Framework for Corporate Social Responsibility*, aimed “to launch a debate about the concept of corporate social responsibility (CSR) and, secondly, to identify how to build a partnership for the development of a European framework for the promotion of CSR” (European Commission 2002, 4). Where the Commission has demonstrated the most leadership, however, is in linking this

agenda not only to an environmental and social mandate but also to a broader integrated economic strategy. Both the green paper and the work that has followed cite CSR as a positive contribution to the strategic goal of making Europe “the most competitive and dynamic knowledge-based economy in the world, capable of sustainable economic growth with more and better jobs and greater social cohesion” (European Commission 2001, and 2002). To follow on this goal, the Commission has provided financial support for several pilot initiatives, including socially responsible investment funds and a CSR management framework with voluntary disclosure standards for companies. A second, white paper on CSR is to be issued by the European Commission in November 2004 (Ethical Performance 2002).

Since the publication of *Green Dividends* by the US EPA (Environmental Capital Markets Committee 2000), there have been no identified comprehensive efforts by governments in North America to promote corporate social responsibility, in terms of financial performance, beyond the regulation and enforcement of environmental, employment, and health and safety laws. While a coordinated government-wide response is lacking in North America, there are signs of growing interest. For example, a number of states in the US, including California, New York and Connecticut, are beginning to examine regulations, reporting, and investment policies in terms of environmental, labor, transparency, and corporate governance issues. Public pension funds are being used as a financial incentive to influence sustainable corporate behavior. Led by the example of California, many state treasurers and attorneys general are becoming interested in a more active approach to investing, with a focus not only on better governance at the corporate level, but also on looking at risk areas such as climate change (Michael Jantzi Research Associates 2001). It is also worth noting that The Institutional Investor Network on Climate Risk was established at a CERES summit in November of 2003.

Some level of institutional investor interest also exists in Canada, where the Canada Pension Plan (CPP) Board, the Federal body that oversees the investment of Canadians’ public retirement funds, has recognized that, “Responsible corporate behavior can positively influence future value.” While the Board supports “[r]easonable shareholder resolutions that ask companies to make full disclosure on issues that relate to social responsibility, ethical behavior, sustainable development and corporate citizenship,” it does not exclude securities based on environmental or social responsibility criteria (CPP Investment Board 2003). Stricter rules exist in countries such as Sweden, where, since January 2001, the five largest state-controlled pension funds have been legislated to include environment and ethical considerations in their investment policies and to report annually on how they are fulfilling these.

## **Climate Change in Focus: Public and Private Sector Response in Europe and North America**

Climate change presents a good subject for illustrating the degree to which government policy may directly influence corporate response to a major environmental issue. For example, the Canadian commitment to the Kyoto Protocol brings Canada's regulatory and corporate competitive environment, in relation to carbon production issues, closer to that of Europe. The political atmosphere in the US, which remains uncommitted to Kyoto, clearly signals that America is taking a different tack.

A number of governments, in the EU and Japan, are establishing emissions-trading regimes designed to secure the maximum greenhouse gas reductions using the most cost-effective solutions. The German, Dutch, French, Swedish, Canadian, Australian, and Japanese governments are among the countries currently in the process of establishing concrete national emissions abatement plans (Innovest 2002).

The climate change issue has multiple implications for industry, and companies that ignore the carbon issue and the regulatory foundations of carbon abatement regimes may find themselves disadvantaged in the longer term, as the potential liabilities of carbon risk begin to influence bottom-line value. A good example is found in the automobile industry, as illustrated in *Changing Drivers* (Austin, D., et al. 2003). This case illustrates how carbon controls stemming from climate change concerns may impact the World's top 10 major automobile companies, as regulatory plans will require significant reductions in vehicle-related carbon dioxide (CO<sub>2</sub>) emissions over the coming decade. Value-oriented opportunities (management quality) and risks (carbon-related value exposure) are analyzed using a forward-looking, earnings before interest and taxes (EBIT) framework. (Austin et al. 2003)

As competitive advantages related to carbon risks and opportunities grow in the global marketplace, the financial community is taking action. In the Netherlands, the world's largest pension fund, ABP, has recently begun to address climate risk systematically in its stock selection process, beginning with two US\$ 100 million "experimental" portfolios. On the basis of the portfolios' early out-performance, the fund is currently considering expanding the use of this "environmental risk overlay" to a larger proportion of its Euro 110 billion portfolio. This magnitude of institutional activity has yet to be seen in the US.

It is worth noting that, of the 90 insurance and asset management signatories to the UN Environment Programme's Finance Initiatives, none is from the United States (UNEP 2002).

### ***Transparency and Disclosure***

Transparency and disclosure requirements are commonly seen as providing a key role for government to play in supporting and developing the business value case (Green Dividends 2000; Cowe and Porritt 2002). One of the key drivers of much of what has been happening globally on this front has been the UK SRI Pensions Disclosure Regulation, passed in July 2000 as an amendment to the 1995 Pensions Act. The regulation requires all pension funds in the UK to report publicly on their socially responsible investment policies and initiatives (UK Pensions Act 1995 amendments passed in July 2000). A number of other countries have responded to this UK lead. For example:

- France has amended its Corporations Act to require companies listed on the French stock exchange to explicitly disclose specific social and environmental considerations in their annual reports (amendments to France's 1967 Act in respect of commercial corporations,



passed February 2002). Environmental and social considerations are now reflected in legislation overseeing retirement savings contributions and retirement fund regulations.

- In August 2001, the Australian government passed the Financial Services Reform Act (FSRA), a comprehensive piece of legislation that covers issues of delivery, licensing, and disclosure in the provision of financial products and services. The Act includes an amendment that compels providers of investment products to disclose “the extent, if any, to which labor standards, environmental, social or ethical considerations are taken into account in the selection, retention or realization of the investment (Michael Jantzi Research Associates 2001).
- Most recently, the Johannesburg Securities Exchange announced that companies listed on the exchange will have to comply with King II corporate governance codes as well as Global Reporting Initiative (GRI) guidelines (Socialfunds.com 2003).

The recent changes in UK legislation have affected other sectors as well. For example, the Association of British Insurers (ABI) announced in October 2001 that it would require all public companies to report on the management and verification policies they use to identify and mitigate any risks associated with their environmental or social performance.

In the US, the Securities and Exchange Commission (SEC) is proactively promoting greater transparency and disclosure of company information as a basic right of shareholders. SEC support of shareholder involvement may help strengthen the business value case by drawing attention to the materiality of environmental issues and ensuring that this information is disclosed (meeting in Washington convened by Senators from New Jersey, New York and Connecticut, 9 July 2003, attended by author; expert interviewees). Recent corporate accounting scandals in the US have bolstered these efforts by increasing pressure to enhance the accountability and transparency of corporate environmental, social and financial disclosure.

The enactment in the US of the Sarbanes-Oxley Act in 2002<sup>18</sup> could result in greater scrutiny of methods for quantifying and disclosing potential environmental liabilities and provide an opportunity to increase the enforcement of disclosure of environmental risks. However, enforcement of SEC regulations will have to be improved if the new regulations are to maximize their impact, particularly in light of 1998 US EPA study finding that 74 percent of companies failed to report environmentally-related governmental enforcement proceedings that could result in governmental monetary sanctions greater than \$100,000 as required by the SEC (Blake-Goodman, Kron and Little 2002). In addition, there is also a need to mitigate the potential risks for companies which increase transparency by voluntarily reporting information about their environmental and social performance. Some firms say they become subjected to greater scrutiny

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<sup>18</sup> The Sarbanes-Oxley Act of 2002 is a sweeping piece of reform legislation intended to protect investors by improving the accuracy and reliability of corporate disclosures made pursuant to the securities laws. Section 302, “Corporate Responsibility for Financial Reports,” refers to specific provisions regarding the accountability of corporate disclosure. It references the need for the principal executive officer(s) and principal financial officer(s) to sign-off the report, certifying that they have reviewed it and that “the report does not contain any untrue statement of a material fact or omit to state a material fact.”

relative to their peers when attempting to become more transparent, resulting in a negative rather than positive business impact.

In Canada, proposed provincial securities commission rules are comparable to those in the US. For example, the Ontario Securities Commission has issued new rules regarding CEO/CFO certification of corporate disclosures that roughly parallel those of the Sarbanes-Oxley Act, and there are also ongoing discussions regarding the potential restructuring of security exchange commissions across Canada (Ontario Securities Commission 2003; Wise Person's Committee to Review the Structure of Securities Regulation in Canada 2003). In addition, all Canadian banks, insurance companies, and trust and loan companies with equity of \$1 billion or more are required to publish an annual statement describing their contributions to the Canadian economy and society (Financial Consumer Agency Act of Canada, 14 June 2001; amendments to certain Acts in relation to financial institutions).

In terms of securities law and environmental issues in North America, Canadian law limits the scope of the public interest mandate to protecting investors and promoting fair and efficient capital markets, and there is no provision for factoring in environmental issues. In the United States, the National Environmental Policy Act defines the public interest to include environmental protection. The SEC therefore has to take environmental objectives into account when formulating rules and regulations. It should be noted, however, that there is little evidence that the SEC has decided to establish and implement a plan broader than that in Canada in terms of allowing environmental factors to be directly linked to securities regulations as part of the public interest. Securities regulations in Mexico are directed solely to the protection of investors and have no mandate to promote the public interest (Repetto, MacSkimming and Gustova 2002).

At the most fundamental level, the disclosure requirements of Canada, Mexico and the United States are similar, in requiring that all material information regarding securities offered for sale to the public must be promptly revealed. There is common recognition in the three countries that environmental information may be material in this broad sense and, if so, must be disclosed. While these legislative initiatives are by no means a panacea to ensure full disclosure of environmental risks and liabilities, taken as a whole, they signal recognition that broad integration of sustainability considerations into the economy requires the active involvement of the financial sector.

## V. Conclusions: Barriers, Gaps and Opportunities

This report has focused on identifying where the business value link is solidly established, where it is weak and where there are gaps in knowledge and practice. Several hundred papers covering a wide range of analytical and conceptual approaches were reviewed, of which ninety were specifically used for the creation of this paper. Twenty experts were also interviewed in an attempt to establish a baseline context to help guide future research and engage stakeholders in further work on the business value case for environmental performance. The following are some of the barriers, gaps and opportunities identified in the research:

### A. Research and Analysis

While evidence of a business value case for environmental performance is strong at a theoretical and anecdotal level, much empirical work remains to be done. At the macro-level, where the business value case is empirically strongest, comprehensive and standardized metrics for capturing environmental performance data are lacking. Little work has been done to help companies systematically quantify the actual or forward-looking value of their environmental/CSR activities, despite the fact that stock prices represent expectations regarding the future value of income streams, taking into account future revenues, costs, risks, etc. (ICF Kaiser 1997; Emerson, Bonini and Brehm 2003). Stronger metrics would, in and of themselves, enable the emergence of a much more authoritative assessment of the presence and overall impact of environmental value drivers. Also, there is a strong body of business, professional and academic research literature and related networks about environmental management accounting (very active in Europe and Asia, less so in North America). A conceptual framework to systematically capture statistically rigorous relationships between specific environmental and financial indicators is needed to improve understanding of the appropriateness of specific indicators and to identify where correlations are strongest at the sector, firm and issue level. Metrics developed and tested within such a framework would, for example:

- help to overcome credibility gaps with the financial sector, whose interest is focused on forward-looking analysis, by testing metrics within a theory-based framework which could be used to test future-looking hypotheses;
- lead to the development of a quantitative analytical basis upon which to guide both corporate and public sector policy makers on where the business value case could be most effectively leveraged (e.g., through governance initiatives, or on specific sectors or environmental issues);
- contribute to the effectiveness and extent of dissemination of business value case information by focusing on key issues (such as corporate environmental governance, “carbon risk”) and by facilitating its communication in a language and format relevant to key stakeholders, including the financial sector; and
- drive a consistency in terminology and contribute to the development of standardized and comparable environmental performance information.

Another gap in the research and a major barrier to financial sector uptake of the business value case is the lack of micro-level variable analysis. While in practice, single variable environmental

value drivers may be rare or difficult to measure, micro-level quantification of the influence of environmental variables on financial performance at the company, sector and issue level is needed to more conclusively identify and understand environmental value drivers as well as to contribute to broader-level metrics and indices (Emerson, Bonini and Brehm 2003). The types of research needed include:

- longitudinal research (i.e., over 10 years);
- multivariate statistical analysis, to isolate the impact of environmental performance elements from other confounding variables and identify those elements that have the greatest impact on share price; and
- micro-level analysis, to establish a correlation between company environmental performance and shareholder value (Feltmate et al. 2001) and test causation.

While the above research provides support for a connection between environmental and financial performance, little of it establishes a direct causal link between emissions and financial performance (and those studies that do are challenged as not valid), further highlighting a need for further micro-variable analysis.

This research would increase the validity and acceptance of the business value case concept by the mainstream financial community. The development of accepted metrics would also contribute to improved quality of dissemination of the business value case. Governments and the private sector each have a role in supporting the development of this research and analysis to help capture the potential business value case contribution to societal and corporate benefits.

## **B. Measurement, Communication and Dissemination**

Most companies are not disclosing and may not be gathering environmental information and data in a fashion that is usable for making bottom line decisions. Business value case data may be gathered internally and not published. However, the interviews, literature review and expert review carried out as part of this research suggest that most companies do not have the measures of their environmental impacts needed to allow them to quantify the related costs and/or benefits to their businesses. At the same time, some research indicates that companies can face significantly divergent levels of financial exposure to the environmental issues relevant to their sector, pointing to potential significance, both to companies and to the financial sector, of integrated environmental performance information. Business value case research must establish specific measures that can be integrated into management, operational, and capital investment decisions and facilitate the communication of risks and benefits to stakeholders in the financial sector.

Research also indicates that information linking environmental and financial performance is not being presented in a coherent and coordinated manner, resulting in less interest and appreciation of the business value case by all components the financial sector (e.g., commercial banking, investment banking, pension funds, property and casualty insurers, etc.). There is a clear need to align communication of environmental risks, liabilities and opportunities within the lexicon of mainstream finance. This process involves companies capturing the right kind of information about their environmental performance and presenting it in a format appropriate to the audience.

Leading companies have so far taken great strides in communicating with broader stakeholders such as regulators, plant communities and environmental groups. The Global Reporting Initiative is an example of a leading effort to encourage companies to use standardized reporting formats. However, most have so far failed to capture the kind and quality of information needed to engage financial audiences, such as analysts (and those who hire these analysts), fund managers, CFOs and corporate treasurers.

Better measurement, transparency and disclosure at all levels of industry and investment relative to financial, social and environmental information is perhaps the foremost means of moving this engagement forward. Decisions makers, including investors, policy makers, and consumers, must have access to adequate environmental information that allows comparison between companies in order to make decisions and, where this information is financially material, to ensure the efficient functioning of financial markets (Repetto, MacSkimming and Gustova 2002). However, the research identifies a number of barriers to transparency and disclosure:

- a lack of a uniformly adopted set of standards for measuring and reporting on corporate social and environmental activities;
- a lack of demand for information by a great number of stakeholders (from community representatives to government representatives);
- a general absence and/or enforcement of regulatory regimes mandating disclosure; and
- a lack of demand for information by investors, analysts etc.

There is also a need to mitigate the potential risks for companies who report. When companies increase transparency by voluntarily reporting information about their environmental and social performance, they can be subjected to greater scrutiny. To overcome this barrier and encourage good corporate reporting practices, transparency and third-party auditing of this information should receive adequate recognition by mainstream as well as socially responsible investors. The popularity of socially responsible investment is growing and the resulting increase in demand for more detailed environmental performance information is putting a substantial strain on companies' reporting resources. If interest in socially responsible investing is mainstreamed, these demands will need to be addressed through standardization and coordination of information demands.

Finally, research suggests that the majority of business value case data and analysis is being disseminated through environmental, corporate social responsibility and other non-financial channels. To engage a broader mainstream financial audience effectively, this information should be disseminated using traditional financial networks.

### **C. Public Policy**

Governments have an important role to play in supporting the development and communication of the business value case. In particular, there is a need for integrated government support from departments focused on industry and finance. In Europe, broad government support has contributed to the successful engagement of banking and institutional investors, who are actively working on the development and application of environmental business value metrics (CSR Europe 2003).

One key area for further government effort, both in North America and elsewhere, is the collection of comprehensive and timely corporate environmental performance data and its communication in a useful and accessible format. The credibility and comparability of this data are critical to supporting analyses of corporate performance and the business value case (Repetto and Austin 2000). While some governments and other organizations are providing this service (e.g., US EPA Sector Facility Index, Canada's National Pollutant Release Inventory), there is a need to expand the scope and address timeliness, comparability and verification issues, both domestically and internationally.

This research also makes recommendations on the economic and market conditions that could lead to improved linkages between corporate environmental and financial performance on a much greater scale. For example, expert opinion suggests that mechanisms to encourage environmental strategies by increasing recognition of their value to firms include changes to financial reporting and MD&A disclosure requirements to enable the consideration of a firm's environmental strategies and performance in investment decisions. (Also, research and literature on intangible assets suggests that corporate environmental and social policies and performance, along with stakeholder relationships, can significantly impact reputation and brand value.) This point is echoed in the US EPA (Environmental Capital Markets Committee 2000) *Green Dividends* report, which calls for collaboration with professional investment organizations to support the development of equity valuation techniques that incorporate the financial consequences of environmental strategies. This report also suggested continued promotion of market-oriented approaches to environmental protection and development of performance-based regulatory frameworks and stronger corporate governance regulations.

Strengthening corporate governance, and understanding the relevance of environmental performance to the governance agenda remains a key gap, particularly as it relates to transparency and disclosure. As the cornerstone of corporate behavior, good governance may well be the basic starting point for making the business value case at the company level. Emerging elements of best practice in the area of governance are being identified; the fundamental focus is on the integration of environmental and social performance into business management systems (Zollinger and Lankester 2001). One good example of how this can be accomplished is by including environmental performance as a specific aspect of the link between executive compensation and stock price performance (Repetto, MacSkimming and Gustova 2002).

Finally, governments could make better use of existing and new legislation to mandate disclosure of financially material environmental issues. The UK and Denmark (Danish company law) have implemented disclosure legislation to encourage strengthened corporate transparency on environmental and social issues, to facilitate dialogue on the business value case. These actions have resulted in a range of legislative changes around sustainability disclosure across Europe. Some interviewers expressed concern about duplicating this regulatory approach in the North American context as they felt that most governmental thinking around the business value case is too regulatory in its approach, and is not flexible enough to promote real innovations around environmental activities and sustainability. However, there is general agreement that government intervention can help to move the business value case forward.

Lack of enforcement of current securities legislation as it pertains to disclosure of material environmental risks and liabilities remains a barrier to the business value case. Researchers suggest that fiduciaries should actively engage securities commissions to enforce existing disclosure laws in order to help protect investment value and identify opportunities for proactive dialogue with companies around potential areas of environmental improvement (Repetto and Austin 2000).

In summary, several broad roles for government were identified in this analysis:

- supporting efforts to identify and address research and communication gaps;
- increasing use of market mechanisms and tax incentives and disincentives;
- supporting the availability of transparent and comparable environmental information;
- effecting stronger regulatory control and better enforcement of current environmental laws and regulations, with stiffer penalties for noncompliance;
- setting and enforcing corporate governance standards;
- through strengthened securities regulators, enforcing and increasing disclosure of environmental risks, costs and liabilities, as well as other aspects of environmental performance;
- catalyzing and leveraging partnerships, especially with financial and business/industry departments, agencies and nongovernmental organizations in order to engage effectively the financial sector; and
- in the case of environmental agencies, in particular, working on making environmental information available to the financial community in useful formats, and cooperating more effectively with securities regulators and accounting oversight bodies.

## VI. Recommendations for Further Development of the Business Value Case

### *Address gaps in the research on the business value case. Specifically:*

- Carry out micro-level variable analysis at the sector, firm, and issue level to evaluate the financial performance associated with specific corporate environmental initiatives using financial and business metrics. Additional work is needed to determine methods for supporting industry to collect this information, integrate it into its management, operational and capital investment decisions and communicate the concordant financial risks and benefits to stakeholders in the financial sector.
- Integrate environmental considerations with work on corporate governance issues, particularly as related to transparency and disclosure.
- Increase sector-level analysis of general environmental initiatives (versus specific ones).
- Develop a theory-based framework with testable hypotheses on the relations between financial and environmental variables. The framework must account for both tangibles and intangibles and thus will most likely draw from economic, marketing and financial theory.
- As allowed by this framework, select metrics that summarize and compare environmental performance to financial performance within and across sectors (such as metrics that translate environmental risks into financial risks).

### *Improve communication of the business value case*

- Align corporate communication of environmental risks, liabilities and opportunities to the lexicon of mainstream finance. Specific suggestions include:
  - developing sector-level reporting approaches specifically aimed at the financial services industry;
  - integrating environmental considerations into the chief financial officer's quarterly briefing of analysts;
  - having environmental management representatives on the corporation's financial policy board sub-committee; and
  - using standardized global reporting approaches such as the Global Reporting Initiative (GRI) guidelines.
- Ensure availability of comparable information essential for the financial community to effectively evaluate the performance of different firms.
- Identify the corporate and financial key decision-makers who need access to the business value case research (e.g., investor relations officers, chief financial officers, asset allocation specialists, credit policy officers).
- Businesses should define environmental performance, utilizing an established CSR/Sustainability framework, and, for consistency and comparability, adopt relevant metrics from a known reporting standard.



- Businesses should better define, measure and report incrementally (internally and externally) on environmental targets that are meaningful to the corporation's stakeholders (identified through research) and within a corporation's direct control.
- Early priority should be placed on engaging the industrial and financial communities in a dialogue to share what is currently known on the business case and to identify the types of information and analysis to which they are likely to respond. Researchers should cooperate with other communities, thus automatically accomplishing part of the education goal.
- In Canada, this work could include supplementary guidance on the inclusion of environmental considerations in the management discussion and analysis section of corporate annual reports.
- Disseminate information on the business value case through business and financial channels rather than environmental and corporate responsibility outlets.
- Businesses need to better measure, document and track environmental investments and environmental initiatives that may add business value.
- Businesses need to look for ways to measure return on investment or assess share value and other business indicators linked to environmental initiatives.
- Businesses could improve stakeholder engagement to understand expectations and gain perspective on perceived performance.
- The financial sector should encourage business to document and track environmental investments and initiatives and to communicate this information and analysis to financial analysts.

***Government should play an active role***

- Increasing collaboration and coordination among a range of departments and agencies (e.g., industry, finance, trade, commerce, environment, etc.) supporting the development of the business value case is needed in the following areas:
  - Continued support to identify and address research and communication gaps.
  - Increased use of various market mechanisms, including, but not limited to, tax incentives and disincentives.
  - Setting and enforcing corporate governance standards, including disclosure of environmental risks and liabilities.
  - Strengthening disclosure of environmental risks, costs and liabilities.
  - Engagement and support of corporate sustainability leaders and experts from the socially responsible investment community who are championing the business value case.
- Other specific suggestions include the following:<sup>19</sup>
  - initiate a multi-stakeholder process by hosting high-level meetings between: (a) environmental and securities regulatory agencies, to explore further collaboration, and (b) corporate financial management, environmental agencies/ministries, securities regulators, auditors, accountants and rating agencies, to identify options for a public/private partnership that would help foster a healthy financial sector in North America;

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<sup>19</sup> The first three following bullets are recommendations from CEC background paper to Ministers (CEC 2003).

- establish a liaison office for facilitating the flow of information from the environmental agency to the securities regulator;
- provide a telephone service for analysts and investors that would direct their questions to relevant branches and sources of expertise within the environmental agencies/ministries;
- develop a Web site containing links and directories to potentially useful environmental information, searchable by companies;
- help set up “business value case” initiatives that would recruit companies and financial institutions to join in collaborative research initiatives;
- establish recognition programs for outstanding case studies and contributions to knowledge development in this area, and;
- provide funding for academic research in this area—explore the use of incentives to support linking environmental performance to business value.

## Annex A: List of Interviewees

Person Name/Location	Category	Firm/Contact Data
1. Hewson Baltzell	FI/Industry	Innovest Strategic Advisors
2. Toby Belsom	FI	Morley Investments
3. Timo Van de Brink	Academic	Vrije University, Amsterdam
4. Michele Chan	NGO	Friends of the Earth
5. Jed Emerson	Academic/ Foundation	Stanford University & Hewlett Foundation
6. Kajetan Hetzer	FI	SNS Bank
7. Doug Holmes	Academic	Monash University
8. Andreas Knoetzen & Eckhard Plinke	FI	Bank Sarasin
9. Lloyd Kurtz	FI	Harris Bretall Sullivan & Smith, LLC
10. Steve Lydenberg	FI	Domini
11. Mindy Lubber	NGO/FI	CERES
12. Donna Morton	NGO	Integral Economics
13. Mario Monzoni	NGO/Academic	Vargas University & Friends of the Earth Amazonia
14. Jon Naimon	FI	Green Light Investors
15. Brian Pierce	NGO/FI	Forum for The Future
16. Don Reed	FI/Industry	Ecos Corp.
17. Jack Robinson, Matt Patsky, & Celine Suarez	FI	Winslow Management
18. Ken Scott	FI	Walden Capital
19. David Wheeler	Academic	Schulich School of Business, York Univ.
20. Allan White	NGO	Tellus Institute

FI = financial industry, NGO = nongovernmental organization

## Annex B: Comments from Expert Reviewers<sup>20</sup>

Six practitioners from the financial sector, nongovernmental organizations, industrial corporations and academic institutions agreed to critically review this report. Specifically, reviewers were asked to provide an overall assessment of the report, confirm that key pieces of research had been considered in the analysis and that the report presents a comprehensive and balanced assessment of the business value case from the perspective of identifying where future research and engagement are needed. Reviewers were also asked to provide constructive comments identifying gaps in the business case analysis, recommendations to improve the business case, as well as recommendations on how to communicate and disseminate this work.

Reviewers' comments have been distilled and incorporated into the report. In addition, the unedited expert reviewer comments are provided below. The authors' response to the overall comments is included as Annex C.

### List of Expert Reviewers:

<b>Expert Reviewer</b>	<b>Title and Affiliation</b>
<b>A. Marc J. Epstein</b>	Distinguished Research Professor of Management Jesse H. Jones Graduate School of Management Rice University
<b>B. Carmine Nappi</b>	Director, Industry Analysis Alcan Inc.
<b>C. Sandra Odendahl</b>	Senior Manager, Environmental Risk Management Royal Bank of Canada
<b>D. Ken Ogilvie</b>	Executive Director Pollution Probe
<b>E. Brenda Riddick</b>	Director, Corporate Social Responsibility Bank of Nova Scotia
<b>F. Andrew Winston</b>	Director, Corporate Environmental Strategy Project School of Forestry and Environmental Studies Yale University

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<sup>20</sup> These are cited within the text as “expert reviewer.”

**Expert Reviewer:**

**A. Marc J. Epstein,**

Distinguished Research Professor of Management  
Jesse H. Jones Graduate School of Management  
Rice University

**Unedited Comments:**

I do have many of the concerns that I expected to have, and though it is better than expected, I am not sure how it moves the field forward and provides any new information than many already published materials for example the Margolis and Walsh book. This has been many of my criticisms of this work that we are rehashing previously completed materials and not making any steps forward. So, I though I do have some disagreements with some of the conclusions and recommendations presented, I don't see the contribution of this document to the literature or discussion.

That said, a more rigorous analysis of the literature would conclude that the relationships and links are less clear. Though the environmental and social community likes to make the point about the positive relationships, it is not clear. And, even if it were clear, we have not established the cause and effect. Do profits cause companies to spend more money on environmental programs or does environmental performance lead to future financial success? Do good companies with good leaders drive superior financial performance and concurrently make other proactive decisions on things such as the environment. So, neither the drivers or the effects are clear though some of us are starting to gather some evidence.

I was also not clear why governance is discussed here. Is this a driver of good environmental performance? Is this paper also on good governance? Yes, these scandals are in the news, and I have worked on this a lot, but the relevance to environmental performance is not clear to me.

The authors seem to focus on external disclosure and communication. The fundamental problems in that the companies do not calculate the business case when making decisions. They don't have the measures of either the costs or the benefits and thus all internal analyses are deficient. Thus they make these decisions differently than most investment decisions which are made based on return on investment. They cannot disclose something that they do not have. Until companies have a methodology and measures for their social and environmental impacts, they cannot disclose them even if they wanted to. If progress is to be made, first it has to be on constructing the business case in a way that managers can use—with specific measures that they can integrate into management decisions and operational and capital investment decision making processes.

So, this is not about increasing the regulation of disclosure now—first companies need the information to disclose. Then we can discuss whether the disclosure to attain increased transparency should be voluntary or mandated. The focus should be on what managers can do now.

There is also no evidence that Europe is ahead of North America. There may be more disclosure, but there is no evidence that there is more integration into decision making or calculation of the business case. As stated above, if the calculations are not made, the increased disclosures of irrelevant data does not help anyone. Further, we have no evidence that the increased level of disclosure has any impact on or is related to the level of environmental performance. That is, it is generally seen that the disclosures are public relations documents and do not reflect levels of company integration of environmental issues in decision making or level of environmental performance.

I think that you should focus on helping companies and managers make better decisions with a framework and measures on how to make the business case internally. Then, maybe we can talk about disclosure and transparency because only then will companies have something to disclose.

**Expert Reviewer:**

**B. Carmine Nappi**

Director, Industry Analysis

Alcan Inc.

**Unedited Comments:**

In general, I found the report extremely well-written, very clear, and comprehensive. The current gaps in the business value case are well identified, in particular the difficulties that researchers may find in trying to establish a statistically significant relationship between environmental performance and business value, no matter how these two last variables are defined. Nevertheless, I would like to offer some comments in order to improve even more the quality of the report:

- First of all, before wondering about the “statistical significance” of the relationship between business value and environmental/social performance, researchers should examine first and thoroughly its “economic significance.” Why do we expect such a relationship to exist? What is the economic theory behind it? Based on what set of assumptions about the objective function of firms? In what exact case this relationship is thought to be positive? Why? To what extent the expected sign (positive or negative) of the relationship is sensitive to the assumptions used? What is the alternative assumption?
- Second, once the “economic significance” has been very well documented and established (and there seems to be very little material on this), then comes the question of “empirical evidence.” However, what is important here is not the presence of a correlation (which may sometimes be found even between unrelated variables) but much more the presence of a causality link between environmental/social performance and the business value of an enterprise. This is a much more difficult task and requires much more than a high degree of correlation. It requires mainly a multivariate statistical analysis where variables other than those mentioned above may be held constant in order to really isolate the impact of the independent variable on the endogenous variable.

- Third, a lot of work has been done by industry associations not on the relationship mentioned above, but on defining the environmental, social and economic impacts of their members (in the discussions related to the Kyoto agreement). To the extent that this work better defines the dependent and independent variables to be used for the above, it would have been worthwhile to include it in the survey. For example, in the case of the aluminum industry, the International Aluminum Institute has 11 indicators to capture the environmental impacts of the industry (global PFC emissions and average PFC emissions per tonne of aluminum produced over time; global GHG emissions, CO<sub>2</sub> equivalents, and average emissions per tonne of alumina and aluminum produced; something for fluoride and SO<sub>2</sub>/BaP/Particulate emissions; fresh water consumption; old and new scrap recycled; etc). The social impacts are measured by 5 indicators (percentage of plants with formal mechanisms for consulting the local community; percentage of them with workforce training/education schemes and youth employment programmes; community initiatives to improve health, education, environment and the local community; number of recordable incidents and global lost time injuries per million hours worked; etc.). Finally, 6 indicators are used for the economic impact (total direct employment; contribution to GDP; etc). Of course, indicators have big shortcomings (what weight should be given to economic impact as compared to environmental or social impacts?; what weight should be given to one specific indicator within a group?). Nonetheless, they deserve to be part of the reviewed literature. I am sure that other industry associations (nickel, copper, steel, etc) must have been generating the same type of output.

**Expert Reveiwer:**

**C. Sandra Odendahl**

Senior Manager, Environmental Risk Management  
RBC Financial Group

**Unedited Comments:**

*General Assessment:*

- I found the paper hard to follow. For example, I'm not sure that splitting the subsections of IV. A. into "quantitative" and "qualitative" research is user-friendly. As a reader, I would find it more useful to have the subsections of **IV.A. Current State of Evidence...** broken into: (1) positive links between business and environment, (2) neutral correlation, (3) negative correlation. Perhaps another useful way would be to break the results into the different "envrionmental performance" proxies, such as: (1) Financial performance and environmental events, (2) financial performance and pollution reduction, (3) financial performance and environmental liabilities
- The paper is unclear or inconsistent in explaining what is meant by a "business case" or a "business value case" and how we would know when we found one.
- The paper switches back and forth among "environmental performance", "sustainability", "corporate responsibility", "corporate environmental sustainability" etc etc. Help!!!! The report title suggests that it should focus on environmental performance. Not only are the other terms not interchangeable, they are never defined in the report. "Sustainability" must be

defined. This wishy-washy term means different things to different people. Then there are “environmental sustainability,” “sustainability criteria,” “business and sustainability, etc sprinkled throughout this document. The reader is left to ponder what exactly the writers are talking about. If it is not possible to use consistent language, then we must at least ensure buzzwords are well defined.

- In the first paragraph of the Introduction, the business case is defined as a correlation between environmental and financial performance. However, the many ways of measuring “environmental performance” are not clearly and concisely outlined in the paper. For example, “sustainability,” and “pollution reduction” appear to be assumed to be measures of environmental performance, but this is not explicitly stated nor justified.
- The scope of the report is unclear. It seems to cover a lot of material unrelated to the stated objective (which I believe is in the title)

### *I. Acknowledgements*

- Para. 1, Sent. 4—Is the Network really “informal”?
- Para.2, Sent. 3—“contribution to **illustrating** the business value case...” The business case was not established by the report authors. They only reported on the work of others.

### *II. Executive Summary*

- Para.1—I do not understand how there is a “key opportunity” to be found in “engaging the business and financial communities in the debate on the correlation between environmental and financial performance.” I thought the opportunity is in *demonstrating* the correlation, so that the business and financial communities can act accordingly.
- Somewhere in the Exec Summary, it is critical to specify what is meant by “Business value case”
- The objective of the study is not clearly stated at the beginning of the Exec Summary.
- Para. 4, sent. 1 “....and serves as a guide for future research....”

### **Key Findings**

#### *Status of the Business Value Case*

- The first bullet, second sentence should say “...neutral correlation between environmental **performance** and business value”... Last sentence should say: “...and where it is less so **could** serve as a driver...”
- The second bullet says that “a number of gaps remain at the sector, firm, and issue level...” Shouldn’t the gaps be clearly listed here, as this is the answer to one of the objectives of the study?



### ***Communication and Language Barriers***

- I believe that the contradictory and not easily comparable nature of the research is a major communication barrier. Is it covered in bullet 2?
- In the first bullet, the last sentence implies that financial analysts **should be** looking at the business value case (for environmental performance). This is an assumption, but not a fact. Many believe that financial analysts should look at company finances, access to capital, and quality of management above all. It can be argued that if there really is a business case for environmental performance, it will show up in improved financial performance (isn't that the whole point?), so there may be no need to analyse it separately. I suggest removal of the last sentence of the first bullet.

### ***Lagging North American leadership***

- If the objective was to examine the evidence of a business case for environmental performance, why is the report commenting on lagging NA leadership in environmental performance by industry and integration of environmental information by the financial sector? These topics appear to be beyond the scope of the report. The report might legitimately comment on how much research into the business case comes from North America versus other regions.
- I'm not sure what the second bullet means where it says "...North America is falling behind emerging economies' actions to support the link between environmental performance and financial performance...." Furthermore, is this part of the report's scope?

### ***Role of the Public Sector***

- A key role that is not discussed in this review is the role of government to establish and enforce penalties for non-compliance. Regulatory controls are an essential driver of environmental performance because pollution is mostly an externality that society "pays for" unless the cost is appropriately transferred back to the polluter.

### ***III. Introduction***

- The scope of the report is not clearly stated anywhere
- Again, para 1, sentence 2 (Engaging the business and financial....") sounds like bafflegab to me.
- Para. 3 including bullets—The five bullets list possible reasons why environmental information is not integrated into financial decisions, but all five points focus on the financial community. Aren't there problems with business in general not seeing the correlation between environmental and financial performance? Again, it would be helpful to clarify the scope of this report.
- Para 4—North America is part of "international," no need to state it separately

### ***Methodology***

- Para 3 should say "see Annex A"

- The list of Interviewees is scarce on mainstream financial institutions—Canadian or US

#### ***IV. Linking Environmental performance to Business Value***

##### **A. Current State of Evidence**

- Para 1—another twist on the business value case “environmental business value case”
- Para 2.—define “sustainability criteria”
- Para 2—what is meant by “financial decision making processes”
- The terms “sustainability,” “responsible business practices” and “sustainability principles” are used interchangeably. Is this intentional? Given that this paper is summarising the findings of several other authors, would it not be helpful to give examples of what authors are referring to when using any of these terms. I would be surprised if every researcher did indeed mean the same thing.

##### ***Quantitative Research***

- Para 4—how did Bagozzi et al define environmental performance?
- Para 6—it is stated that none of the research establishes a direct causal link between emissions and financial performance. However, in paragraph 8, we learn that Konar and Cohen concluded in 1997 that a reduction in toxics increases market value. I am confused.
- Para 8—it would be helpful to have more information about the specific studies cited, such as the Konar and Cohen study. What kinds of firms were studied? How were toxic chemicals determined? What size of companies saw the \$31 million increase in market value? Etc.
- Page 17, first bullet—It is stated that “Event studies show that the influence environment-related events (positive or negative) have on stock market performance of firms is only short term in nature, which suggests that analysts are not including environmental performance as part of their long-term valuations.” Actually, what it suggests is that there is NO REASON for analysts to include environmental events in long-term valuations. If there is only a demonstrated short-term impact on stock price, then why would they? Where is the gap?
- Page 18, Second-Last Paragraph—the word “Fortunately” at the beginning of the paragraph gives away the report’s biases. This should be removed.
- Page 18, Last Paragraph : “Europe leads in terms of conceptual business value case thinking.....” Plain English please!

##### **B. Industry Sector Response to the Business Value Case**

###### ***Achieving Business Value***

- General Comment on the section title—if the whole point of this study is to see what the status is of the business case, and we’re finding it is unclear, then what is the point of discussing how firms are not embracing the (unproven, unclear, poorly communicated) business case? I’m trying to think of a better title!

- This section seems to jump all over the place without a clear path or direction. I suggest some subheadings, and a bit of a logical framework. Maybe a more succinct title would help tighten the focus of the section. It reads as though the writer isn't sure what he/she is getting at. (I don't know what he/she is getting at)
- Para 1, sentence 1—"Leading companies are realizing benefits...." This is very subjective. What is a "leading company"? It must be defined, or the sentence should say "Some companies..."
- What is "improved sustainability performance"?
- Para. 2; what is meant by "broad adoption of corporate environmental sustainability"? What would that look like? We can't use buzzwords like "corporate environmental sustainability" without stating what is meant. Anyway, in this study, are we talking about environmental performance, or are we also talking about social performance, philanthropy, governance, etc?
- How can we be sure broad adoption of corporate environmental sustainability has not occurred? From one report in 2002 by UNEP? The statement may or may not be true, but it is not well justified in the paper.
- Para. 3—the hypothesis here is that companies must communicate their "sustainability performance" (I thought this paper was about environmental performance) to their stakeholders in order to move along the path to sustainability. And further on it states, "Successful communication is fundamental to advancing the business case". Huh? Those statements are highly debateable, but they are presented as fact. It is unclear how communication to stakeholders, many of whom never ask for environmental information and do not read it, helps a firm perform better. Furthermore, it must be explained how communication can help the business case. If the "business case" we are referring to is that there is a link between environmental and financial performance, then how does communication prove or disprove this? There is a gigantic logic gap here.
- Para. 3, 4, and 5—another undebated assumption here is that it is the role of business to push environmental information at government, investors, customers and shareholders (and this will somehow make them more "sustainable"). In fact, business is typically responsive to its stakeholders, so if the stakeholders are not asking for this information, there is no business case for the firm to provide it. They may do so for internal reasons such as a desire to maintain a particular reputation or corporate culture. If stakeholders ask for it, then there is indeed value in providing it.
- Para. 4—Could it be that the reason that the US's largest CO<sub>2</sub> emitters have not set firm targets to stabilize or reduce their emissions is because there is no external driver (regulatory or stakeholder pressure) and because there is no financial case for doing so? Either no researcher has considered this, or the report authors have not interpreted the available research in this manner. Either way, shouldn't this possibility be addressed?
- Para. 5—Isn't it true that the "corporate commitment" to disclosure is stronger in Europe because European stakeholders are requesting disclosure?
- Para. 6, discusses how few companies are reporting metrics that measure to financial contribution of sustainability and then the sentence states that "It is unclear whether this represents and unwillingness... or whether the metrics...do not exist." The most likely reason (and the purpose of this paper) is not mentioned—i.e., that there is no conclusive evidence

that “sustainability performance” necessarily provides a financial contribution to an individual business.

- Para. 7—the results of the CDP may in fact show the consistent and longstanding acceptance of company management that they must respond to their stakeholders! If the CDP had 35 institutional investors controlling US\$4.5 trillion asking how many people below 5’4” were employed at a company, you can be sure that the response rate would have been pretty good for that survey too.

#### C. Financial sector Response to the Business Value Case

- General Comment—again, the section title should be modified, since this paper is trying to find evidence of the business case. If it turns out that there is no business case, then the title makes no sense at all

#### ***Creditors***

- This section should clarify that creditors’ “engagement in the business value case” is in fact recognition that environmental risks contribute to credit risk. This is not the same as saying that good environmental performance increases share price, or any of the other linkages that have been discussed in this paper. Furthermore, the Equator Principles are simply more recognition of the same—environmental risk adds to credit risk.
- There is one US bank participating in the Equator Principles—Citigroup.

#### ***Socially Responsible Investment***

- Para. 3—The statement, “*The mainstream investment community, however, marginalizes socially responsible investing*” is not attributed. What research indicates this? Also, it would be interesting to know how the mainstream investment community “marginalizes” SRI? Since 96% of investment in Canada is not in SRI, one could legitimately argue that it is presently a marginal subset of the investment universe.
- Wouldn’t this section be a good place to discuss what the SRI investment community has demonstrated regarding the strength of the link between environmental and financial performance? If there were any group that should have lots of research and data available, this would be it. However, the authors do not provide any SRI data to address the objective of the report (remember, this report is supposed to be examining the link between environmental and financial performance)

#### D. Public Sector Response to the Business Value Case: Geographic Perspectives

- The public sector response section focuses heavily on improving transparency and disclosure, which are important. However, what about the public sector’s role in protecting the public interest by implementing and enforcing strong environmental regulations? A gap in this report, and perhaps in the body of available research, is examining how conclusive the link is between financial and environmental performance wherever there is strict environmental regulation. For example, if it costs a firm \$1,000,000 in fines every time it accidentally spills more than X litres of organic matter into the St. Clair River, it becomes easier and more obvious for the firm and the financial analysts looking at the firm to link the environmental and financial performance. Where enforcement is weak and fines are low, one would expect

the link (i.e. the “business case”) to be weak as well. Has no researcher ever done an examination of this? If not, we have a gap. If so, lets see the results.

## **V. Conclusion: Barriers, Gaps and Opportunities**

- General comment—some of this section is repeated in the following section. It would perhaps be less repetitive to focus this section on summarising and drawing conclusions from the research reviewed. “Opportunities” are very similar to, and lead to, recommendations, below.

### ***Research and Analysis***

- In the last 3 bullets listing the types of research needed, the writers again start talking about sustainable development and company sustainability, rather than environmental performance. This is right after stating that “*micro-level quantification of the influence of environmental variables.... is needed.*” How will sustainable development research help us understand the impacts of environmental performance at a micro level? Won’t it make things blurry, since sustainable development (at least MY definition of it, I don’t know about anyone else’s) comprises much more than environmental performance?

### ***Communication and Dissemination***

- Para 1—Communication is important, but if the link between environmental and financial performance is weak or spurious, then coordinated communication won’t make it better appreciated by the financial sector. I don’t think we’ve established that the link is always significant, and certainly haven’t established when it is versus when it isn’t.
- Para. 2—Another barrier to disclosure is that not enough stakeholders (including regulators) ask for it

### ***Public Policy***

- As mentioned above, a major public policy gap and role for government is enforcement of pollution control regulations. This turns externalities into internal costs for firms, and thus the link between environment and finance is made. Pollution fines and penalties in Canada are typically very, very low, when they are laid at all. This needs to be examined and discussed.

## **VI. Recommendations for Further Development of the Business Value Case**

### ***Address gaps in the research on the business value case. Specifically:***

- The third bullet belongs in the communication section. It is not a research gap.
- More sector-level analysis of general environmental initiatives (versus specific ones) would also be useful

### ***Improve communication of the business value case***

- There is no “one-size-fits-all” solution to communication. Furthermore, this paper shows that the business case is not even clear! So, these “communication” strategies are not realistic in my view
- To get the CFO to talk about environmental considerations, those considerations would have to be important to the firm. The fact is that environmental matters are not key performance drivers in all firms nor in all sectors.

***Government should play an active role***

- OK

**Expert Reviewer:**

**D. Ken Ogilvie**

Executive Director

Pollution Probe

**1. General Assessment**

In my opinion, the report presents a good assessment of the current state of knowledge on the business case for linking environmental performance to business value. The weakness of empirical research on the correlation between environmental and financial performance makes it difficult to know exactly where to target research efforts. As noted, however, the penetration into mainstream business and financial communities of the existing research and analysis on this subject is poor. Therefore, early priority should be placed on engaging these communities in a dialogue to share what is currently known on the business case and to identify the types of information and analysis to which they are likely to respond. This engagement could be invaluable in helping assess the recommendations made in the Linking Environmental Performance report and in setting the future research agenda.

A sustained effort may be needed to educate the business and financial communities on the significance of environmental performance to the long-term financial viability and prospects of business, depending on the results of empirical and other research on this subject. Ideally, research would occur in cooperation with these communities, thus automatically accomplishing part of the education goal. As with all innovations, pioneers and early adopters will most likely be the vehicles for early engagement, but linkages to institutions and organizations within which they work should be strived for at the start.

b) Key pieces of research and information may have been omitted from the analysis. In particular, the growing research base and literature on voluntary environmental initiatives and on ENGO/business partnerships, although not directly related to the business case proposition underlying the Linking Environmental Performance report, may offer new insights into what many corporations/businesses are looking for in terms of public image, as well as in new ideas for product innovation and marketing. Some useful references on these topics are noted below.

### **Selected voluntary environmental initiatives literature:**

**Carraro, Carlo; Mattei, Fondazione Eni Enrico; Lévêque, François** (editors). "Voluntary Approaches in Environmental Policy". The FEEM/KLUWER International Series on Economics, Energy and Environment; Book Series: ECONOMICS, ENERGY and ENVIRONMENT; Volume 14, Kluwer Academic Publishers, Dordrecht; Hardbound, ISBN 0-7923-5516-4; March 1999, 272 pp. <http://www.wkap.nl/prod/b/0-7923-5516-4>

**Christmann, Petra and Glen Taylor**. 2002. "Globalization and the Environment: Strategies for International Environmental Initiatives." Paper prepared for submission to the Academy of Management Executive Special Issue - How Governments Matter?  
<http://faculty.darden.virginia.edu/christmannp/Paper%20Abstracts/ChristmannTaylorAME.pdf>

**Iannuzzi, Alphonse Jr.** 2001. "Industry Self-Regulation and Voluntary Environmental Compliance 2001"

**OECD**. 2003. "Voluntary Approaches for Environmental Policy: Effectiveness, Efficiency and Usage in Policy Mixes" Paris, France.

<http://oecdpublications.gfi-nb.com/cgi-bin/OECDBookShop.storefront/EN/product/972003091E1>

**Orlando Jimenez** (presenter). 2004. "Voluntary Agreements in Policy-Making and Implementation. An effective approach towards sustainable development?" Part of the Paper Session: Theorising Sustainability: Connecting Economy, Environment and Society? II, 3/15/2004.

### **Selected ENGO/business partnerships literature:**

Covey, J., & Brown, D. L. (2001). Critical Cooperation: An Alternative Form of Civil Society-Business Engagement. IDR Reports: A Continuing Series of Occasional Papers, 17.

Mendleson, N., & Polonsky, M. J. (1995). Using strategic alliances to develop credible green marketing. Journal of Consumer Marketing, 12, 4-18.

Hartman, C. L., & Stafford, E. R. (1997). Green Alliances: Building New Business with Environmental Groups. Long Range Planning, 30, 184-196.

Heap, Simon. (2000). NGOs Engaging with Business: A World of Difference and a Difference to the World. INTRAC NGO Management and Policy Series No.11, pp. 66-69.

Stafford, E.R. and C.L. Hartman. 1996. "Green Alliances: Strategic Relations Between Business and Environmental Groups." Business Horizons, 39(2), 50-59.

Stafford, Edwin and C.L. Hartman. 2000. "Environmentalism-Business Collaborations: Social Responsibility, Green Alliances and Beyond." Published in Advertising Research: The Internet,

Consumer Behaviour and Strategy, George Zinkhan (editor). American Marketing Association, Chicago, IL.

Westley, F. and H. Vredenburg. 1991. "Strategic Bridging: The Collaboration Between Environmentalists and Business in the Marketing of Green Products." Journal of Applied Behavioural Science, 27(1), 65-90.

In addition, there is a growing amount of literature and discourse on the subject of Corporate Social Responsibility (CSR) that could be examined. The Linking Environmental Performance Report looked at this topic, but did not cover the literature in depth. The current interest of ISO in this topic (and the potential for an ISO standard in this area), for example, is an indicator of the growing importance of CSR to international trade, and hence business. Financial analysts may not be aware of CSR developments yet, but might become interested in the future if they perceive the importance of this subject to business risk.

In summary, linking environmental performance to business value is a complex task with many possible dimensions to it. The report does a good job of looking at this linkage using the direct literature on this subject, but some new insights may be gained from literature that does not directly target this subject, but which may become a basis upon which future business value is assessed.

## **2. The Business Value Case**

Based on my knowledge and understanding, the author provides a very good assessment of the current gaps in the business value case. As noted above, there may be some additional insights to be gained from literature on voluntary environmental initiatives, ENGO/business partnerships and CSR. This literature may give insights into business value in terms of image, marketing, innovation and social license to operate, among others.

## **3. Supporting and Developing the Business Value Case**

The following recommendations (and roles) are made to effectively develop the business value case:

- i) Business—Document and track environmental investments and environmental initiatives that may add business value. Look for ways to measure Return on Investment or assess share value and other business indicators linked to environmental initiatives.
- ii) Financial sector—Encourage business to document and track environmental investments and initiatives and to communicate this information and analysis to financial analysts. Offer to work with selected companies to identify relevant financial (and other) indicators and set up reporting mechanisms.



iii) Government—Set up “business value case” initiatives that help recruit companies and financial institutions in research initiatives. Establish recognition programs for outstanding case studies and contributions to knowledge development in this area. Provide funding for academic research in this area. Explore the use of incentives to support linking environmental performance to business value.

iv) University/academic—Use business value case studies in business school (and other faculties, as appropriate) course materials. Encourage academic research in this area.

#### **4. Communication of the Business Value Case**

Since I come from the ENGO community, my comments are limited to this sector. The main communications vehicle to large numbers of ENGOs in Canada is through the Canadian Environmental Network (CEN), which has approximately 2,000 member organizations/individuals. Direct communication with the larger ENGOs (including conservation groups) is also recommended. A few examples include: West Coast Environmental Law Association, Suzuki Foundation, World Wildlife Fund (Canada), Canadian Nature Federation, Pembina Institute for Appropriate Development, Conservation Manitoba, Pollution Probe, Canadian Environmental Law Association, Environmental Defense Canada, Sierra Club, Sierra Legal Defense Fund, Friends of the Earth, STOP, UQCN (Quebec), Ecology Action Centre (Nova Scotia), etc. The best way to reach these groups is through e-mail/internet connections.

Pollution Probe will share this work with all sectors through its VIRC (i.e., Voluntary Initiatives Resource Centre) (see [www.pollutioprobe.org](http://www.pollutioprobe.org) and look under What’s Happening to view the Voluntary Initiatives Resource Centre). The business case report will be included in the VIRC in the annotated bibliography section when the report is completed and approved for release. Pollution Probe will also consider linking the report to its work on a project titled, *Towards an Environmental Sustainability Policy Framework*. The initial phase of this project will be completed by March 31, 2004, and will be profiled on the VIRC.

#### **Expert Reviewer:**

**E. Brenda Riddick**

Director, Corporate Social Responsibility

Bank of Nova Scotia

#### **1. General Assessment**

a) *In your view, does the report present a comprehensive and balanced assessment of the business case from the perspective of identifying where further research and engagement is needed? Why or why not?*

The review of the relevant literature is comprehensive however the interviewees engaged in the report would appear to have a biased viewpoint on the business value case. To gain a balanced assessment it would be beneficial to include in the list of interviewees the equity analysts and the “mainstream financiers” with whom it is the desired intention to ultimately engage.

North America has recognized leaders in the field of sustainability as measured by indices such as the DJSI and FTSE 4 Good. The perspectives and insights of these leaders would add another useful dimension to the report and a perspective from industries with a large environmental footprint would be beneficial in balancing the assessment, which is heavily weighted towards the work of academics in the field of sustainability as opposed to actual leading sustainability practitioners.

*b) Have key pieces of research information been omitted from the analysis? Please specify.*

Sustainable Asset Management (SAM) is considered to be the most highly regarded sustainability research organization. As SAM developed the world’s first index to track the performance of sustainability-driven companies worldwide it would be worthwhile referencing this research in the report. It would also be worthwhile considering SAM’s approach in defining the scope of environmental performance as it relates to environmental business opportunities, environmental management, environmental risks and environmental strategy and how performance against these criteria are linked to financial performance.

## **2. The Business Value Case**

*a) From the research presented in the report and from your own knowledge, does the author provide an accurate assessment of the current gaps in the business value case? Are there other gaps that have not been identified? If yes, please describe.*

Little attention appears to have been paid to the potential financial value of a corporation, business or industry which capitalizes on environmental business opportunities in, for example, the design, manufacturing or financing of innovative environmental technologies in an age of increasing environmental regulation and environmental scrutiny and therefore an age of ever increasing business opportunity.

While the report identifies the considerable gaps or opportunities that exist in the communication and dissemination of research on the business value case—we must acknowledge that the less than compelling business case (no clear definition of environmental performance or financial performance and thus an inability to make a strong link between the two, lack of data, inconsistent or non-existent metrics) is in itself a barrier to the penetration of the business value case into mainstream business, the lack of interest and appreciation in the business case and the lack of comparable and thus convincing information.

- b) *In your view are there gaps in research, information and analysis on the business value case and/or gaps in an actual link between environmental performance and business value? Please explain.*

It is very difficult to make a strong link to business value when there is a lack of consistency in the examples cited to demonstrate this link. For example, in one instance we cite “evidence and experience.....suggest that, in certain circumstances, improved environmental performance will lead to improved financial performance”. This linkage is based on company reported environmental information as a proxy for environmental performance. We then cite another study which suggests, “Companies with superior environmental performance had higher returns on investment...” based on a resource-based view of environmental performance.

In considering the gaps in research, information and analyses it is important to analyze and evaluate the financial value/risks of environmental performance where a particular industry such as a financial institution has a **direct** environmental impact (energy and water consumption, paper consumption, level of recycling) and an **indirect** impact (lending to energy intensive industries, financing of projects in environmentally fragile areas and investment of assets in companies with large environmental footprints).

Likewise, in order to establish a link between environmental performance and financial valuation there are gaps in the research with respect to where a company can take the lead and take effective actions on its own, where it can only take effective action in working with others and where effective action is only possible through contributing to the efforts of others (i.e. corporate donations).

Although shareholders and customers do not typically track a corporation’s performance or chose to deal with a company based on a single risk variable—there needs to be additional research and analysis on stakeholder perceptions and expectations of environmental performance on an industry by industry basis in order to understand the potential opportunity for added financial value through environmental responsibility and likewise the risk. Information on trends in the public’s willingness to punish or reward a company based on its perceived environmental performance would be beneficial and adds another important perspective to the business value case.

### **3. Supporting and Developing the Business Value Case**

- a) *In order to effectively support and develop the business value case, what recommendations (e.g. specific research, provisions of information, communication initiatives, policies, etc.) would you provide to:*

i) *Business*

- Define environmental performance utilizing an established CSR/Sustainability framework

- Develop an environmental performance strategy
- Define, measure and report incrementally (internally and externally) on environmental targets that are meaningful to the corporation's stakeholders (identified through research) and within a corporation's direct control
- For consistency and comparability adopt relevant metrics from a known reporting standard (e.g. GRI)
- Establish the causal links to financial performance

ii) *The Financial sector*

- Incorporate messages related to environmental performance in traditional financial reporting and communications to investors and analysts

iii) *The Government*

- Clearly articulate the government environmental management strategy and vision
- Engage business in environmental agenda

b) *What role do you see each of these sectors playing? Are there other sectors that should be playing a role?*

i) *Business*

- Stakeholder engagement to understand expectations and gain perspective on perceived performance
- Adopting environmental practices that are within the corporation's control and identified as meaningful by stakeholders
- Public reporting through a variety of reporting mechanisms
- Establishing benchmarks of environmental performance which contribute to the establishment of socially beneficial norms and encourage socially responsible practices and innovation in the area of sustainability
- Consensus on metrics and reporting guidelines

ii) *Financial sector*

- Incorporation of environmental performance data in financial valuations

iii) *Government*

- Policy

#### **4. Communication of the Business Value Case**

5. *What do you recommend as the most effective means to communicate and disseminate the report and other research on the business value case?*
- Identify and gain the endorsement of a widely respected leader in sustainability
  - A letter introducing the study addressed to the CEOs and CFOs of top North American Corporations
  - A concise report to analysts which includes a clear call to action
  - Engage support of the SRI community
6. *Are there specific organizations, associations, or networks that should be engaged (including yours)?*

In order to develop a sound business case there must be conformity and consistency in reporting. Engagement of corporations in an industry network to develop a framework for environmental performance would be beneficial.

Regulatory bodies working in conjunction with business on this initiative would also be beneficial.

7. *Will you share this report with any of your colleagues? From Business? The Financial sector? Government? Other? Please specify.*

It would be our intention to share a concise report on the Business Value Case to our Senior Executive Team responsible for Real Estate, Finance, Environmental Lending Policies and Global Risk Management

**Expert Reviewer:**

**F. Andrew Winston**

Director, Corporate Environmental Strategy Project

School of Forestry and Environmental Studies

Yale University

**1. General Assessment**

- a) In your view, does the report present a comprehensive and balanced assessment of the business case from the perspective of identifying where further research and engagement is needed? Why or why not?**

Balanced, yes. Comprehensive, maybe—but it's a tough topic to cover fully. Some concerns I have about the report are mainly structural (or perhaps just personal writing style so take it with a grain of salt) —many of the best conclusions are buried. For example, the summary at the end of section IV-A has a couple of excellent points: 1) the business value case is strongest at the

sector/aggregate level and weakest at the specific metric level, 2) the ‘specific reasons for the...correlation are not yet proven’. This latter conclusion is a major one and should be highlighted and discussed. Not knowing *why* there’s a correlation is one of the big reasons it’s hard to convey. Other great points are in the conclusion (such as the need for clear metrics) but are many pages into the study—these solid points need to come forward to the intro.

In general, the study does not seem to be completely clear on its main task, which could be a function of what was assigned. Some general observations on this topic...

- Is the study supposed to help make the business value case, or just assess the state of the thinking on it (this confusion is biggest in section IV-B where there are stories on the business world’s progress on climate change and setting GHG targets, which seems a bit off topic on the state of the business case).
- Thus it muddies a few possible goals: a) give a status on research on the connection/correlation, b) give a status of how the case is communicated to key stakeholders, c) tell some stories that support the case itself
- Also, is the focus supposed to be on communicating the business case mainly to the financial community (vs. the business community, the NGO community, etc)? If not, then the expert interviews should include a broader array, including more from the business community such as CEOs who ‘believe’ and some who don’t.

**b) Have key pieces of research/information been omitted from the analysis? Please specify.**

A couple questions central to the discussion come to mind that are touched on, but not addressed directly.

- What *is* business value?
- What *is* environmental performance?

These two are critical and very, very hard to answer. But I think that pointing out the vagueness of these definitions will highlight why the business case is so hard to measure and communicate. The many possible definitions of business value derived from environmental action are mentioned specifically in the opening paragraph of IV-B (costs, access to markets, employee retention, etc). This breadth of value creation should be highlighted much more in the study and the status of the business case for the range of payoffs should be assessed. The table with proxies for financial value only focuses on things like stock price, net income, and other traditional financial measures. What about these other payoffs? Maybe some are in the studies mentioned in the other table of “Top 20” papers, but it’s not clear if so.

The definitions of environmental performance are also highly varied—is it just emissions and outcomes, or reduced ‘footprint’ across the whole value chain from suppliers to end-of-life. The real leaders are thinking along the lines of the latter. The study should address the full range of environmental performance. Environmental *action* is also not well defined yet. In footnote 3, the study describes how an environmental management system can add value. Environmental performance does not just stem from the EMS—it comes from bringing an environmental perspective into all aspects of the business.

Section IV-A covers many of the ways people look at these values, and the table is helpful, but it might be helpful just to call out the connections that have been studied: e.g., TRI correlation with financial outcomes, global standards correlated with no reduction in market value, emissions with market value, etc. Maybe this just means a simplified table. In addition, this study could address the *quality* of the studies covered, in terms of range of companies and industries or statistical validity (e.g., 90% confidence level on findings, etc).

## 2. The Business Value Case

3. **From the research presented in the report and from your own knowledge, does the author provide an accurate assessment of the current gaps in the business value case? Are there other gaps that have not been identified? If yes, please describe.**
4. **In your view, are there gaps in research, information and analysis on the business value case and/or gaps in an actual link between environmental performance and business value? Please explain.**

See above...

## 5. Supporting and Developing the Business Value Case

6. **In order to effectively support and develop the business value case, what recommendations (e.g. specific research, provision of information, communication initiatives, policies, etc.) would you provide to:**
  - i) Business
  - ii) the Financial sector
  - iii) Government

To answer these as a group, I think the important point here is that making the business case to each of these communities will require a *very* different approach and style. My take on what's needed to make the business case to the business community includes...

- o Concrete examples of company actions that have paid off (or not)
- o Discussion of the breadth of payoffs
- o Understanding of the business forces coming to bear (like the Equator principles and SRI)

The first area does not fit a report that assesses the *state* of the business case—the stories are best in a different forum. As mentioned above, I think this report could do more on the second area. The big trends for the third one are covered in this study but could be highlighted a bit more. But making the case to the business community will be complex and needs to be honest about the failures in the field and the possible pitfalls. And it needs to vastly expand the definition of a 'payoff' for environmental action.

The business value case for the financial community may be a much simpler task. Innovest in New York is doing excellent work showing the connection between environmental leadership and

overall management quality. They have some great charts showing how much better their top-tier environmental performers do than the laggards in terms of stock price. They are saying it's correlated, not necessarily causal. But this may be plenty good enough for the financial world—they mainly want to know that a company is a good investment and is managed well. But, according to the stats in this study, the financial world is getting it to some degree (79% of fund managers seeing the value in risk management). As this study points out, what may be missing for the financial community is the connection to short-term business value. This connection has not been either measured well or communicated well.

Finally, for government, the case may need to focus on how regulatory action can prompt innovation (Michael Porter is the big proponent of this), or how they can help by levelling the playing field for an industry. The case for government may also focus on how to mix market and regulatory forces, or *when* the business case is strong without government intervention (e.g., cost cutting and efficiency) and when the government may be needed (e.g., asking companies to internalize costs of CO2 emissions).

This report makes some good points about the communication barriers and the need to speak the business community's language (or the 'lexicon' as they call it). The need for transparent and comparable metrics is also a great point.

## **7. What role do you see each of these sectors playing? Are there other sectors that should be playing a role?**

- i) Business
- ii) the Financial sector
- iii) Government
- iv) Others?

The business community clearly has a vital role in documenting the business case. But it should also play a major role in communicating it. The true believers should be encouraged to carry the message to the other sectors. And, importantly, the company representatives should include CEOs and line business heads, not just the environmental or sustainability people. The financial sector can play a crucial role in how it finances projects – the Equator principles are a major step in that direction. And the govt needs to level the playing field and make all players internalize certain harms.

NGOs also need to be educated about the business case—not the moral one, but the business case, which may include a moral element, but is primarily about building stronger businesses. NGOs are moving from a scolding role to partnerships, but they need to understand the business case and convey it effectively. And the media needs to understand it as well so they can engage with stories on how good environmental moves are good business—they need to tell more than the good citizenship angle on the story and tell it from a business perspective. A few publications like *Fortune* and *Fast Company* have picked up on these threads and do good work, but it needs to be widespread.



## 8. Communication of the Business Value Case

- a) What do you recommend as the most effective means to communicate and disseminate the report and other research on the business value case?
- b) Are there specific organisations, associations, or networks that should be engaged (including yours)?
- c) Will you share this report with any of your colleagues? From Business? The Financial sector? Government? Other? Please specify.

Not sure what the best means are, but they need to be mainstream—mainstream media, mainstream industry and trade journals, mainstream events and conferences, etc. The study points out the need to use ‘traditional financial networks’. I would only add as mentioned above the need to use business people (CEOs, business line heads) to deliver the message to shareholders and analysts.

In terms of organizations...the green business community is talking to itself right now and we need to open up the tent. Organizations like the Conference Board, WTO, WEF, etc.

## 9. Additional Comments

Minor additions to the timeline in Annex D...

- The timeline is financial industry leaning (which may be the point—not sure)
- In phase 3, some key publications, including the Brundtland Report and Hawken’s *Ecology of Commerce* in particular really started this movement. Other key writers are missing from the timeline, and perhaps from the whole study, such as Amory Lovins.
- In phase 3 and 4, a big change came when some business community bigwigs (e.g., CEO of Shell, BP, DuPont, etc) got on board. This made a huge difference.

## **Annex C: Authors' Response to Expert Reviewers**

We would like to thank all reviewers, interviewees, and network members for their input, effort and thoughts in contributing to this report. This report in its final form has been materially updated and improved upon because of the excellent written feedback received. As you, the reviewers, will see, many of your specific and overall comments are now reflected throughout the final report.

It is also critical to note that this report was a literature review and was not intended to put forth anything “NEW”, but was intended as a distillation and summarization of the work and thoughts of others.

Although a great many of the comments were excellent and we the authors agreed with many of them, a large number of the comments fall outside the scope of this effort as outlined in the introduction of the paper. This paper was not meant to do the following:

- Cover all the documents reviewed in detail. It was the specific desire of the CEC and EC to keep this paper shorter by reducing the amount of references and citations from specific documents. For interested parties, there is an additional 50-page exhibit that summarizes the author's distillation (i.e., not an evaluation or a report that proposes next steps) of the 20 most relevant documents reviewed for this report.
- Cover all aspects of solving the Business Value Case or prove that sound environmental or sustainability practices are financially profitable.
- Perform any new research.
- Try and link all different approaches and methodologies.
- Perform any original analysis of the cause and effect of environmental issues.

It is also important to remember that this report:

- Did not look at research formally published past September of 2003, as the report was created during the months of October—December of 2003.

As far as the documents reviewed and the individuals interviewed go, it is important to note to following:

- Only literature that specifically looked at environmental performance related to financial performance was examined. Although a great amount of other excellent research exists, it was seen as outside the scope of this effort.
- The researchers, the CEC and the EC reached out to a broad universe of people requesting suggestions on relevant documents.
- The researchers then spent several weeks scanning Web site data-bases and search engines to find additional relevant documents.
- In regard to interviewees, the researchers contacted a much larger number of people than are listed as interviewees. However, many of the individuals specifically suggested by peer reviewers, the Network, the CEC and the EC chose not to participate or said they were unavailable.

Although no research study can (a) cover all relevant research materials or (b) interview all worthwhile people, every attempt was made to examine as much material as possible and to interview as broad as possible a universe as was feasible.

## **Annex D: Timeline of Major Events related to the Business Value Case**

### **Phase One—Up to 1970:**

- Milton Freeman mindset—Companies maximize profits by minimizing costs through externalization of liabilities. Pollution and negative social/environmental effects will be absorbed by the planet, creating profit for the company.
- Charity is deemed to be the way to leverage wealth towards social good.
- Environment is seen as a good, free for corporate exploitation, with little to no regulation.

### **Phase Two—The Early Days (1970–1985):**

- Alerted by Rachel Carlson and *Silent Spring*; the public slowly wakes up to effects of pollution and the possibility that economic activity is damaging the ecosystem and thereby humans.
- EPA and the US government take the lead in mandating toxic emissions disclosure. Company-specific data becomes available for the first time, but there is no equivalent in Europe.
- Socially responsible investment (SRI) funds are introduced, with environmental screens, using limited quantitative methodologies.
- 1970s real estate crisis in USA.
- USA Superfund and other legislative Acts.
- Asbestos lawsuits begin.
- Environmental insurance is made available for the first time.
- Development Bank guidelines are introduced.
- Expansion phase occurs for NGO-driven environmental awareness.
- Terms like “corporate social responsibility” and “sustainability” are unknown.

### **Phase Three—A Movement Takes Form (1986–1995):**

- Fleet Factors case gets global attention as the first time a bank is held liable for an environmental cleanup (May 1990).
- US-based banking regulator (FDIC) issues specific bank guidelines in 1992.
- UNEP declaration for environmental banking is endorsed by 28 signatories in 1992.
- The US-based Securities and Exchange Commission (SEC) issues SAB '92 in 1993, explaining that material environmental liabilities must be disclosed.
- ASTM issues the first standard in 1993, stating basic requirements for real estate environmental due diligence.
- Public awareness builds to a point where the environment becomes a mainstream business issue.
- Europe begins to take the lead in environmental regulation, with a focus on corporate regulation and tax-driven consumer behavioral changes.
- During the Reagan years, there is a push for de-regulation, with a negative impact on the environment.

- Pension funds and institutional investors take note of SRI.
- Insurance industry and creditors begin to see the environment as a risk factor, and climate change starts to emerge as the big issue.
- Starting with the Exxon Valdez and Union Carbide Bhopal disasters, companies begin to feel the impact of negative responses to catastrophic environmental events.
- Although there is little academic interest, there are some early signs of positive correlation between financial performance and environmental factors.
- The first profit-driven environmentally screened mutual funds are launched in the USA and Switzerland.

**Phase Four—Rapid Growth and the Birth of Sustainability (1996–2000):**

- US insurance industry annual statement requirement related to environmental liabilities for all US licensed insurance firms is introduced.
- Property and casualty claims associated with asbestos and its environmental risk is estimated at over US\$ 300 billion.
- In Europe, a rapid growth of profit-motivated, environmentally screened mutual funds begins.
- ISO 14000 series is introduced in 1998.
- UK banks begin to offer lower credit rates for clients with good EMSs (1998).
- Innovest and Sustainable Asset Management (for-profit environmental rating companies) are launched.
- Dow Jones Sustainability Index is launched.
- Shareholder activism grows significantly in terms of both volume and effect, driven by early success and SEC reforms.
- SRI becomes mainstream, but the trans-Atlantic approaches begin to obviously diverge.
- In the US, SRI is “bolted on” by financial advisors after initial fundamental financial analysis.
- In Europe, engagement and institutional investors focus on the development of integrating sustainability into analytics on an equal par with financial concerns.
- Academic interest grows.
- CSR reporting becomes mainstream, as does “green-washing.”
- Debate grows as to whether sustainability is a core strategy or simply a marketing tool.
- Kyoto Protocol and climate change dominate the environmental press.
- Some companies begin speaking up about integrating sustainability as a means to both reduce risk and drive down costs through efficiencies.
- Many new companies and networks enter the CSR/SRI analytics field, offering increasingly sophisticated products and services.
- Wall Street remains oblivious to CSR.
- European Banks start to pay attention, even claiming the CSR niche (e.g., The Co-operative Bank, Rabobank).
- UK Pension Fund Act is enacted.
- Japanese eco-funds are introduced.

**Phase Five—(2001--Present):**

- Rapidly growing level of interest in climate change by almost all major insurers (with possibly only some USA-based firms lagging).
- Academic interest surges, as studies begin to conclusively prove performance.
- Limited mainstream financial research focusing on SRI begins in Europe.
- Studies on the relationship between environmental and economic performance at the firm level are reported only very recently for Europe.
- Interest grows among large American institutional investors.
- UK occupies the lead position in terms of SRI.
- FTSE “4 Good” Index is introduced in Summer 2001.
- First Transitional Economy Sustainability Fund, by Banco Real (December 2002).
- UNEP aggressively expands its push into North America.
- High level of interest expressed by NAFTA ministers (Summer 2002).  
Equator Principles is launched and signed by 20 commercial banks in 2003.

## Bibliography

Aspen Institute. 1998. *Uncovering value: Integrating environmental & financial performance*. Washington, DC: Aspen Institute. <[http://www.azalliance.org/Sustainable Arizona/Sustainable Business/Fin-Env Perf - Aspen Institute.pdf](http://www.azalliance.org/Sustainable%20Arizona/Sustainable%20Business/Fin-Env%20Perf%20-%20Aspen%20Institute.pdf)>.

Association of Chartered Certified Accountants (ACCA). 2003. *The big picture: How the environment influences corporate profit*. Toronto: ACCA. <<http://www.acca.co.uk/pdfs/environment/bigpicture.pdf>>.

Austin, D., and A. Sauer. 2002. *Changing oil—Emerging environmental risks and shareholder value in the oil and gas industry*. Washington, DC: World Resource Institute. <[http://pubs.wri.org/pubs\\_description.cfm?PubID=3719](http://pubs.wri.org/pubs_description.cfm?PubID=3719)>.

Austin, D., et al. 2003. *Changing drivers: The impact of climate change on competitiveness and value creation in the automotive industry*. Washington, DC: World Resource Institute (WRI) and Sustainable Asset Management (SAM). <[http://pubs.wri.org/pubs\\_description.cfm?PubID=3873](http://pubs.wri.org/pubs_description.cfm?PubID=3873)> or <<http://www.sam-group.com/changingdrivers>>.

Banks, L., and C. Moore. 2003. The importance of material information. *European Pension News* (published by *The Financial Times*) 27, October 2003.

Bauer, R. and N. Guenster. 2003. *Good corporate governance pays off! Well-governed companies perform better on the stock market*. ESB, May 2003.

Blake-Goodman, S., J. Kron and T. Little. 2002. *The environmental fiduciary: The case for incorporating environmental factors into investment management policies*. Oakland: The Rose Foundation for Communities and the Environment. <<http://www.rosefdn.org/images/EFreport.pdf>>.

Bowers, R. and D. Aaron. 2003. *Socially responsible investing*. Cambridge, USA: Cambridge Associates LLC.

Brady, A. 2003. *Forecasting the impact of sustainability issues on the reputation of large multinational corporations*. Cambridge, England: Judge Institute of Management, Cambridge University. <<http://www.cus.cam.ac.uk/~akob2/Resources.html>>.

Buhr, N., and M. Freedman. 1996. *A comparison of mandated and voluntary environmental disclosure: The case of Canada and the United States*. Binghamton, NY: School of Management, Binghamton University. <<http://panopticon.csustan.edu/cpa96/pdf/buhr.pdf>>.

Business in the Environment. 2001. *City attitudes survey: Investing in the future*. London: Business in the Community. <[http://www.bitc.org.uk/programmes/programme\\_directory/business\\_in\\_the\\_environment/financial\\_research/index.htm](http://www.bitc.org.uk/programmes/programme_directory/business_in_the_environment/financial_research/index.htm)>.

Canadian Democracy and Corporate Accountability Commission. 2002. *The new balance sheet: Corporate profits and responsibility in the 21st century*. <<http://www.atkinsonfoundation.ca/publications/Recommendations2002.pdf>>.

Canada Pension Plan Investment Board. 2003. Proxy voting guidelines. Toronto: CPP Investment Board. <[http://www.cppib.ca/who/policy/Proxy\\_Voting\\_Guidelines.pdf](http://www.cppib.ca/who/policy/Proxy_Voting_Guidelines.pdf)>.

CEC. 2003. *Environmental disclosure in financial reporting: Update and recommendation*. By R. Repetto. Paper presented to CEC Council meeting, June 2003, in Washington, DC. Montreal: CEC.

CFO Research Services and Chubb Financial Solutions. 2002. *Reassessing environmental risk*. Boston: CFO Publishing Corp. <<http://cfoenterprises.com/index2.htm>>.

CICA. 2001. *Environmental performance: Measuring and managing what matters*. By A. Willis and J. Desjardins. Toronto: CICA. <[http://www.cica.ca/index.cfm?la\\_id=1&ci\\_id=1412&highlight\\_keywords=willis](http://www.cica.ca/index.cfm?la_id=1&ci_id=1412&highlight_keywords=willis)>.

CICA. 2000. *Environmental performance and shareholder value creation 1999 survey*. By Willis, A., J. Desjardins, and A. Tabone. Toronto: CICA (with NRTEE).

Cogan, D. 2003. *Corporate governance and climate change: Making the connection*. Boston: CERES.

Cohen, M., and S. Konar. 2001. Does the market value environmental performance? *Review of Economics and Statistics*, Vol. 83 (2), pp 281–289. Nashville: Vanderbilt University. <<http://mba.vanderbilt.edu/fmrc/pdf/wp9719.pdf>>.

Coles, D. and D. Green. Do UK pension funds invest responsibly? A survey of current practice on socially responsible investment. London: *Just Pensions*. 2002. <<http://www.uksif.org/Z/Z/Z/lib/2002/07/jp-ukpf-do/index.shtml>>.

Collins, S. Investors concerned with companies' eco-history. Atlanta: *CNN Headline News*. Monday, 3 November 2003. Posted: 8:12 AM EST (1312 GMT).

Commission of the European Communities. 2002. *Corporate social responsibility: A business contribution to sustainable development*. Brussels: European Union. <[http://europa.eu.int/comm/employment\\_social/publications/2002/ke4402488\\_en.pdf](http://europa.eu.int/comm/employment_social/publications/2002/ke4402488_en.pdf)>.

Conference Board of Canada. 2001. *Sustainable development, value creation and the capital markets*. By B. Feltmate, B. Schofield and R. Yachnin. Toronto: Conference Board of Canada. <[http://www.conferenceboard.ca/GCSR/research/sustainable\\_development.pdf](http://www.conferenceboard.ca/GCSR/research/sustainable_development.pdf)>.



- Co-operative Insurance Society. 2002. *Is there a business case for socially responsible investing?* London: Co-operative Insurance Society.
- Coulson, A., and ISIS Asset Management. 2002. *A benchmarking study: environmental credit risk factors in the pan-European banking sector.* London: ISIS Asset Management.
- Cowe, R., et al. 2001. *Investing in social responsibility—Risks and opportunities.* London: Association of British Insurers.
- Cowe, R. and J. Porritt. 2002. *Government's business—Enabling corporate sustainability.* London: Forum for the Future.  
<[http://www.theforumelab.org.uk/uploadstore/Governments\\_Business.pdf](http://www.theforumelab.org.uk/uploadstore/Governments_Business.pdf)>.
- CSR Europe. 2002. *The European survey on socially responsible investment and the financial community.* Brussels: CSR Europe.
- CSR Europe et al. 2003. *Investing in Responsible Business—The 2003 survey of European fund managers, financial analysts and investor relations officers.* Brussels: CSR Europe.
- Dasgupta, S., B. Laplante and N. Mamingi. 1998. *Capital market responses to environmental performance in developing countries.* World Bank Development Research Group.  
<<http://www.worldbank.org/html/dec/Publications/Workpapers/WPS1900series/wps1909/wps1909-abstract.html>>.
- Derwall, G., R. Bauer and C. Koedijk. 2003. *The eco-efficiency premium in the US equity market.* Limberg, Netherlands: Limberg Institute of Financial Economics.
- Diltz, J. D. Does social screening affect portfolio performance? *Journal of Investing*, Spring 1995.
- Dowell, G., S. Hart and B. Yeung. 2000. Do corporate global environmental standards create or destroy market value? *Management Science* 46: 1059–1074.  
<<http://www.stern.nyu.edu/bes/papers/Yeung1.pdf>>.
- Earle, R. 2000. *The emerging relationship between environmental performance and shareholder wealth.* Concorde, MA: The Assabet Group.
- EMAS. 2001. *Green finance: Environmental management in banks, savings banks and insurance companies.* Berlin: German Federal Finance Ministry and the German Federal Environment Ministry. <[http://www.bmu.de/files/green\\_finance\\_english.pdf](http://www.bmu.de/files/green_finance_english.pdf)>.
- Emerson, J., S. Bonini and K. Brehm. 2003. *Blended value map: Tracking the intersects and opportunities of economic, social and environmental value creation.*  
<<http://www.blendedvalue.org/>>.

Environmental Capital Markets Committee. 2000. *Green dividends? The relationship between firms' environmental performance and financial performance*. Washington, DC: US Environmental Protection Agency, National Advisory Council for Environmental Policy and Technology. <[http://www.epa.gov/ocempage/naccept/green\\_dividends.pdf](http://www.epa.gov/ocempage/naccept/green_dividends.pdf)>.

Epstein, M., and M.J. Roy. Making the business case for sustainability: Linking environmental actions to financial performance. *Journal of Corporate Citizenship*. 2003.

European Sustainable and Responsible Investment Forum (Eurosif). 2003. *Socially responsible investment among European institutional investors: 2003 report*. Paris: Eurosif. <<http://www.eurosif.org/pub2/lib/2003/10/srirept/index.shtml>>.

Feldman, S., et al. 1996. *Does improving a firm's environmental management system and environmental performance result in a higher stock price?* Fairfax, VA: ICF Kaiser International, Inc.

Fiksel, J. M., and C. Mendenhall. 1999. *Measuring progress towards sustainability principles, process and best practices*. Battelle Memorial Institute and Life Cycle Management Group: 1999 Greening of Industry Conference.

French Pension Fund Legislation. Paris: 21 February 2002.

Friends, Ivory & Sim and Sustainability. 2001. *Governance, risk and corporate social responsibility: A snapshot of current practice*. Friends, Ivory & Sim and Sustainability.

Ganzi, J. and A. DeVries. 1998. *Corporate environmental performance as a factor in financial industry decisions*. Washington, DC: USEPA Office of Cooperative Environmental Management.

Ganzi, J., B. Erbiste, et al. 2003. *Environmental, social, health and safety risk management manual for financial institutions*. Washington, DC: Inter-American Development Bank–PRI.

Ganzi, J., F. Seymour, et al. 1998. *Leverage for the environment: A guide to the private financial services industry*. Washington, DC: World Resource Institute.

Garz, H., et al. 2002. *More gain than pain—SRI: Sustainability pays off*. Dusseldorf: West LB.

Garz, H., et al. 2003. *Inside SRI—Update, More gain than pain—A fresh look at new index structures*. London: West LB.

Garz, H., and C. Volk. 2003. *Carbon-economics: Value at risk through climate change*. Dusseldorf: West LB.

Gilding, P., et al. 2002. *Single bottom line sustainability: How a value centered approach to corporate social responsibility can pay off for shareholders and society*. Melbourne, Australia: Ecos Corporation.

[http://www.ecoscorporation.com/think/sustainbusiness/single\\_bottom\\_line.pdf](http://www.ecoscorporation.com/think/sustainbusiness/single_bottom_line.pdf)>.

Global Environmental Management Institute (GEMI). 1998. *Environment: value to business*. Washington, DC: Global Environmental Management Institute. [http://www.gemi.org/EVTB\\_001.pdf](http://www.gemi.org/EVTB_001.pdf)>.

Global Environmental Management Institute (GEMI). 2001. *Environment: value to the top line*. Washington, DC: Global Environmental Management Institute. <http://www.gemi.org/evtl.pdf>>.

Hawley, J.H. and A.T. Williams. 2003. *The rise of fiduciary capitalism How institutional investors can make corporate America more democratic*. Philadelphia: University of Pennsylvania Press. <http://www.upenn.edu/pennpress/book/13400.html>>.

Innovest Strategic Value Advisors Inc. 2003. *Carbon disclosure project 2003—Carbon finance and the global equity markets*. Washington, DC: Innovest Strategic Value Advisors. [http://194.242.156.103/cdproject/downloads/cdp\\_report.pdf/](http://194.242.156.103/cdproject/downloads/cdp_report.pdf/)>.

Innovest Strategic Value Advisors, Inc. 2002. *Value at risk: Climate change and the future of governance*. Boston: CERES Sustainable Governance Project Report. <http://www.innovestgroup.com/pdfs/climate.pdf>>.

Innovest Strategic Value Advisors and Andlug Consulting. 2002. *CEO briefing—A document of the UNEP FI Climate Change Working Group*. Geneva: United Nations Environment Programme Finance Initiatives (UNEP FI) Climate Change Working Group.

Investor Responsibility Research Center (IRRC), Interfaith Center on Corporate Responsibility (ICCR), the Social Investment Forum and CERES. 2003. *Shareholder proxy season overview: Social and corporate governance resolution trends*. Washington, DC. [http://www.shareholderaction.org/files/proxy\\_season\\_overview\\_2003.PDF](http://www.shareholderaction.org/files/proxy_season_overview_2003.PDF)>.

James, P., et al. 1998. *Financial stakeholders and financial performance—Working papers from Sustainable Business Publications*. West Yorkshire: Department of Environmental Science, University of Bradford. <http://www.brad.ac.uk/acad/envsci/SB/init.htm/>>.

King, A., and M.J. Lennox. 2001. *Does it really pay to be green?* New York City: New York University. [http://mitpress.mit.edu/journals/pdf/jiec\\_5\\_1\\_105\\_0.pdf](http://mitpress.mit.edu/journals/pdf/jiec_5_1_105_0.pdf)>.

Knight, R., and D.J. Pretty. 2001. *The impact of catastrophes on shareholder value*. Oxford: Templeton College, University of Oxford Executive Research Briefings. <http://www.rpc-bcm.com/03-OERB.pdf>>.

Little, Arthur D. 2003. *Speaking the same language: Improving communications between companies and investors on corporate responsibility*. London: Business in the Community and UK Social Investment Forum. [http://www.asria.org/news/press/lib/SRI\\_Report\\_031.pdf](http://www.asria.org/news/press/lib/SRI_Report_031.pdf)>.

- Lysyuk, V. 2002. *The emerging relationship between financial & environmental performance—A research study*. London: Business in the Environment.
- Mansley, M. and A. Dlugolecki. 2001. Climate change—A risk management challenge for institutional investors. London: Universities Superannuation Schemes Ltd. Discussion Paper No 1. Presentation : <<http://www.germanwatch-ev.de/download/rio/siws1102/mansley.pdf>>. Summary: <<http://www.campaign Exxonmobil.org/pdf/RiskingValue.pdf>>.
- Margolis, J.D. and J.P. Walsh. 2001. *People and profits: The search for links between companies' social and financial performance*. Mahwah, New Jersey: Lawrence Erlbaum Associates, Publishers.
- Mays, S., and BT Financial Group. 2003. *Corporate sustainability—An investor perspective: The Mays report*. Canberra: Australian Government Department of Environment and Heritage. <<http://www.deh.gov.au/industry/finance/publications/mays-report/index.html>>.
- Michael Jantzi Research Associates (MJRA). 2001. *Corporate disclosure requirements in Canada, US and the UK*. Toronto: MJRA.
- Michael Jantzi Research Associates (MJRA). 2001. *Socially responsible investment: A global legislative overview*. Toronto: MJRA.
- Muller, K., and A. Sturm. 2001. *Standardized eco-efficiency indicators*. Basel: Ellipson.
- Murphy, C. 2002. *The profitable correlation between environmental and financial performance: a review of the research*. Seattle, WA: Light Green Advisors. Full Paper: <<http://www.lightgreen.com/files/pc.pdf>>. Exec. Summary: <<http://www.lightgreen.com/correlation.htm>>.
- Ontario Securities Commission (OSC). *OSC issues investor confidence rules*. Ontario Securities Commission. Web site accessed 27/ June 2003. <[http://www.osc.gov.on.ca/en/About/News/NewsReleases/2003/nr\\_20030627\\_osc-investor-rules.htm](http://www.osc.gov.on.ca/en/About/News/NewsReleases/2003/nr_20030627_osc-investor-rules.htm)>.
- Patel, S., and G. Dallas. 2002. *Transparency and disclosure: Overview of methodology and study results—United States*. New York, NY: Standard & Poor's. <<http://www.theiia.org/chapters/pubdocs/86/S&P.pdf>>.
- Pearce, B., and J. Ganzi. 2002. *Engaging the mainstream with sustainability: A survey of investor engagement on corporate social, environmental and ethical performance*. London: The Forum for the Future's Centre for Sustainable Investment and the Finance Institute for Global Sustainability. <<http://www.forumforthefuture.org.uk/publications/default.asp?pubid=22>>.
- Pearce, B., et al. 2002. *Sustainability pays*. Manchester: Co-operative Insurance Society. <<http://www.forumforthefuture.org.uk/publications/>>.

Plinke, E. 2002. *Share performance and sustainability—Does environmental and social performance have any influence on share performance?* Study for Sarasin by ZEW Mannheim and EBS. Basel: Bank Sarasin. <<http://www.uni-lueneburg.de/umanagement/english/research/sustainable%20finance/projects.htm>>.

PricewaterhouseCoopers. 2003. *Digging deeper—Managing value and reporting in the mining industry*. PricewaterhouseCoopers. <<http://www.pwcglobal.com/extweb/pwcpublishations.nsf/docid/F9D1B69F4C34E27F85256D3D007099AA>>.

Reed, D. 2001. *Stalking the elusive business case for corporate sustainability*. Washington, DC: World Resource Institute.

Repetto, R., and D. Austin. 2000. *Pure profit: Financial implications of environmental performance*. Washington, DC: World Resources Institute. <<http://pdf.wri.org/pureprofit.pdf>>.

Repetto, R., and J. Henderson. 2003. Environmental exposures in the US electric utilities industry. *Utilities Policy* 11: 103–111. Washington, DC: World Resource Institute.

Repetto, R., A. MacSkimming and G. C. Isunza. 2002. *Environmental disclosure requirements in the securities regulations and financial accounting standards of Canada, Mexico and the United States*. Montreal: The Commission for Environmental Cooperation (CEC) for North America. <[http://www.cec.org/files/PDF/ECONOMY/env-disclosure-25-03-02\\_en.pdf](http://www.cec.org/files/PDF/ECONOMY/env-disclosure-25-03-02_en.pdf)>.

Russo, M., and P. Fouts. 1997. A resource-based perspective on corporate environmental performance and profitability. *Academy of Management Journal* 40(3): 534–559. <<http://lcb1.uoregon.edu/mrusso/resprof.htm>>.

Schnietz, S. and M. Epstein. 2003. The crisis value of a reputation for corporate social responsibility: Evidence from the 1999 Seattle WTO Meeting. Research in progress.

Stratos Inc. 2003. *Building confidence—Corporate sustainability reporting in Canada*. Ottawa: Stratos.

Svendsen, B., and M. Wheeler. 2003. *Stakeholder relationships, social capital and business value creation*. Toronto: CICA.

United Nations Environment Programme (UNEP). 2002. *Industry as a partner for sustainable development: 10 years after Rio: The UNEP assessment*. Geneva: UNEP.

Wagner, M. 2001. *A review of empirical studies concerning the relationship between environmental and economic performance—What does the evidence tell us?* Lueneburg: University of Lueneburg, Center for Sustainability Management. <<http://www.uni-lueneburg.de/umanagement/english/research/sustainable%20finance/projects.htm>>.

Winslow Management. 2002. Asbestos companies: Down for the count. *Winslow Management Environmental Newsletter*. Boston: Winslow Management.  
<<http://www.winslowgreen.com/docs/newsletter/march2002.pdf>>.

Wise Person's Committee to Review the Structure of Securities Regulation in Canada. 2003. *It's Time*. Ottawa: Department of Finance.

Wisner, W., M. Epstein, and J. Bagozzi. 2003. *Organization antecedents and consequences of environmental performance*. San Francisco: Greening of Industry Conference.

S. Zadek, Sabapathy, J., et al. 2003. *Responsible competitiveness*. London: Accountability.

## **Supplemental Bibliography**

Carraro, Carlo; Mattei, Fondazione Eni Enrico; Lévêque, François (editors). 1999. Voluntary Approaches in Environmental Policy. *The FEEM/KLUWER International Series on Economics, Energy and Environment* Volume 14. Dordrecht: Kluwer Academic Publishers.  
<<http://www.wkap.nl/prod/b/0-7923-5516-4>>.

Christmann, Petra, and Glen Taylor. 2002. Globalization and the Environment: Strategies for International Environmental Initiatives. Paper prepared for submission to the Academy of Management Executive Special Issue—How Governments Matter?  
<<http://faculty.darden.virginia.edu/christmann/Paper%20Abstracts/ChristmannTaylorAME.pdf>>.

Iannuzzi, Alphonse Jr. 2001. "Industry Self-Regulation and Voluntary Environmental Compliance 2001"

OECD. 2003. *Voluntary Approaches for Environmental Policy: Effectiveness, Efficiency and Usage in Policy Mixes*. Paris: OECD. <<http://oecdpublications.gfi-nb.com/cgi-bin/OECDBookShop.storefront/EN/product/972003091E1>>.

Orlando Jimenez (presenter). 2004. Voluntary agreements in policy-making and implementation. An effective approach towards sustainable development? Part of the Paper Session: Theorising Sustainability: Connecting Economy, Environment and Society? II, 3/15/2004.

### **Selected ENGO/business partnerships literature:**

Covey, J., and Brown, D. L. 2001. Critical cooperation: An alternative form of civil society-business engagement. *IDR reports: A continuing series of occasional papers* 17.

Hartman, C.L., and Stafford, E.R. 1997. Green alliances: Building new business with environmental groups. *Long range planning* 30: 184–196.

Mendleson, N., and Polonsky, M.J. 1995. Using strategic alliances to develop credible green marketing. *Journal of consumer marketing* 12: 4–18.

Heap, Simon. 2000. NGOs engaging with business: A world of difference and a difference to the world. *INTRAC NGO Management and Policy Series*, No.11: pp. 66–69.

Stafford, E.R., and C.L. Hartman. 1996. Green alliances: Strategic relations between business and environmental groups.” *Business horizons* 39(2): 50–59.

Stafford, Edwin, and C.L. Hartman. 2000. Environmentalist-business collaborations: Social responsibility, green alliances and beyond. In *Advertising research: The internet, consumer behaviour and strategy*, George Zinkhan (editor). Chicago: American Marketing Association.

UK Dept. for Environment Food and Rural Affairs. 2002. *Guidance on CSR management and reporting for the financial services sector: a practical toolkit*. London: UK Dept. for Environment Food and Rural Affairs. <<http://www.defra.gov.uk/>>.

Westley, F., and H. Vredenburg. 1991. Strategic bridging: The collaboration between environmentalists and business in the marketing of green products. *Journal of applied behavioural science* 27(1): 65–90.



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