

# The Road Not Yet Taken



**The Road Not Yet Taken:**

**The State of U.S. Corporate Environmental  
Policy and Management**

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## The Road Not Yet Taken:

### The State of U.S. Corporate Environmental Policy and Management

***The typical company in the Russell 1000 Index has an identifiable, enterprise-level environmental policy. This policy, however, only offers generic statements, not specifics. It also does not specifically apply to all operations of this typical company. It makes no commitment to stakeholder involvement, third-party auditing, or public reporting. It does not address greenhouse gases, energy use, or water use. This policy also does not identify a person or entity within the company specifically responsible for its implementation. In addition, the typical company does not have an identifiable environmental management system, has little in the way of other apparent infrastructure with which to implement its policy and manage its environmental issues, and does not publish a report based on the framework of the Global Reporting Initiative.***

### Section I: Introduction and Context

The current state of corporate environmental policy and management is surprising, perhaps even shocking. Given the growing prominence of environmental issues and the seemingly ever-increasing number of senior executives who have made public statements touting the environmental programs of their companies, the summary above seems preposterous. Indeed, those familiar with companies' environmental management efforts know that there are plentiful examples of companies that proactively manage environmental issues and are transparent about their policies, practices, and performance. Yet, as described in detail in this report, most of the largest and most valuable companies in the U.S. have an environmental policy in name, but little else to indicate appropriate management of environmental issues.

In fact, those interested in understanding the overall level of sophistication and maturity of corporate environmental management practices in the U.S. may find little information beyond that provided by a relatively small cross-section of large companies or the firms



within specific sectors.<sup>1</sup> There is currently no comprehensive, high-level environmental management profile of the largest and most valuable U.S. companies within the public domain. This is likely because the U.S. economy and the major companies operating within it are both very large and diverse in terms of fundamental business models and processes, product/service mix, geographic reach and focus, and other characteristics. Moreover, with certain exceptions, it is unclear whether companies in certain industries, particularly those operating in the service-oriented portions of the U.S. economy, have historically viewed environmental issues as having strong relevance to their business operations.

Accordingly, it is difficult to render judgments—even for investment analysts having great familiarity with environmental management activities— regarding the degree to which U.S. companies as a group understand, actively address, and effectively manage environmental issues. More specifically, we are unaware of any publicly available, systematic exploration as to whether or not major U.S. companies have public environmental policies, and if so, what they cover; the transparency of these firms with respect to their behavior regarding the environment; and whether and to what extent they report environmental performance and its improvement over time. This lack of understanding leaves both company senior managers and stakeholders in the financial sector and other markets at a disadvantage in discussing the environmental responsibility of the American business community.

This report provides the results of a new and comprehensive review of the disclosed environmental policies and practices of major U.S. publicly traded corporations. It sheds considerable light on the extent to which senior management within these companies has systematically and rigorously identified and managed the important environmental and related issues that affect their firms. The information and perspectives provided here should be of interest to a wide array of audiences, including regulators, policy makers, environmental professionals, academicians, environmentally-oriented not-for-profit organizations, and members of the general public, along with our primary intended audience, investors and investment analysts, as described below. We hope that the data, interpretations, and recommendations provided in this report are viewed as food for thought within both the corporate management and investment communities, that they serve as a basis for more frequent and meaningful discussion among their respective memberships, and that they catalyze improvements in both corporate environmental

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<sup>1</sup> Companies within certain economic sectors have been responding to significant environmental issues for many years, and within a number of these sectors, specific programs have been developed to address these issues. Examples include the Responsible Care® program developed by the chemical and related industries, and the various sustainable forestry programs developed and/or adopted by firms in the forest products industry.

management and disclosure practices and in the adroit use of environmental and sustainability data in investment evaluation and decision making.

Our results show that there are many positive aspects to the approach taken to managing environmental issues by U.S. firms. There also is, however, ample room for improvement. Based on our analysis, potential claims that U.S. businesses are doing all that they can/should to effectively understand and manage their environmental impacts are not supported by the available evidence.

This report describes the process used to develop this overall finding, as well as an understanding of publicly available environmental policy and management information across a major cross-section of U.S. business, the companies in the Russell 1000 Index. In the balance of this report, we first provide some background information on the importance of environmental and other sustainability information to financial community participants, then the bulk of the report presents the results of our analysis of detailed environmental information provided by nearly 1,000 of the largest publicly traded companies in the U.S. Finally, we provide some overall conclusions, implications, and recommendations in the last section of the report.

## Why These Issues Matter to Investors

When developing this report, we found ourselves in an interesting place. In 2009, there seems to be a sizable contingent within the business community believing that sound environmental performance creates financial value for the companies capable of achieving it. To us, this represents a sea change of significant scale. For many years, we have, individually, advocated the view that based upon the facts and fundamentals, environmental regulations, management, and performance can exert significant impacts on a firm's legal liabilities, capital cost obligations, and production methods and costs. Increasingly, company executives recognize that a company's environmental image can have a positive or negative influence on its brand, access to capital and new markets, and ability to attract and retain employees, among other important assets.

In parallel with this significant change in corporate attitudes and beliefs, environmental and other sustainability investing has been expanding in recent years beyond its traditional base within the socially responsible investing (SRI) community. Increasingly, non-SRI "mainstream" investors have begun to invest funds using, at least in part,



environmental criteria,<sup>2</sup> have joined ongoing initiatives to promote the consideration of environmental issues,<sup>3</sup> have developed and are actively promoting new investment approaches and tools using environmental criteria,<sup>4</sup> and have made acquisitions and other investments to enter the emerging environmental investing market space.<sup>5</sup>

Despite this growing awareness and signs of behavioral change, the available data indicate that environmental issues are not being considered by the vast majority of U.S. equity and fixed income investors. Recent investor surveys reveal that the vast majority of U.S. investors do not currently believe that a number of environmental issues are “currently relevant for consideration in mainstream financial analysis.” These issues include sustainability (21.6 percent of U.S. respondents), environmental management (8.1 percent), climate change (5.4 percent), and water use/availability (2.7 percent) (Mercer Investment Consulting, 2006 at 14).<sup>6</sup> Even within the SRI community, it is unclear whether environmental management and/or performance are routinely considered by investors. Indeed, a review of the most recent comprehensive survey of the investing behavior of SRI practitioners in the U.S. (Social Investment Forum, 2008) suggests that only eleven percent of the total funds invested using environmental, social, and governance (ESG) considerations specifically include environmental criteria, as opposed to other ESG criteria. To us, these facts suggest that even among SRI investors there is either continuing skepticism about the relevance of environmental considerations to investing (and/or to the values of these investors), a general absence of generally accepted or clear methods for integrating these considerations into the investment process, and/or an absence of the necessary data with which to apply environmental tests or analysis across a wide spectrum of prospective investments (i.e., securities of specific firms).

The lack of either adequate management structure or disclosure materially limits the extent to which investors can fully evaluate the future revenues, earnings, cash flows,

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<sup>2</sup> According to a recently published report, a survey of environmental and other “responsible investing” practices revealed that a number of major non-SRI U.S. institutional investors (e.g., Black Rock, State Street Global Advisors, and T. Rowe Price) have each invested tens of billions of dollars according to responsible investment principles (Responsible Investor, 2008 at 4).

<sup>3</sup> The most noteworthy of these is the Principles for Responsible Investment, which among other goals, seeks to promote the mainstreaming of environmental, social, and governance information into core investment analysis processes. As of June 2009, 557 organizations had joined the PRI, including major mainstream U.S. financial institutions such as JP Morgan Chase Asset Management and Kohlberg Kravis Roberts & Co (KKR).

<sup>4</sup> Goldman Sachs’ 2007 release of its proprietary “GS Sustain” methodology is a noteworthy example.

<sup>5</sup> Examples include Bank of New York Mellon’s purchase of U.K. ESG investment firm Newton Investment Management and Goldman Sachs’ equity investment in European ESG data provider Asset4.

<sup>6</sup> Interestingly, the percentages of investors who believe that these issues are relevant were markedly higher among respondents based in or investing in the U.K., continental Europe, and global markets in most cases.

volatility, and risk of their current (or potentially new) holdings in the securities of these firms. Accordingly, we believe that it is important to 1) demonstrate that the presence or absence of a complete or appropriate environmental management structure and/or of performance data are both relevant and material to investment evaluation, and 2) examine whether current corporate disclosure practices might limit the ability of investors having an interest in environmental issues to formalize and apply methods for environmental (and broader ESG) integration into their core investment processes.

To address the first need, we present below highlights of the major findings that have been reported in the academic and investment literature regarding the importance of environmental management, performance, and disclosure from a financial perspective. Much of this discussion is summarized from a report that we and other collaborators prepared for the U.S. Environmental Protection Agency (EPA) (U.S. Environmental Protection Agency, 2006, at 8-13). Additional background information on the relationship between environment and finance is provided in Appendix A to this report and is provided for the benefit of readers who may have had limited exposure to the workings of the capital markets. The second issue, that of the adequacy of current disclosure, provides the impetus for the research described in this report and is discussed at length in the major sections that follow.

Regarding both the relevance and materiality of corporate environmental management practices and the results that they produce, multiple published studies, mostly in the form of peer-reviewed journal articles, have established each of the following points:

- There appears to be a positive correlation between pollutant emission reductions and profitability on a firm-wide basis (Hart & Ahuja, 1996; Stanwick & Stanwick, 1998).
- Companies routinely fail to report, either in sufficient detail or at all, environmental liabilities related to site contamination, potential new regulatory controls, and other environmental issues. These failures are in apparent violation of long-standing disclosure rules established by the U.S. Securities and Exchange Commission (Barth & McNichols, 1994; Repetto & Austin, 1999).
- The intangible asset value of firms is directly correlated to the extent to which they have instituted complete and far-reaching environmental management standards and/or have achieved reductions in pollutant emissions (Dowell, Hart, & Yeung, 2000; Konar & Cohen, 2001).

- No “performance penalty” is associated with applying a thorough and meaningful environmental screen or weighting in constructing an investment portfolio. Such portfolios have been shown by several investigators to offer comparable risk-adjusted returns relative to otherwise similar unscreened portfolios (Cohen, Fenn, & Naimon, 1995; Stone, Guerard, *et al.*, 2003).
- Environmental issues can induce changes in stock market behavior and in individual company valuations. Pronounced short- to medium-term stock price/market value impacts resulting from environmental events, whether positive or negative, have been documented by a number of studies (Blacconiere & Patten, 1994; Bosch, *et al.*, 1998; Hamilton, 1995; Klassen & McLaughlin, 1996).
- Stock price volatility and the cost of equity capital can be influenced by environmental issues and also by the management of these issues. (Feldman, Soyka, & Ameer, 1997; Garber & Hammitt, 1998).

In addition, studies issued by a variety of investors, data providers, and stakeholder consortia have shown that environmental and other ESG issues are related in a number of ways to the financial success of firms. Two noteworthy examples, among many others, follow.

- One report summarizes many of the points made above by review of the supporting published literature, and concludes that not only does strong environmental performance have a positive influence on firm financial performance and that some environmental issues can pose threats to portfolio value, but that fiduciaries (e.g., investment fund managers) should play a far more active role in encouraging effective environmental management practices and improved performance. (Goodman, *et al.*, 2003)
- Another more recent study summarizes a variety of investment analyst reports, and concludes that 1) ESG issues are material to investors, 2) the impact of these issues on share (stock) prices can be valued and quantified, 3) they are becoming apparent, and 4) their importance can vary among sectors. This report also asserts that mismanagement of environmental, social and governance issues can pose a real threat to company and investor value. (UNEP-FI, 2006).

In the aggregate, the published literature demonstrates that environmental issues can have a meaningful impact on a firm's financial success as well as that of investors. Therefore, investors and the individuals and institutions that they often represent should have an abiding interest in understanding the extent to which companies in which their capital is invested (in equity or fixed income securities) have developed and implemented comprehensive, systematic, and business-driven approaches to identifying and managing their environmental issues.

In addition, we note that many of the studies cited above as well as much of the broader literature on this topic were published ten or more years ago. This means that the positive relationships between and among advanced environmental management practices, improved environmental performance, and enhanced financial performance and strength of companies, both internally and in the investment markets, have been articulated and available for consideration for some time, at least at a general level. In this regard, the brief summary presented above could be considered "old news." A reasonable expectation would therefore be that investors would be actively seeking relevant information on corporate environmental practices, and that corporate senior managers would be leading their companies' efforts to understand and effectively manage their particular environmental issues and improve performance over time. It also might be reasonable to assume that after a period of years, these practices would be developed to a high level of sophistication and be in widespread use across corporate America, such that in 2009, the needs, expectations, and roles of all parties would be understood and acted upon appropriately. This line of reasoning does not, however, comport with the current level of interest in and behaviors of U.S. investors regarding environmental issues, as described briefly above.

This gap between theory and practice suggests a need to identify potential root causes. In our previous work, as highlighted above, we have established that many investors do not believe that the information required to evaluate company-level environmental and other ESG considerations is adequate to support evaluation of these factors on more than an anecdotal basis; that is, that ESG data generally lacks consistency and often timeliness, and is of uneven quality (U.S. Environmental Protection Agency, 2006, at 10-12).<sup>7</sup>

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<sup>7</sup> The focus of this study was formal environmental management systems, but our research suggests that the general conclusions apply equally to other ESG factors.

## Analyzing the Adequacy and Sophistication of Company Policies and Practices

This report tests the assertion made by many investors that current environmental information is not adequate to support investment analysis by evaluating current corporate environmental disclosures in terms of their ability to meet the needs of investors—and other parties—who seek to assess the soundness of company environmental management juxtaposed to the operating and financial results produced by such management.

To develop an informed understanding of the adequacy, sophistication, and effectiveness of current corporate environmental practices, we conducted a series of queries of the IW Financial database as described in Appendix 2. We structured our inquiry around a conceptual model of how environmental (and other ESG) issues can be most effectively understood, planned for, and acted upon. This model has several interrelated components, which we evaluated in sequence as well as in the aggregate:

- **Strategy and Policy**—presence, rigor, and scope of coverage of one or more specific policies addressing the environment; presence and appropriateness of objectives and goals; lines of responsibility and accountability; integration into core business processes; and suitability for responding to stakeholder expectations.
- **Implementing Systems**—presence and features of management structures and processes with which to implement policy goals and ensure that they are attained.
- **Performance**—tangible and descriptive information regarding the magnitude of important environmental aspects (e.g., energy and water use), and the effects of environmental management practices to improve the firm’s environmental performance.
- **Transparency and Responsiveness to Stakeholder Concerns**—extent to which the company has made clear which environmental/ESG issues it believes are most important, and whether and how well the information disclosed satisfies these concerns.

The remainder of this report fully discusses these criteria in the context of the practices employed by the Russell 1,000 companies.

In our analysis, we have not articulated hypothetical or theoretical policy or program attributes and then scored companies against an artificial or unreasonable standard. Instead, we have identified attributes that are well known to those in the environmental (and broader EHS) profession and that have been employed continuously by many companies for a number of years. We do not believe that any of the practices that we have evaluated or advocate in this report involve anything inherently new, controversial, or beyond the capabilities of most large organizations to understand and implement.

## Section II: The Current State of Corporate Environmental Management Practices

Our review of the readily available information disclosed by the companies in our sample has produced a number of interesting findings. We present and discuss these findings in this section, beginning with an examination of the guiding principles articulated by these companies regarding their environmental responsibilities, posture, aspirations, plans, and management structures.

### Governance, Strategy, and Policy

There are several related elements at the core of any effective corporate environmental program that serve to define the relationship of environmental issues to the overall business enterprise; establish boundaries for acceptable behavior and cultural norms as well as lines of responsibility and authority; (ideally) articulate objectives, goals, and plans for achieving them; and set the terms of engagement for interactions with company stakeholders. As a starting point for our analysis, we have evaluated the environmental governance, strategy, and policy posture and capabilities of each firm by finding and reviewing all pertinent information addressing a number of key indicators. These indicators are a subset of a much larger number of variables known to be of interest to investors and other external stakeholders. We have chosen the indicators discussed below because they are particularly meaningful in evaluating the extent to which individual companies have made clear that they understand their relationship to the environment, have defined how they intend to effectively manage these interactions, and have established the strategic framework at the corporate level needed to ensure that senior management can both direct organizational environmental strategy and be assured that its directives have been carried out.

**The Boards of Directors of the vast majority of large U.S. companies do not oversee or manage environmental issues, nor do they assign responsibility for them to the firm's most senior executives.**

A summary of the presence of two key environmental governance attributes within our sample of companies is shown in Exhibit 1. These data show that less than 13 percent of Russell 1000 firms have an executive-level committee with responsibility for corporate social responsibility (CSR) or environmental, health, and safety (EHS) issues. Moreover, less than half this many (54 of the 988 companies in the sample) have vested responsibility for these areas of corporate governance in an executive at the most senior level of their organization (e.g., Chief Executive Officer, Chief Operating Officer). What this means is that in the vast majority of the largest and most prominent firms in the U.S.,

environmental and other sustainability issues are not directly overseen by the representatives of the firm’s owners (shareholders), nor are they directly managed by people holding positions of authority for setting overall corporate direction, establishing objectives, and deploying resources. In short, less than one in eight of these firms is currently in a position to provide assurance to investors that sustainability issues (including climate change) are being treated in a fully consistent and strategic manner across the corporation and that they are viewed as of sufficient importance to be overseen and managed in a similar manner to that applied to other core business issues.

Regardless of formal governance structure, a crucial component of corporate environmental/sustainability programs is the overall corporate-

level policy. A coherent and comprehensive sustainability policy provides the road map that should guide all internal sustainability programs or initiatives. Without a sound company-wide policy, goal setting and improvement programs are likely to be misdirected or, at best, not reach their full potential. Therefore, the presence or absence of such policies is a key indicator of any company’s ability to understand and effectively manage its environmental issues across the entire enterprise.

In terms of content, it is reasonable to assert that a good environmental policy contains a number of key elements that, individually and in combination, provide assurance that the company is motivated to develop and maintain an understanding of how and in what ways environmental issues may affect the enterprise; that it has established suitable goals; that it has appropriate management structures in place to pursue policy objectives; and that all employees are involved in and are capable of contributing to improving the firm’s environmental performance. Exhibit 2 provides a summary of a number of key environmental policy elements as they currently exist among the firms in the Russell 1,000 Index.

Exhibit 1 Environmental Governance: Presence and Features			
The Company has...	Russell 1000 Firms Having Element	Percent also with Enterprise Level Environmental Policy	Percent of All Firms in Sample
an executive level committee with responsibility for CSR/EHS issues	125	21.2%	12.7%
a “C” level executive responsible for CSR/EHS issues	54	9.2%	5.5%

These data show that only about 60 percent of the most valuable public U.S. firms have a company-wide environmental policy, and about 28 percent also have broader corporate mission/vision/values statements that mention environment without providing specific details. We note here that the definition of “policy” in this context is quite broad. In relatively few cases among the 590 firms with environmental policy commitments is there a formalized document entitled “Environmental (or EHS or Sustainability) Policy.” Instead, many firms have established these principles and commitments in a broader or different context, (e.g., in a CSR report, language in the company web site). Closer examination of the content of the environmental policy statements issued by a large number of firms shows that many are not particularly substantive. Reflecting the generally limited corporate governance patterns noted above, only 48 companies, or about eight percent of those with environmental policies, establish Board of Directors’ responsibility for the policy. Far more commonly, it is unclear from the text of the policy who is ultimately responsible for ensuring that it is implemented, followed, and over time, reviewed and improved. Similarly, most policies leave unstated who is ultimately responsible for ensuring that policy goals are attained.

**Exhibit 2**  
**Corporate Environmental Policies: Presence and Features**

<b>Policy Provision</b>	<b>Number of Russell 1000 Firms Having Element</b>	<b>Percent of Firms with Enterprise Level Environmental Policy</b>	<b>Percent of All Firms in Sample</b>
The company has an enterprise level environmental policy	590	100.0%	59.7%
The company has a mission/vision/values statement that includes reference to environment without providing specific detail	276	46.8%	27.9%
The Board of Directors is specifically mentioned as having responsibility for the policy	48	8.1%	4.9%
The policy specifically applies to all company operations	398	67.5%	40.3%
The policy applies globally (effect extends beyond commitment to comply with local laws)	296	50.2%	30.0%
The same policy standards apply to suppliers/vendors	132	22.4%	13.4%
The policy offers specifics, as opposed to generic statements	144	24.4%	14.6%
The policy includes a commitment to stakeholder involvement	87	14.7%	8.8%
The policy includes a commitment to third-party auditing	26	4.4%	2.6%
The policy includes a commitment to public reporting	87	14.7%	8.8%
The policy includes a commitment to quantifiable targets or goals	54	9.2%	5.5%
The policy addresses...			
Greenhouse gases	83	14.1%	8.4%
Other emissions	70	11.9%	7.1%
Energy use/conservation	201	34.1%	20.3%
Water use/conservation	126	21.4%	12.8%

Two-thirds of the environmental policies found in our sample make clear that their terms apply to all company employees. This is certainly a key attribute that delineates the scope of influence that the policy has within the company. The purpose of any policy, from the perspective of those who develop and issue it, is to enable (and in some cases, enforce) the types of behavioral changes that result in meaningful improvement over time. Ensuring that policy provisions apply to all members of the organization is important not only to distribute any associated burdens fairly, but also, in the current context, to promote collaboration and the types of multidisciplinary cooperation needed to address environmental and sustainability issues across the organization. Interestingly, about half of the firms with written policies apply their internal standards globally, i.e., they comply with one set of environmental (and often, health and safety) standards world-wide, regardless of whether they are required to meet them in all countries in which they operate. This type of “beyond compliance” behavior is another indicator of a sophisticated approach to environmental management that properly focuses on the long-term health of the organization. In the view of many EHS professionals, going beyond the minimum in this fashion reduces EHS risks (e.g., accidents, spills, injuries, and associated liabilities) and in the long term reduces management costs through standardization. In a similar vein, a smaller though still significant fraction (132 companies, or about 22 percent of firms with environmental policies) apply the same policy standards to suppliers/vendors. This indicates a commitment to actively managing the life cycle environmental aspects of the firm’s products and services. There is reason to believe that life cycle approaches to understanding and managing adverse environmental impacts will be increasingly important in the foreseeable future, due to the emergence of international bans on use of a number of commonly used chemicals in certain products and of product take-back requirements and programs in a number of U.S. and international jurisdictions. Moreover, in a recent work we have demonstrated that a substantial number of European investors apply a life-cycle-based approach to their evaluations of the ESG posture and capability of companies being considered for investment (Soyka, Bateman, and Feldman, 2009). Despite these promising signs by some companies, there is considerable room for improvement in the environmental policy statements of most companies. For example, only about 24 percent of companies with policies (approximately 15 percent overall) have statements that offer specifics, as opposed to generic verbiage regarding the importance of environmental quality to the firm. Less than 15 percent of corporate policies include a commitment to stakeholder involvement or to public reporting of results. These findings suggest that the emergence of a

**Even where they are present, fewer than one in four corporate environmental policies include any key commitments to stakeholder involvement.**

stakeholder-driven approach to environmental governance and management, which is advocated by many observers (including ESG investors), is in a very early stage of development in U.S. business. Finally, less than five percent of companies with policies commit themselves to independent, third-party auditing of results. To put this last result into context, it is likely that many firms secure such quality assurance for their performance data, management systems, and other facets of their programs but do not have an explicit policy commitment to do so. It also is possible that such a commitment could become a future best practice, as the provisions of a number of voluntary industry-specific sustainability programs now include specific requirements for independent third-party auditing of important program components and/or performance results.<sup>8</sup> More generally, these results may help identify the true leadership companies that take a more sophisticated approach to managing ESG issues than other firms. Stakeholders who are evaluating reporting, stakeholder involvement, and auditing practices within or across industry sectors may favor particular approaches, practices, and performance levels by companies, though it seems reasonable to conclude that companies making policy commitments to these provisions take a more comprehensive and sophisticated approach toward them, and hence, will be more able to effectively manage environmental issues than those not making such commitments. Finally, these findings may be of particular concern to investors interested in ESG management and performance because they suggest that 1) regular reporting of ESG results is likely to remain quite limited across most sectors and among U.S. firms in general, and 2) whatever data are reported may not reflect a comparable degree of care and quality from firm to firm.

**The vast majority of firms define their environmental improvement goals either on a limited basis or have not defined any goals for improved performance.**

Most policies do not make a commitment to environmental performance improvement. Only 54 (about nine percent) include a commitment to setting quantifiable goals. Somewhat larger numbers make reference, in at least a general way, to a number of widely recognized areas for potential improvement. These include more effective use/conservation of energy and water (approximately 34 and 21 percent of policies, respectively); reducing greenhouse gas (GHG) emissions (14 percent); and reducing emissions of other pollutants (12 percent). Accordingly, it appears that for most large firms, environmental performance improvement goals at the corporate level do not exist or are stated rather generically. This implies that, to the extent that firms are actually seeking to improve their environmental/ sustainability performance, they are doing so tactically (i.e., at a lower organizational level and/or at only some locations). In other

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<sup>8</sup> Examples include the international chemical industry's Responsible Care® program and the Sustainable Forestry Initiative® of the North American forest products industry.

cases, while there is an environmental policy of some form, it does not include the aspiration that the company actually improve its environmental performance over time.

While the data presented above are not particularly encouraging, the picture becomes markedly worse if multiple criteria are considered when evaluating the environmental policy provisions of Russell 1000 companies. Exhibit 3 presents a compilation of the number of firms having one or more of six important elements of a complete corporate environmental policy. While a majority of firms (590) have one or more statements that might be considered an environmental policy, the numbers decline rapidly if one applies progressively more stringent criteria. Only two-thirds of firms in our sample with a policy have even one of these important elements, and less than half that many have any two of these six elements. Less than ten percent of firms with a policy (and only 5.3 percent of firms in our sample) have three or more elements, and only *eight* firms among nearly 1,000 of the largest and most successful companies in the U.S. have all six policy elements.

Exhibit 3 Corporate Environmental Policies: Completeness and Adequacy				
Key Elements	Number of Elements Present in Policy	Number of Firms	Percentage of Firms Having an Environmental Policy	Percentage of All Firms in Sample
<ul style="list-style-type: none"> <li>• Board of Directors has responsibility for the environmental policy</li> <li>• Policy specifically applies to all company operations</li> <li>• Policy includes commitment(s) to quantifiable targets or goals</li> <li>• Policy includes a commitment to public reporting</li> <li>• Policy addresses pollutant emissions</li> <li>• Policy addresses conservation of energy and/or water</li> </ul>	All six	8	1.4%	0.8%
	Five or more	15	2.5%	1.5%
	Four or more	28	4.7%	2.8%
	Three or more	52	8.8%	5.3%
	Two or more	161	27.3%	16.3%
	One or more	398	67.5%	40.3%

The reasons for this apparent widespread lack of depth in the creation of important corporate policy documents are unclear. Certainly, the criteria we have listed as important elements are not in any way novel, nor are they difficult to understand or, in theory at least, to implement. A more likely explanation is that many firms believe that other policy elements are more important. This is particularly true of companies adopting formal environmental management systems (EMSs) patterned after the ISO 14001 standard. This topic is discussed in depth in the following pages. In the current context, however, it is important to note that ISO 14001 requires a number of specific policy commitments that apply at all locations that are to be certified to the standard. These include commitments to prevention of pollution, continual environmental improvement, and compliance with all legal requirements and voluntary commitments, among other provisions. One possibility is that the responsible senior managers within many firms have adopted these (and the other) policy criteria in defining their corporate environmental policies and assumed that they are sufficient in themselves. Limited visual inspection of a number of environmental policies not meeting all (or many) of our six important elements as well as the policies of ISO-certified companies suggests that this explanation may be plausible.

Finally, while some executives may be concerned that their policies would become too lengthy and cumbersome if they attempted to include all criteria of interest to stakeholders, the evidence suggests that they need not be. Many very solid environmental policy statements are concise and clear, and state only what is needed to establish the company's perspectives, commitments, and aspirations regarding its environmental performance. An example of such a policy is provided in the box below.

## **Example of a Complete Corporate Environmental/EHS/Sustainability Policy**

**“It is the policy of RR Donnelley to protect the health and safety of our employees, customers, and the public, and to conduct all activities in an environmentally responsible manner. We commit to this policy worldwide as an integral part of being the world's premier full-service printing and communications services company. Senior Corporate management shall ensure alignment of RR Donnelley's worldwide business strategy and operations with this Environmental, Health and Safety (EHS) policy and confirm the commitment of RR Donnelley to:**

- **Conduct global operations in accordance with all applicable laws, regulations, and other requirements, anticipate EHS issues and promote appropriate voluntary initiatives that support this policy;**
- **Strive for an injury free workplace through high employee involvement and a strong health and safety program;**
- **Minimize the EHS impact to our employees, facilities, and communities in which we do business.**
- **Strive to continuously improve global EHS performance by utilizing practices that protect employees and the environment, including reducing the quantity of emissions, developing opportunities for recycling and pollution prevention and using paper, energy, and other resources more efficiently;**
- **Train and motivate employees to conduct their activities in a safe and environmentally responsible manner; and**
- **Review and report to the Executive Operations Management on a periodic basis the EHS performance of the global operations which may include the setting and review of EHS objectives and targets used to promote continuous improvement.**

**Furthermore, RR Donnelley will undertake to earn the public trust by communicating about our policies, programs and performance, and by advocating sound laws and regulations. The Corporate Responsibility and Governance Committee of the Board of Directors has overall responsibility for endorsing the policies adopted with regard to EHS. The Corporate EHS Organization shall review this policy with this Committee on a periodic basis.”**

**Source: <http://www.rrdonnelley.com/wwwRRD1/AboutUs/EHS/EHSPolicy.asp>**

The history of U.S. business over the past century has shown that improvements in organizational performance, of whatever type, do not typically happen on their own. They instead result from, at least in part, effective leadership, a clear sense of purpose, explicit goals, and a set of rules. Our review of the disclosed environmental policies of most large U.S. companies suggests that, where they exist, these policies may not provide a sufficient foundation on which to base a meaningful and effective environmental improvement/sustainability program. As demonstrated previously, a very small number of companies have a clear sophistication to their policies that is lacking in the policy statements of the vast majority of large, publicly traded U.S. companies. It is reasonable for investors and other stakeholders to question whether or not companies with demonstrably limited sophistication to their environmental policies and governance practices will be up to the task of managing the risks associated with environmental issues and the likely prospect of new regulations and other public policy interventions related to these issues, most prominently climate change.

**Given the evidence, it is reasonable for investors and other company stakeholders to question the ability of the senior management of most firms to manage the risks of environmental issues and the consequences of potential new legislation and/or regulation.**

## Formal Management Systems

Environmental and other sustainability issues in any organization of moderate or large size (e.g., Russell 1000 corporations) are too numerous and complex to be managed in isolation. What is required instead is a formalized, systematic approach: a management system. Formal environmental management systems (EMSs) have come into widespread use during the past 15 years or so, and many organizations have experienced greater efficiencies, improved regulatory compliance and environmental performance, and reduced costs and liabilities as a result. The presence and sophistication of a formal environmental management system, whether crafted in conformance with relevant international consensus standards (ISO 14001),<sup>9</sup> industry codes of conduct (e.g., Responsible Care®),<sup>10</sup> or otherwise, may be a key indicator of the extent to which the

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<sup>9</sup> The ISO 14001 Environmental Management Systems specification is one of a series of voluntary, consensus-based environmental management standards and guidelines developed under the auspices of the International Organization for Standardization (ISO), based in Geneva. Other 14001 series documents address environmental auditing, life cycle analysis, GHG emissions accounting, environmental labeling and claims, and a variety of other issues.

<sup>10</sup> Responsible Care® is a comprehensive environmental, health, and safety program developed by the Chemical Manufacturers Association (now the American Chemistry Council) and several sister organizations. This program was amended several years ago to include a formal management systems component.

senior management of a company is truly in a position to understand and actively manage its environmental issues. Some firms within our sample have demonstrated a commitment to these management systems and the sophistication required to adhere to them. Can those firms not having an EMS adequately anticipate rapidly evolving stakeholder environmental concerns (e.g., climate change), develop and deploy effective strategies and tactics, and manage ongoing environmental protection/improvement activities effectively, consistently, and efficiently across a large (generally global) enterprise? We are inclined to think that they cannot. Indeed, arguably, an appropriately designed and deployed EMS can not only tie these elements together but also serve as the “engine” that drives continual environmental and business improvement throughout the organization. Although the widely recognized international standard (ISO 14001) defining the components of most EMSs emphasizes their use as a business-driven, flexible, consensus-based solution, on the ground most EMSs in the U.S. have been designed and deployed using a “compliance-plus” orientation, wherein the EMS and its provisions simply impose a new layer of requirements. This does not, however, diminish the potential of the management system approach embodied in the ISO 14001 standard to create tangible and durable organizational and financial value over and above any direct benefits obtained related to regulatory compliance posture.<sup>11</sup>

Exhibit 4 shows the extent to which Russell 1000 firms can be shown to have and operate formal environmental management systems. These data show that fewer than 30 percent of these firms assert that they have management systems of some form to address environmental issues. Roughly two-thirds of these firms have either had their EMS certified to the ISO 14001 standard at one or more locations or assert that their EMS conforms to its provisions.<sup>12</sup> Eleven other firms state that they have patterned their management systems on a different set of standards (often unspecified), while a substantial number (more than 70) claim to have an EMS but do not describe its design in detail.

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<sup>11</sup> Working to identify through specific attributes the extent to which an EMS is applied in a “compliance plus” manner rather than as a “business driven” solution may be an area of needed future research.

<sup>12</sup> It is important to understand that the ISO 14001 EMS standard is typically applied at a specific location, that is, a “certified” ISO 14001 company typically has one or several locations that have been third-party audited and certified, rather than a company-wide certification. This distinction is very important to investors and other parties interested in overall corporate management posture and performance. Absent a demonstration of how EMS certification at specific locations implies effective environmental risk management across the firm, investors and many other stakeholders often heavily discount the significance of EMS.

Exhibit 4 Environmental Management Systems: Presence and Features		
Environmental Management Structural Element	Number of Russell 1000 Firms Having Element	Percent of All Firms in Sample
The company discloses the presence of an Environmental Management System	293	29.7%
This Environmental Management System is certified and/or attested to ISO 14001	198	20.0%
This Environmental Management System is based on a set of standards other than ISO 14001	11	1.1%
The company as a whole is ISO 14001 certified	17	1.7%
Companies reporting the total count of their ISO 14001 certified facilities	104	10.5%

In addition, 17 firms (less than two percent of the total) have obtained company-wide ISO 14001 certification, suggesting that they have adopted uniform and consistent environmental management practices across the entire company. The paucity of companies with a certified firm-wide EMS, even among the largest, most sophisticated companies in the U.S., is telling, and suggests a significant gap in the extent to which advocates of EMS as an organizing principle have convinced U.S. corporate senior management of the value of this concept. A similar gap exists in the degree to which financial community stakeholders can be expected to value and use information on corporate EMSs.<sup>13</sup> Finally, 104 companies in our sample (10.5 percent of the total) report the number of facilities certified to ISO 14001 (1,855 facilities in total). Reflecting the diversity of firms in the Russell 1000, the number of certified facilities ranges from 1 to 150, with a median number of 9.5. Seventeen of the 104 companies have only one certified location.

<sup>13</sup> We have previously explored this topic in depth in a report prepared for the U.S. Environmental Protection Agency entitled, “Financial Incentives for Environmental Management Systems,” released in December 2006. Among the findings of this report was that investors require assurance that advanced environmental management practices are in place across the entire firm, not just at locations certified to an EMS standard. Absent this assurance, investors are inclined to assume that sound environmental governance may be in place at the certified facilities, but not necessarily elsewhere in the firm.

## Performance Measurement and Disclosure

Another key aspect of effective corporate environmental management is measurement and reporting. Regular reporting of management actions and performance results over time provides stakeholders (internal and external) with assurance that the company's environmental policies are being carried out, goals are being attained, and the management system, if one exists, is functioning as intended. Information on some key elements of environmental disclosure evidenced by firms in the Russell 1000 are shown in Exhibit 5. The data in this table show that only 126 firms (less than 13 percent of the total) issue environmental or sustainability reports. Of those that do, the overwhelming majority use the sustainability guidelines developed under the auspices of the Global Reporting Initiative (GRI), which has become the *de facto* global standard for preparing such reports. This very low level of sustainability reporting is an ongoing concern among investors and other parties having an interest in corporate environmental behavior because it severely constrains the ability of the analyst to conduct comparative analyses of different industry sectors and of companies within particular sectors. Even with this low overall level of environmental performance reporting and disclosure, inclusion of certain types of information of interest to some audiences occurs even more rarely. Exhibit 5 shows, for example, that only two of three reporting companies provide information on employee training, just over half provide any information on regulatory fines or violations, and only one-fourth disclose how many fines and/or violations occurred during the current reporting period.

Exhibit 5 General Environmental Disclosure: Presence and Features		
Environmental Reporting Element	Number of Russell 1000 Firms Having Element	Percent of All Firms in Sample
Companies having a GRI-based CSR/EHS report	122	12.3%
Companies reporting a non-GRI standard used to prepare the CSR report	4	0.4%
Companies reporting the count of their disclosed environmental fines and/or violations	68	6.9%
Companies reporting the count of their disclosed health/safety fines and/or violations	31	3.1%
Companies including information concerning employee training in their EHS report	88	8.9%

We have observed over time that companies having the most advanced environmental management practices tend to have many or most of their principal bases covered, and their policies, practices, and systems tend to include many of the indicators reviewed above. Exhibit 6 presents a summary of the firms having both a formal EMS and one or more additional indicators of a comprehensive and effective approach to corporate environmental management. The vast majority of companies shown in the sample having deployed EMSs also have issued policies regarding employee safety and/or safety training as well. A more modest majority of these also disclose information on their safety training programs. Interestingly, more than 40 percent of firms with an EMS also operate an OSHA-compliant/equivalent safety and health program. These findings illustrate the interconnections between environmental and health and safety management. In practice, many issues (e.g., chemical management, pollution control) have both environmental and health and safety aspects, and accordingly, many companies have long taken an integrated approach to managing these issues.<sup>14</sup> This topic is discussed in greater depth below.



Exhibit 6 also shows the correlations between the presence of an EMS and environmental disclosure, as well as indicators of effective environmental governance. Almost 94 percent of firms with an EMS also have an environmental policy, more than 85 percent also have an employee safety and/or training policy, and more than 71 percent have an environmental policy applicable to all company operations. About one-third of firms with an EMS also have issued one or more GRI-based reports, and about one-fourth have disclosed some information on their employee training efforts in their reports. Less than five percent of the companies among the Russell 1000 have both an EMS and a "C" level executive responsible for CSR/EHS issues. It should be noted, however, that the 44 companies who do have both elements represent 81 percent of the 54 firms with a senior executive overseeing the management of environmental and other sustainability issues. Looking at the issue more broadly by adding additional indicators, however, yields the finding that only 17 firms, less than six percent of companies with an EMS, also have a "C" level executive responsible for CSR/EHS issues, a GRI-based EHS report, and disclose information about employee training in their EHS reports.

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<sup>14</sup> Indeed, the modern practice of environmental management grew out of preexisting occupational safety and industrial hygiene programs in many companies. These programs had, in some cases, existed for decades prior to the enactment of our major environmental statutes in the 1970s and 1980s.

Interestingly, a majority of firms having many of these indicators of advanced environmental practices also have an EMS. Thus, more than 70 percent of the firms in the sample having a policy committing to quantifiable goals, an OSHA-compliant or equivalent safety and health program, a GRI-based CSR/EHS report, or information concerning their employee training activities in their GRI-based report also have an EMS. Moreover, a substantial percentage with policies addressing the environment (46.6 percent) and employee safety and/or training (40.9 percent) also have an EMS. These findings support the notion, expressed above, that a properly constructed EMS can serve as the organizing element around which a complete and thoughtful environmental management program is constructed. Another factor worthy of discussion, though, is that deployment of an EMS may have induced many companies to also develop these additional environmental management components. Some of these (e.g., presence of an environmental policy, employee training, clear lines of authority) are requirements of the ISO 14001 EMS, while others flow logically from the process of applying this type of logical, quality management-based approach to environmental issues and, in many cases, preexisting programs.



**Exhibit 6**  
**Correlation Between Presence of EMS and**  
**Other Indicators of Advanced**  
**Environmental Management Practices**

The company has...	Number of Russell 1000 Firms Having Element Combination	Percent of All Firms in Sample	Percent of All Firms with Element	Percentage of Those with EMS Also Having Additional Element(s)
Environmental policy and EMS	275	27.8%	46.6%	93.9%
Policy applicable to all company operations and EMS	209	21.2%	52.5%	71.3%
Policy committing to quantifiable goals and EMS	40	4.0%	74.1%	13.7%
A clearly stated policy regarding employee safety and/or training and an EMS	251	25.4%	40.9%	85.7%
An EMS and discloses information on its safety training programs	165	16.7%	61.1%	56.3%
An EMS and an OSHA-compliant or equivalent Safety and Health Program	121	12.2%	72.0%	41.3%
An EMS and a GRI-based CSR/EHS report	94	9.5%	77.0%	32.1%
An EMS and disclosed information on employee training in its EHS report	70	7.1%	79.5%	23.9%
An EMS and a "C" level executive responsible for CSR/EHS issues	44	4.5%	81.5%	15.0%
An EMS, a "C" level executive responsible for CSR/EHS issues, and disclosed information about employee training in its EHS report	18	1.8%	--	6.1%
An EMS, a "C" level executive responsible for CSR/EHS issues, a GRI-based EHS report, and disclosed information about employee training in its EHS report	17	1.7%	--	5.8%
An EMS	293	29.7%	100.0%	100.0%

## Management of Energy and Climate Change Issues

Unique among environmental issues, climate change and the related, pressing need to address energy use and GHG emissions has emerged as a corporate boardroom concern. Indeed, the issue has motivated a majority of the world's largest financial institutions to jointly demand information on corporate climate change risks and strategies from several thousand of the largest publicly traded companies around the world.<sup>15</sup> We present information on the extent to which companies in the Russell 1000 have disclosed information on their climate change and related policies in Exhibit 7.

Exhibit 7 Corporate Climate Change Policies and Policy Components		
Element	Number of Firms Reporting Information	Percentage of All Firms in Sample
The company has an enterprise level climate change policy	122	15.5%
The policy specifically applies to all company operations	72	9.1%
The company has disclosed its total direct GHG emissions	212	26.9%
There is a component of the policy addressing suppliers/vendors	20	2.5%
The same policy standards apply to suppliers/vendors	26	3.3%
The policy includes a commitment to public reporting	31	3.9%
The policy includes a commitment to third-party auditing	10	1.3%
The policy includes a commitment to quantifiable targets or goals	33	4.2%
The Board of Directors is specifically mentioned as having responsibility for the policy	6	0.8%

<sup>15</sup> In particular, the Investor Network on Climate Risk and the Carbon Disclosure Project have achieved noteworthy success during the past several years in raising the visibility of the issue and in inducing greater and more meaningful corporate disclosure.

This exhibit shows that, while attention to climate change issues is becoming increasingly visible within major U.S. companies, overall levels of activity are very low. Nearly 27 percent of these companies report their direct GHG emissions, but just over half that number (15.5 percent) have a policy in place that addresses this topic. Moreover, only two-thirds of these firms have a policy that applies to all company operations, and much lower percentages have additional elements that demonstrate a more sophisticated and meaningful policy statement (e.g., Board-level responsibility, commitment to quantifiable goals, public reporting, and third-party auditing). In short, the patterns we observe here parallel those of the broader environmental policies profiled above, except that adoption rates across the board appear to lag by factors of from three to eight, depending on the element in question.

If, as many expect, the U.S. embarks upon a new regulatory regime in which carbon emissions are restricted within the next few years, it appears that most large, publicly traded U.S. companies will need to move quickly and decisively to confront the environmental, operational, and financial challenges that these constraints will bring. The vast majority of these firms have not provided sufficient evidence that they are currently prepared to address these challenges.

**The vast majority of large U.S. firms have not provided evidence that they are prepared to address the challenges that would be presented by legal constraints on carbon emissions.**

## Resource Management and Conservation

An important purpose and objective of corporate environmental programs is to ensure that the firm is making optimal use of its energy and raw material resources. A focus on conservation efforts ensures that limited natural resources (e.g., water, energy, arable land) are used only for productive, value-generating purposes, while helping reduce variable production costs and preventing waste and pollution at the source. Accordingly, developing the methods, data, and organizational capabilities to optimize the firm's use of natural resources is (or should be) a core function of any company's environmental, EHS, or sustainability program.

Exhibit 8 provides information on the publicly disclosed activities conducted by Russell 1000 companies to manage and conserve energy and the results of those activities. Exhibit 9 provides this information for water and land conservation activities. The data in Exhibit 8 shows that 110 companies, or slightly more than eleven percent of those in our sample, disclose the costs of the energy that they consume and that nearly that many (101) express these costs as a percentage of their operating costs. This focus on cost is appropriate for any company, and particularly so for those in energy-intensive industries (e.g., primary metals, pulp and paper) in which energy can account for a significant portion of both variable and total

production costs. Somewhat smaller numbers and percentages of firms in our sample disclose their total and/or normalized energy use (77 and 47 firms, respectively), and very few firms (12 or fewer) disclose use of renewable energy sources or distinguish between their use of renewable and non-renewable sources. Similarly, only modest numbers of companies report the numbers of their buildings that have achieved energy-efficient certifications (to Leadership in Energy and Environmental Design [LEED] or Energy Star), and fewer still (23 or fewer) provide any information on the incentives they use to induce employees to conserve energy or the results that any such efforts have produced. For example, only 23 firms (less than three percent of the total) have disclosed the total savings (or profits) they have generated by conserving energy, 14 disclose how much energy has been saved, and only 12 describe their employee incentives. It also is of some interest to consider that, as shown in Exhibit 2 above, 201 companies in our sample have a corporate environmental policy that specifically addresses energy use/conservation. This means that slightly more than half of the firms that espouse responsible energy use and/or conservation have any visible program infrastructure that demonstrates that they are living up to their policy aspirations or commitments.

When taken as a whole, these findings suggest that proactive approaches to energy management at the corporate level are in the formative stages in most major U.S. corporations. This is somewhat surprising for several reasons. First, in contrast to many other environmental quality and human health indicators, energy use is readily measured, quantified, and expressed in monetary terms. Accordingly, some of the difficulties that exist for other environmental endpoints regarding appropriate metrics and measurement methods do not apply to energy management. Second, energy management is a mature discipline with well-developed methods, analytical tools, normative data, and a large cadre of knowledgeable professionals, both within corporations and also in other readily accessible organizations (e.g., consulting firms, utility and energy companies, non-profit organizations, and federal and state government agencies). Third, as suggested above, energy use (and associated costs) are non-trivial in many manufacturing sector companies as well as many service-sector companies. In other words, the financial benefits from reducing energy use very often justify the investment of the management time and corporate resources required to institute conservation programs and initiatives. Finally, given that energy use is the principal source of GHG emissions, saving energy, particularly fossil fuels and electricity generated by fossil fuels, will produce proportionate reductions in corporate GHG emissions. Identifying and capturing such emission reduction opportunities will become increasingly important if the U.S. economy becomes carbon-constrained during the next few years, as appears increasingly likely.

**Only about half of the firms that espouse responsible energy use have any discernible energy management programs or provide other evidence that they are actively pursuing their goals.**

**Exhibit 8**  
**Energy Conservation Activities and Results**

Disclosure of Conservation Activities and Results			Presence of Context and Enabling Systems			
Companies Disclosing...	Number of Firms	Percentage of All Firms	Firms Also Having an Environmental Policy	Percent	Firms Also Having an EMS	Percent
Cost of energy consumption	110	11.1%	101	91.8%	75	68.2%
The percentage of operating costs represented by energy costs	101	10.2%	94	93.1%	68	67.3%
total energy use	77	7.8%	76	98.7%	65	84.4%
How many of their buildings are LEED certified	61	6.2%	49	80.3%	31	50.8%
Normalized total energy use	47	4.8%	45	95.7%	41	87.2%
Total savings or profits associated with energy conservation efforts	23	2.3%	19	82.6%	4	17.4%
How many of their buildings are Energy Star qualified	18	1.8%	13	72.2%	8	44.4%
Total amount of energy they have conserved	14	1.4%	14	100.0%	13	92.9%
The types of incentives they provide to employees to meet company energy conservation goals	12	1.2%	11	91.7%	11	91.7%
Renewable energy use	12	1.2%	12	100.0%	9	75.0%
Non-renewable energy use	6	0.6%	6	100.0%	5	83.3%

Two other findings emerge from a review of the data in Exhibit 8. Depending on the element in question, between 80 and 100 percent of the firms having a particular energy management element also have an enterprise-level environmental policy, suggesting that, as with many other aspects of corporate performance, relatively few firms and, importantly, the people within them, are likely to aggressively pursue efficiencies and other organizational improvements in the absence of leadership and support from their senior management. The corollary is that for more companies to mount an effective overall approach to energy management, they will first need to approach the issue as part of an overall policy regarding the environment (and ideally, sustainability). The other finding is that for the majority of elements profiled here, those companies having a particular element also have an EMS, demonstrating again that it is far easier to overcome the challenges in implementing a corporate energy conservation program (or even developing a compendium of global facility energy use) with a comprehensive management system than without one.

**Only one in eight large U.S. companies address water in some way in their environmental policies, and only one in 14 discloses how much water it uses.**

Exhibit 9 provides analogous information regarding corporate water use and conservation programs, and support of external land conservation programs. Once again, relatively few companies report their water use on either a total or normalized basis, and far fewer disclose company-wide information on wastewater discharges, or the extent of and results obtained through water conservation and recycling efforts. Data on funds invested in and savings obtained from water conservation are particularly lacking. Once again, the gap between policy-level aspirations and supporting organizational infrastructure appears to be significant. Of the 126 companies having environmental policies that address water use in some way, only 70 (56 percent) disclose how much they use, and a small fraction of those disclose their wastewater discharges or conservation efforts (in terms of investments, use reductions, or savings).

Given that many areas of the U.S. are experiencing chronic water shortages and potable water is already in critically short supply in many developing countries, this lack of attention to a fundamental human need is surprising. In several industries (e.g., power production, many types of heavy manufacturing, food and beverage production) water is a critical, high-volume production input. Therefore, the shortage of evidence that water conservation and management is “on the radar screen” seems particularly shortsighted. Because water issues are increasingly viewed as “strategic” for particular sectors or

industry generally, as shown in a number of studies,<sup>16</sup> one might reasonably assume that in the foreseeable future, more corporate senior management attention will be required to evaluate and address water issues than is demonstrated by the data from our sample.

Finally, Exhibit 9 also documents the finding that about 12 percent of the companies in our sample provide support to or actively partner with one or more land conservation organizations. These organizations vary from national/international not-for-profits such as The Nature Conservancy to regional and local groups focused on a particular habitat or site. In most cases, it appears that these programs are philanthropic in nature and have no particular significance to either the core business of the firms involved or to other environmental management activities. There is also the possibility that many companies view such relationships as both an appropriate way to “give back” to the local community and as a low-risk means of generating a favorable public image. We also note that there is a very high correlation between supporting one or more land conservation programs and the presence of an enterprise-wide environmental policy, and substantial correlation with the firm having an EMS. This suggests that support for land conservation is one of the “quick and easy” steps that firms sometimes take when beginning to systematically evaluate and reduce their environmental footprint.

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<sup>16</sup> See, for example, recent studies sponsored by the World Business Council for Sustainable Development devoted to this topic, at <http://www.wbcsd.org/plugins/DocSearch/details.asp?type=DocDet&ObjectId=MTYyNDk>.

Exhibit 9						
Water and Land Conservation Activities and Results						
Disclosure of Conservation Activities and Results			Presence of Context and Enabling Systems			
Activity/Disclosure	Number of Firms Reporting Information	Percentage of All Firms in Sample	Firms Also Having an Environmental Policy	Percent	Firms Also Having an EMS	Percent
<b>Water Use and Conservation</b>						
Companies disclosing total water use	70	7.1%	68	97.1%	61	87.1%
Companies disclosing normalized total water use	48	4.9%	44	91.7%	40	83.3%
Companies disclosing their wastewater discharge totals	14	1.4%	14	100.0%	13	92.9%
Companies disclosing the total amount of water they have conserved	13	1.3%	13	100.0%	10	76.9%
Companies disclosing their normalized total wastewater discharges	10	1.0%	9	90.0%	9	90.0%
Companies disclosing the percentage of their total water use that is recycled	8	0.8%	8	100.0%	7	87.5%
Companies disclosing total savings or profits from water conservation efforts	3	0.3%	3	100.0%	2	66.7%
Companies disclosing their amount of total investment in water conservation	2	0.2%	2	100.0%	1	50.0%
<b>Land Conservation</b>						
Companies partnering with third party organizations in land conservation programs	117	11.8%	105	89.7%	78	66.7%

## Section III: Conclusions and Recommendations

One important lesson from the recent severe turmoil in global financial markets is the need for more transparency by corporations and public sector entities. Even before the events of the recent past, momentum was steadily building for greater disclosure of the material environmental, social, and governance posture of companies (and industries), such that many major corporations and trade associations now publicly espouse periodic public disclosure of their programs and performance in this regard. In our opinion, this is a healthy development for all concerned.

Unfortunately, the leadership shown by some senior corporate executives has not, as yet, been reflected in widespread disclosure of important information on corporate ESG policies, structures, or performance. As documented in this report, despite many examples of highly developed and sophisticated responses to the ESG challenges and opportunities facing major corporations, evidence of any type of broad spectrum adoption of sustainable business practices is not to be found in the readily obtainable information disclosed by most large U.S. companies. We offer here several conclusions and recommendations for improving this situation.

**Even though many investors know that companies have sophisticated ESG management practices but have not disclosed them, they are unable to determine which firms have such practices and which do not. This information gap increases investment risk.**

First, we strongly suspect that the disclosed policies and practices in the ESG arena by many Russell 1000 companies do not fully reflect actual conditions within these firms. Our experience from working for many years in the environmental/sustainability field with major corporations and trade associations has allowed us to develop at least anecdotal knowledge of the ways in which many of these companies manage their ESG affairs. In short, we *know* that some companies are substantially further along on the sustainability path than their publicly disclosed information suggests. We are also aware that there may be many reasons why the senior management of a company may want to maintain tight control of official corporate disclosures and release information only for specific, defined purposes. Nonetheless, there are many important public company stakeholders, not least the *owners* of the firm (shareholders), having a deep and abiding interest in ensuring that the company is managed in a way that is ethical, responsible, attentive to risk, and positioned to create long-term value. Moreover, at a general level, investors do not know which companies have sophisticated ESG management practices and have not disclosed them. The fact that some have them and others do not introduces additional uncertainty, and hence, investment risk that must be borne by the investor. As illustrated by the recent severe decline in the market value of publicly traded equities and

many corporate debt instruments and the growing importance of global environmental issues such as climate change and the availability of potable water, these investment risks can be substantial. Fortunately, there is a simple remedy for this problem.

We believe that more extensive, consistent, and regular ESG disclosure can materially improve the ability of all stakeholders to understand and evaluate the behavior and future prospects of all companies, and therefore help to distinguish those deserving of ongoing support from those that are not. Accordingly, we encourage corporate senior management in all publicly traded companies to determine how best to meet the increasing needs of the many stakeholders desiring ESG information, and to make such information available in a suitable format and depth at regular intervals.

Second, recognizing that current ESG disclosure practices by many companies are not what they should be, based upon the information that has been disclosed, we believe that many major corporations have significant work to do if they wish to demonstrate that they truly understand and are effectively managing the ESG issues that pertain to their business(es). As shown in detail previously, there are many major gaps between current corporate practice and what we consider the behaviors needed to provide adequate assurance that the typical large U.S. company is appropriately and adequately controlling ESG risks and taking advantage of ESG opportunities. Highlights (assuming that this is an appropriate term) are as follows:

- Only about 60 percent of the largest U.S. publicly traded companies have any readily available documentation that could be considered an environmental, EHS, or sustainability policy.
- Only eight percent of these firms apparently vests oversight responsibility for ESG issues and/or for its environmental policy in its Board of Directors, and only 1 in 18 has unambiguously delegated this responsibility to a senior corporate officer (e.g., Chief Executive Officer, Chief Operating Officer). The obvious implication is that in most large U.S. companies, ESG issues are not viewed as being of strategic importance and worthy of senior executive involvement. We question whether this is an appropriate position, particularly in industries that are resource-intensive, have or may have significant legacy environmental liabilities, and/or face exposure to climate change impacts.
- Of the 590 firms in the Russell 1000 with tangible environmental (or EHS or sustainability) policies, about two-thirds make clear that policy requirements apply to all employees and operations, and just over half apply uniform standards world-wide. Beyond these two relatively positive findings, most corporate policies

are notably lacking in several key respects. Only about one-fourth of all policies include specifics, as opposed to general principles and/or aspirations. The vast majority of policy statements lack commitments to setting quantifiable goals, stakeholder engagement, third-party auditing of results, and public reporting. In fact, most policies do not even address specific environmental/sustainability concerns such as energy use or GHG and other pollutant emissions. If multiple screening criteria are applied, the results are even more sobering. Only very small percentages of these companies have policies with multiple key elements, and less than one percent of Russell 1000 companies have each of six policy elements that are arguably both appropriate and obvious. We assume that the leaders within the handful of companies that have implemented all six policy elements have done so because they believe it would add value to their enterprises. More generally, we would point out that there have been many examples of meaningful, workable, and effective environmental policies published and made widely available for at least 15 years. Accordingly, the very limited adoption of strong environmental policies across our sample of companies is surprising.

- Use of management systems to address environmental and other sustainability issues is similarly limited among the largest publicly traded U.S. companies. About 30 percent of these companies claim to have a formal environmental management system (EMS), and about two-thirds of these are patterned after the ISO 14001 standard. That said, very few companies (17 in all) have achieved firm-wide certification, and at many other companies only one or a handful of locations have been ISO 14001 certified. It is therefore unclear whether and to what extent a management systems approach has been taken concerning the management of environmental/sustainability issues across the enterprise at most companies. Based on our previous work, we are inclined to believe that most companies manage these issues tactically, with some facilities (and/or lines of business) using the EMS approach and others, including most corporate functions, not using this method. Interpreting these results as an indication of the tactical application of EMS raises the question, Why is EMS not viewed as a strategic opportunity in most companies? If there are strategic risks associated with environmental issues, what are the strategic planning process(es) and response(s) taken to managing these risks? How is an *ad hoc* approach to environmental management across a company a better strategic approach than a coordinated activity at the corporate level that leverages the investments already made in EMS systems? In some form, a company-wide environmental management system seems an appropriate strategic response to these challenges.
- As mentioned at the beginning of this section, we have strong reason to believe that, in many companies, corporate environmental/sustainability disclosure has not kept pace with internal developments in managing these issues. The available data concerning transparency and disclosure appear to support this belief. Only

about 13 percent of Russell 1000 companies have published a corporate environmental, CSR, or sustainability report, and fewer still have reported key management activities such as extent of employee training or significant performance end points like regulatory violations or fines and penalties. The paucity of data across this population of companies, even with the emergence of a widely accepted reporting framework (the GRI reporting guidelines), severely limits the ability of external stakeholders to put the environmental/sustainability activities and performance of any specific company or sector into appropriate context. We suggest that firms that do not regularly report their environmental/sustainability activities and results should consider doing so, if for no other reason than to receive due credit for efforts and accomplishments to date.

- Ideally and logically, reporting should follow policy and management systems development, deployment of improved practices, and both goal setting and measurement of performance against these goals. In other words, there should be some proportionality between the effort and expense invested to report and the depth and quality of the information being reported. In particular, we do not believe that firms should put forth significant efforts to create glossy but content-poor CSR reports in an attempt to claim credit or create a more favorable public image. Such reports speak volumes about senior management’s approach to environmental and other corporate social responsibility issues. Indeed, some stakeholders, including investors, take note of these reports and the approaches that they embody, and make negative inferences about the company and its leadership that they would not in the absence of any such report. A reasonable and productive middle ground is for firms to define a maturity path for ESG management and disclosure over time. Early disclosure should focus on ESG vision and goals, and provide whatever performance data are available, while subsequent disclosures would include additional elements, issues, and results as they are developed and addressed. Once the policy, infrastructure, and performance elements reach sufficient size and coherence, the firm can then prepare and issue an initial sustainability report, and ideally, continue to issue improved updates at regular intervals.<sup>17</sup> In addition to the enhanced credibility and trust that firms can enjoy among investors and other external stakeholders by taking this approach, another major benefit is that it helps to satisfy the needs and aspirations of company employees. Employees are particularly interested in seeing results, from both their own efforts and of broader organization-wide activities. Regular performance measurement and disclosure also adds positive momentum to any ongoing organizational and/or cultural change initiatives related to improving environmental or broader ESG performance.

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<sup>17</sup> In fact, this type of incremental approach is advocated by the GRI. The GRI’s “application levels” provide a maturity path from development of an initial report through full conformance with GRI reporting guidelines. See <http://www.globalreporting.org/GRIReports/ApplicationLevels/ApplicationLevels.htm> for details.

- Climate change has emerged in recent years as a potential game-changer. Yet, surprisingly few firms have established a climate change or GHG emissions policy, and fewer still have set a policy with the types of policy provisions highlighted previously as an integrated and more sophisticated approach. While 27 percent of Russell 1000 firms have disclosed their direct GHG emissions, only about 16 percent have a definitive policy, and only 60 percent of these firms make clear that it applies to all company operations and employees. Fewer than 25 percent of the relatively few firms with a climate change/GHG emissions policy have included any of the other key elements of a sound policy. While we recognize that the climate change issue, its business implications, and effective organizational responses are highly dynamic, we wonder why so few major companies appear to have thoroughly examined the issues and decided on a general course of action. Given the significance of this issue, particularly with the real near-term prospect of new legislation capping carbon emissions, we know that investors are looking to the senior management of all publicly traded companies to demonstrate leadership and action on this issue. They expect, and in some cases demand, that corporate senior executives develop and issue policy statements on climate change and state their plans to position their firms to both limit business and financial risk and capture new opportunities with respect to climate change.
- Only eleven percent of firms in the Russell 1000 have disclosed their annual energy costs, and about seven percent have disclosed their total water use and/or cost. Lower percentages of companies report other related data in this regard, notably funds invested and savings generated from conservation efforts. Regrettably, data on the latter are especially sparse. Such information would be of particular interest to investors evaluating the ability of firms to reduce portions of their fixed and variable costs and improve operating margins and cash flow.<sup>18</sup> Moreover, the data released by the relatively few companies reporting this type of information suggest that such savings can be significant (tens and even hundreds of millions of dollars). The obvious implication is that detailed information on the costs and benefits of ESG programs and activities should be provided as a component of ongoing sustainability reporting activities.
- In addition to satisfying the information needs of investors and other external stakeholders, more consistent and widespread reporting of program costs and benefits would present several organizational benefits. One benefit of measuring inputs and outputs in monetary terms is that it reinforces or renews an appropriate focus on generating business-relevant results with

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<sup>18</sup> It is important to recognize that in contrast to many other cost reduction activities, energy cost reductions typically reduce costs and improve margins *permanently*, i.e., cash flows for all future periods improve by the magnitude of the costs saved (assuming constant unit energy prices).

environmental/sustainability programs and activities that may be weak or absent in some organizations. This focus should then be applied to, at a minimum, goal-setting, resource allocation, and performance measurement, so as to achieve the maximum environmental performance improvement at minimal cost.<sup>19</sup> Without this type of orientation, *less* environmental improvement will result from *any* program than could be attained otherwise. Another benefit is that feedback on the costs and, particularly, financial benefits of ESG improvements can be an important input for future business, product, and capital planning. As suggested above, environmental issues such as climate change will require effective, ongoing management, and integrating periodic information on the effectiveness, costs, and benefits of company ESG activities will be essential to this process. Finally, ongoing organizational development activities can be guided and reinforced through the timely and regular introduction of ongoing performance data, and few types of information command as much attention as costs and savings. This information can be used in a variety of ways, from incentive compensation and recognition of individuals and teams, to tactical planning and priority setting.

In closing, we would like to reverse the basic presentation of facts in this report to the opposite perspective. We want to accentuate the positive. At the beginning of this report we profiled a “typical” company’s environmental policy and management practices based on the available data. It was not a flattering portrait. As shown previously, however, some major U.S. firms have developed sophisticated approaches to environmental policy, management systems, supporting infrastructure, performance measurement, and disclosure. These firms have demonstrated that it is possible to build and deploy a sophisticated approach to managing environmental and broader sustainability issues, and that this approach presumably generates value for the company. We commend their efforts.

We also want to recognize the talents and diligence of the thousands of professionals working within and on behalf of U.S. public corporations on environmental, social, and governance issues. They are an important resource that, in many organizations, could be tapped more extensively to bolster existing sustainability efforts and implement new ones. Indeed, it is largely the ongoing work and accomplishments of these individuals and corporate teams that have produced the best practices and examples highlighted (if only very briefly) in this report. This body of work gives us confidence that many more companies could successfully pursue corporate sustainability should their respective senior managers choose to do so.

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<sup>19</sup> As shown in other recent work, there are material differences in both the environmental impact and cost per unit of environmental improvement among different organizational strategies and actions. In some cases, particularly those involving energy use, substantial performance improvements can be obtained at negative cost, i.e., in a way that saves money (Buc and Soyka, 2009).

We believe that companies do not grow to the size or market capitalization needed to be included in the Russell 1000 Index without possessing abundant talent across many professional disciplines, a durable business model, and a clear understanding of business management fundamentals, trends, and priorities. For this reason, they are or should be fully capable of developing sophisticated, responsive, and value-generating environmental and sustainability programs. What will be required, however, based on the experience of those who have traveled this path, is senior management vision, commitment, and visible ongoing support, and the resources needed to design, deploy, and maintain appropriate policies, systems, work practices, and measurement and reporting mechanisms. We recognize that the associated costs of such an effort may be nontrivial, at least initially. But as with any other investment in organizational capability, funds devoted to an adroit and disciplined approach will pay big dividends. Indeed, given the relative risks and costs of the *status quo*, well-targeted investments in ESG capability will be time and money well-spent.

Finally, our apologies to Robert Frost. Our loose adaptation of the title of his poem was intended to underscore an aspirational point that many more companies—and ultimately, all companies—could and should be proactive in their approaches to environmental management. We are aware that this suggestion of greater conformity runs counter to the theme of Frost’s poem, that of celebrating individualism. We believe, however, that the end of the final stanza of the poem both yields its true meaning and serves as an appropriate affirmation for those companies that already have adopted a proactive approach to environmental management:

***“Two roads diverged in a wood, and I  
— I took the one less traveled by,  
And that has made all the difference.”  
(Frost, 1920)***

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## Appendix 1: Environment and Investing: A Few Basic Concepts

In this Appendix, we briefly review in both theoretical and practical terms why sound management of environmental issues is relevant to the investor. These topics are discussed in turn.<sup>20</sup> This material is provided primarily for the benefit of those readers not involved in the capital markets.

Companies that are defined as “publicly traded” in the U.S. (and in many other geographies) have issued either debt (bonds) or shares of equity (shares of stock) for purchase by investors. Investors span a wide range, from individuals to other firms, mutual fund companies, trusts, and pension and hedge funds. In all cases, however, the basic relationship takes the following form: individual companies compete with one another, offering their bonds or stock as one investment option available among thousands. To become and remain successful in this competitive marketplace, companies must be able to demonstrate a sound business model and “financials” warranting the trust of the investing public.<sup>21</sup> As indicated in the adjacent box, both types of investors are looking for value. Debt, or fixed income, investors obtain value by receiving a pre-determined income stream (typically a fixed percentage of the stated value of the debt security) in exchange for a given and

### ***What Comprises “Value” to an Investor?***

Investors, including socially responsible investors, commit funds to make money. They will only make money if the securities they buy are worth more in the future, and/or pay a cash dividend stream, and are honored by the issuer (i.e., default does not occur). Accordingly, only the following three measures are fundamentally of interest to investors:

- Revenue (must grow)
- Earnings (also must grow)
- Risk (must decline or remain steady)

For any “value creation” message to be perceived as meaningful and credible by investors, it must address at least one of these criteria.

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<sup>20</sup> The discussion that immediately follows draws heavily from a detailed examination of investor behavior relative to formal environmental management systems (EMS), which will be published later in 2009 (Soyka, 2009).

<sup>21</sup> The recent subprime mortgage debacle illustrates the perils of departing from this long-standing investment principle.

generally well-characterized level of risk.<sup>22</sup> Equity investors receive no assurance of a positive return on investment but also face no limit on the upside potential of their investment. Importantly, under either investment scenario, it is incumbent upon the company to demonstrate the efficacy and worth of its environmental (or other) programs to its investors. Viewed in this context, environmental improvements, like any other investment of the firm's capital, must contribute, if even in an indirect way, to revenue growth, improved profitability, and/or risk reduction. Otherwise, even well-intentioned environmental improvement activities result in suboptimal use of capital, causing reduced earnings or outright destruction of wealth. Moreover, because firms (and countries) do not have unlimited capital, if such activities occur frequently, they may result in *less* environmental performance improvement than would be possible if sound economic criteria were used instead.<sup>23</sup>

While all rational investors share the fundamental interest of earning a positive return on their invested capital, there may be additional criteria that are also of interest. During the past several decades, the concept of "socially responsible" investing has emerged, and now accounts for a very significant share of all investment funds in U.S. capital markets. Indeed, the latest available data show that SRI now accounts for about one in nine dollars invested (Social Investment Forum, 2008 at ii). That said, a much smaller, though not insignificant, proportion of this total is invested using environmental criteria.

The SRI investor interested in environmental management and performance often places significant weight on the financial and environmental performance of the company, because of the belief that they are interrelated. Also, many SRI funds represent the interests of clients who do not wish to invest their capital in poor environmental performers. In contrast, the "mainstream" investor is only interested in environmental performance if it provides a greater understanding of the likely financial performance of a given investment. Thus, in this much more common investing scenario, the investor must be



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<sup>22</sup> Risk levels are often quantified through bond ratings, which indicate the credit worthiness of a company's debt securities, as a function of many operational and financial variables. Ratings are most frequently determined by one or more of the three major bond rating agencies in the U.S. (Standard & Poor's, Moody's, and Fitch).

<sup>23</sup> During our careers, we have observed much confusion and occasional consternation within the environmental community due to a lack of understanding (or, perhaps, acceptance) of this basic precept.

provided with evidence that 1) environmental issues are germane to predicting future corporate financial performance (i.e., that they do or may affect one or more of the criteria listed previously), and 2) that any such effects are of sufficient magnitude to make a meaningful difference in future revenues, earnings, cash flows, or financial risk.

With these facts as a backdrop, the key question becomes, are environmental issues important enough, in an investment context, to interest the investor who is not fundamentally committed to investing only in firms demonstrating an acceptable level of environmental management quality and performance? To expand the focus of environmental investing beyond the practitioners of SRI, it will be necessary to show that this question can be answered in the affirmative, or at least that there is a strong possibility that environmental issues are important by virtue of being widely applicable and meaningful, or applicable in a more limited but unpredictable way and/or potentially of significant magnitude.

## Appendix 2: Research and Evaluation Methods

In this appendix, we describe the methods employed to develop the data used to conduct the analysis and the ways in which these data were then extracted and analyzed. We discuss these two topics in turn.

### Data Development

The data on corporate environmental policies and practices discussed in this report were collected by IW Financial as part of its standard research process during 2008. IW Financial is a leading provider of ESG research, and of consulting and portfolio management solutions for asset management firms, managed accounts sponsors, institutional investors, plan sponsors, and investment advisors.

For 2008, IW Financial's research universe for the company data set included all firms in the Russell 1000 Index. The Russell 1000 is the large cap index subset of the Russell 3000, and therefore, for any stated period, represents the largest 1,000 companies in the U.S. based on market capitalization (i.e., market value). The Russell 1000 represents approximately 92 percent of total U.S. market capitalization and the full Russell 3000 represents about 99 percent of the total market value of U.S. stocks. The Russell indices are entirely rules based, meaning that the components of each index are determined objectively. In contrast to this approach, the sponsors of some other major indexes use advisory committees to determine constituents. Russell reconstitutes its Russell 1000 Index on July 1 of each year, with modifications based on changes in market value and accounting for mergers, acquisitions, divestitures, and delistings of individual firms. Mid-year changes also may occur, based on mergers and delistings, causing some firms to drop out of the index over the course of the year. Conversely, initial public offerings and spin-offs may cause new companies to be added to the Russell indices during the course of the year. These types of changes in the components of the Russell 1000 resulted in a universe of 988 companies by the end of 2008, and these 988 companies comprise the data contained in the IW Financial database used in developing this report. For future efforts, beginning later in 2009, we anticipate using an updated and expanded version of the database that will draw upon the components of the full Russell 3000 Index.

IW Financial has developed and employed a standardized methodology for collection of its ESG data for the Russell 1000, in terms of both content of interest and data collection and assembly methods.

In terms of ESG content, IW Financial has defined nearly 1,000 data fields, covering a full matrix of environmental, social, and governance issues and addressing policy, management structures and practices, performance, and disclosure for each issue area. The resulting data set includes multiple variables addressing environment, climate change, human rights, labor relations and workforce issues, community involvement and political issues, and diversity. The analysis described in this report focuses on the environmental issues covered within the broader data set. IW Financial's research on environmental issues includes energy and water use, climate change, conservation and recycling programs, emissions, management systems, policies, land use and conservation, and hazardous waste.

All of the data used in developing this report were collected from information publicly disclosed by each company in IW Financial's research universe. To collect this information, IW Financial reviews and processes corporate 10-Ks and other reports to regulatory agencies, company and government websites, and corporate responsibility or sustainability (or similar) reports. While IW Financial works diligently to "search" for missing pieces of information, some websites and reports make it difficult to locate all pertinent information that may have been released by the company. In such cases, the information might not have been included in the IW Financial data set. Information that may have been disclosed by a company in a technical sense, but has not been made readily available to interested parties, limits the transparency of the firm's policies and practices. A lack of transparency, in turn, places limits on the ability of investors and other stakeholders to satisfy their concerns that all relevant issues have been identified and are being managed effectively.

To address these limitations on corporate transparency and to enable the management of firms in the index to understand and address the data that have been compiled on their company, IW Financial provides an opportunity for representatives of each company to review all the data found (and not found) concerning their firm, and to provide additional and/or corrected information, where appropriate. Under IW Financial's data development procedure, new data offered by companies to address information gaps are incorporated into the data set. Moreover, if the company also provides a source indicating where the information could have been found, IW Financial will note that the data were publicly available. If, however, the company provides the data to IW Financial without a source indicating where it was publicly available, IW Financial will capture the data but will not indicate its public availability. In the spirit of fairness, IW Financial provides this opportunity for each firm to correct the data describing its operations while relying on individual companies to provide meaningful assistance in making the data set as complete and accurate as possible. As a consequence, companies for which data may be viewed as incomplete or inaccurate in any manner share responsibility for any gaps between the contents of the data set and the underlying reality that the data set is intended to characterize.

Much of the data used within this report is categorized by IW Financial as “attributes” data. Whether looking at environmental disclosure or environmental policy, IW Financial’s researchers seek to answer true/false questions about each company they research. Each true/false question addresses a specific attribute of the company’s disclosure or policy. For example, the question “Does the policy include a commitment to public reporting?” will be marked as “true” if such a statement exists within the environmental policy of a given company. IW Financial’s interpretation of these attributes is a “common sense” approach, not an overly legalistic reading. This allows for some flexibility in the ways in which companies write their policies and disclose their sustainability performance, but also is not overly broad, so as to give companies credit where there is no real effort or intent toward the concept of the attribute. IW Financial also collects the exact disclosure, but as described below, the analysis within this report focuses primarily on characterizing the environmental and sustainability practices of the Russell 1000 as a whole, rather than the behavior of individual firms.

In some cases, general attributes are supported by more specific attributes. In the case of environmental policies, there is a simple question as to whether such a policy exists, followed by a long series of attributes asking very specific questions about the policy. This facilitates the general evaluation of issues such as the presence of policies and systems, while also enabling more detailed analysis of policies and programs where they exist.

## Analysis

For this initial report, we analyzed the data in a straightforward manner. Many of the results described in this report are tallies of the numbers of companies having particular environmental/sustainability attributes. To generate these tallies, we ran a series of queries of the IW Financial data set, which exists as a large relational database. Successive queries enabled us to identify and isolate the Russell 1000 companies having particular attributes of interest (e.g., presence of an environmental policy, release of one or more sustainability reports), and to then explore the specific components of each general attribute. In some cases, we conducted queries containing multiple criteria, so as to identify the firms having specific combinations of attributes (e.g., both an environmental policy and a formal environmental management system). These queries helped us to develop perspectives on what types of approaches seem to be in widespread use in crafting and implementing corporate environmental/sustainability programs, and to informally test some hypotheses we developed regarding the components of a complete and coherent approach to pursuing corporate sustainability.

## Sustainable Enterprise Institute

The Sustainable Enterprise Institute (SEI) is a recently formed not-for-profit organization dedicated to promoting sustainable business practices. Its mission is to promote more sustainable practices within U.S. organizations, through greater understanding of the important factors that promote organizational resilience and long-term financial success and stability. SEI was founded based upon the belief that organizations that understand and adroitly manage their environmental and social issues are more likely to reach and maintain financial success and stability over the long run than those that do not. To translate this belief into action, SEI conducts programs and activities designed to stimulate new thinking, develop new knowledge and tools, develop human capital and strengthen organizations, and catalyze productive changes in public policy and corporate behavior. In the aggregate, these changes will make U.S. companies and public sector organizations more effective, efficient, resilient, innovative, profitable/ financially sound, and in the long term, sustainable. See [www.SustainableEnterpriseInstitute.org](http://www.SustainableEnterpriseInstitute.org) for further information.

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