Ceres
Advancing Sustainable Prosperity

THE 21ST CENTURY CORPORATION:

THE CERES ROADMAP FOR SUSTAINABILITY

FEATURING 20 EXPECTATIONS FOR COMPANIES BY 2020

ACKNOWLEDGEMENTS

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contents

THE GLOBAL CONTEXT FOR BUSINESS IS CHANGING.

In the 21st Century Corporation Report Ceres reminds us, "Enormous opportunities arise during transformative times." We are truly in transformative times. The sustainability challenges the planet faces are extraordinary and completely unprecedented. "License to operate" can no longer be taken for granted by business as challenges such as climate change, HIV/AIDS, water scarcity and poverty have reached a point where society is demanding a response from business. Moreover, business and capital markets are best positioned to profitably address these issues.

The interests of shareholders, over time, will be best served by companies that maximize their financial performance by strategically managing their economic, social, environmental and ethical performance. Central to this thesis is the explicit recognition that sustainability factors directly affect long-term business profitability. In fact, the financial crisis has reinforced our view that sustainable solutions will be the primary driver of industrial and economic development in the coming decades.

We often hear the question "Shouldn't CEOs and business leaders be focused on growth, profitability, competitive position and shareholder returns?" Of course and a focus on sustainability and long-term value creation does just that. Sustainable business strategies range from reputation management to cost control to competitive positioning and revenue opportunities. The most progressive and forward looking business leaders understand best practice business strategy is about leveraging sustainability challenges into increased revenues, profitability, and competitive advantage. Sustainability is integrated into strategy. It is not a separate discipline.

When considering sustainability, it is important to focus on the entire spectrum of interrelated factors. True sustainability means judging solutions on a life-cycle basis and considering the complete set of inputs, costs and externalities. Sustainability challenges are increasingly interconnected: the climate crisis and poverty, pandemics and demographics, water scarcity and migration/urbanization. Sustainability challenges can not be considered in isolation.

Our economic activity, at its essence, is based on the use of natural and human resources. Sustainability issues are therefore central to high quality business. And, there are clearly higher expectations for businesses and more serious consequences for running afoul of the boundaries of corporate responsibility. But most importantly, in these transformative times there are enormous opportunities. The Ceres Roadmap for Sustainability is extremely timely and will serve as a powerful foundation and tool for companies as they reset their business strategies for the 21st Century.

David Blood, Senior Partner,
Generation Investment Management

letter from the president

Mindy S. Lubber, *President of Ceres*

TODAY, CORPORATIONS FACE NEW REALITIES, WITH NEW RISKS AND OPPORTUNITIES.

In the 20 years since Ceres began, we have strongly held to the principle that addressing the world's greatest environmental and social challenges is an imperative for the corporate and financial communities and that failure to address these challenges jeopardizes our ability to create prosperity in the long-term.

Ceres has created key building blocks for weaving environmental and social challenges into core business practices to achieve sustainability. We began with the Ceres Principles, a 10-point code of corporate environmental conduct drafted in response to the Exxon Valdez oil spill. We then launched the Global Reporting Initiative, now the international standard for sustainability reporting, used by over 1,100 companies worldwide. We also introduced the concept of "climate risk"–now deeply integrated into the corporate and investor lexicon.

These actions have moved us forward, but more must be done to produce the results we need. Incremental progress in tackling global climate change and other sustainability threats is not enough. We need accelerated performance improvements from companies that reflect the true scientific and economic impacts of unchecked carbon pollution, growing water scarcity and billions of people still working and living in poverty.

Business is astute at solving problems, and many of the biggest global challenges we face are social and environmental. As a result, it is business that must lead the way by turning these challenges into opportunities. This means fully integrating sustainability considerations into governance, performance, accountability, R&D and overall business strategy. Tracking results, analyzing data and implementing actions to increase efficiency and competitiveness are cornerstones for success. The bottom line: sustainability must be the foundation of the 21st century corporation.

Last year, Ceres unveiled a bold vision, Ceres 20·20 for achieving a sustainable global economy by 2020. It reflects the somber reality that our achievements to date are not enough–that companies and investors must do significantly more to truly align their business models and investment strategies with the bold solutions needed to ensure a properous and sustainable future.

Ceres 20·20 lays out four key pillars to achieve global sustainability: ensuring honest accounting to reflect pollution's true costs; setting new standards and expectations for business leadership; accelerating green innovation; and changing the rules of the game so sustainable businesses can compete on a level playing field.

The *21st Century Corporation: The Ceres Roadmap for Sustainability* focuses on the second pillar–setting new standards and expectations for business leadership. It is a guide to companies on their journey to comprehensive sustainability–from the boardroom to the copy room–and throughout the supply chain.

The report has 20 key expectations related to governance, stakeholder engagement, disclosure and performance. Within governance, we encourage board diversity and sustainability expertise, and executive compensation packages that align with sustainability performance. In the disclosure section, we encourage reporting of "material" performance data and goals for key environmental and social challenges. Under stakeholder engagement, we encourage "opening the doors" to investors, non-governmental organizations (NGOs) and other groups focused on a company's sustainability strategies.

But the roadmap's biggest priority, by far, is performance. Companies must produce tangible results that put us on a truly sustainable path. For climate change, that means a 50 percent improvement in energy efficiency and a 25 percent lower carbon footprint by 2020. It means eliminating hazardous waste, having closed-loop systems in place, decreasing the footprint of suppliers and increasing human rights standards by 2020.

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> **The report has**
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> **20 KEY EXPECTATIONS**
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> **related to governance, stakeholder engagement, disclosure and performance.**

Performance will be the ultimate measure for evaluating a company's progress towards achieving sustainability. The best performing companies of the 21st century will be those that recognize this evolving new order, and invest and act now. These companies will be best positioned to thrive in the coming low-carbon, resource-constrained global economy of the 21st century.

The race for sustainability is on.

Mindy S. Lubber, President of Ceres
March, 2010

thought leader perspectives

"We simply cannot afford to wait any longer. Our planet's natural resources are depleting at unprecedented rates. We are already seeing real leadership from some of the largest companies around the world. The time has come for all in the business community to stand up, take meaningful action, and become part of the solution."

Frances Beinecke, President, Natural Resources Defense Council

"Integrating sustainability is not just a good opportunity for business. It is essential for success in a world of constrained resources. Right now every business has a choice to make. We choose to move fast, using sustainability as a force for innovation. We choose to embrace transparency, collaboration and advocacy as tools to unlock opportunity and enable us to thrive in a clean and green economy."

Mark Parker, CEO and President, Nike

"We expect our portfolio companies to do what is necessary to position themselves for a sustainable economy. Environmental, social and governance issues are core to business performance. We are looking for companies that are managing these risks, developing business opportunities, and disclosing their results."

Anne Stausboll, CEO, California Public Employees' Retirement System

"Our economic future depends upon establishing a low-carbon energy system. We need to dramatically increase our investments in energy efficiency, renewable energy, smart grid technologies, and other innovations. These investments will ensure that our future is not only sustainable, but prosperous."

Peter Darbee, Chairman of the Board, CEO and President, PG&E Corporation

NEW IMPERATIVES FOR LEADERSHIP

THE RACE IS ON TO ESTABLISH A LOW-CARBON SUSTAINABLE GLOBAL ECONOMY AND THE COMPETITION IS FIERCE. TRILLIONS OF DOLLARS AND THE WELL-BEING OF BILLIONS OF PEOPLE ARE AT STAKE, AS WELL AS THE HEALTH OF THE PLANET THAT SUSTAINS US.

Companies and the capital markets are center stage, and success will depend on their ability to place the Earth and its people at the core of corporate strategies. It is a pivotal moment with enormous opportunity and challenge–a moment that demands excellence in corporate leadership, vision and innovation.

Cutting-edge technologies and the information revolution have transformed the way we live, accelerated the spread of information and catalyzed economic growth. Open markets have created vast business opportunities while helping to lift living standards for many–but not all–across the globe. Never before have we experienced such explosive change and unprecedented growth within the span of just one lifetime.

But this growth has come at a cost. Our climate is warming due to human behavior. Short-term thinking has left us with a global recession. Ever-increasing food and water shortages are undermining governments, stimulating conflict and exacerbating global poverty. World population, already straining limited resources, will top 9 billion in 2050.

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> **$6 TRILLION**
> **ENERGY INDUSTRY**
>
> **must be retooled to minimize energy use and to have a substantially lower carbon footprint.**

Business innovation and the power of capital markets are urgently needed to address these challenges. Companies on the leading edge are responding with a new business paradigm that makes sustainability[a] performance a linchpin for future growth. They recognize that “business as usual” is no longer acceptable and that ad hoc sustainability initiatives are no longer sufficient.

Success requires placing sustainability at the epicenter of business models. Environmental, social and governance issues must be seamlessly integrated into strategic planning and investment decision-making. Company practices must reflect an understanding that they are dependent upon goods and services provided by nature, and that nature’s limits and finite resources must be fully valued and managed for long-term growth and prosperity.

Companies, in essence, must lead the drive to a sustainable global future and they need to start today, not tomorrow. Delay is not an option.

introduction

Enormous opportunities arise during transformative times. The $6 trillion energy industry–six times larger than the Internet economy–must be retooled to minimize energy use and to achieve a substantially lower carbon footprint.[1] Clean, energy-efficient technologies will power economies for decades to come, and businesses that put themselves out in front will benefit the most. Companies with products and services attuned to the new economy will emerge as winners.

Meeting the needs of billions of people in emerging markets represents a substantial responsibility and challenge for business. Many of the world's 4 billion poorest–are moving beyond subsistence to active participation in market economies, yet their fundamental needs–for clean water, better nutrition, energy, healthcare and mobility–are not being met. This gap presents tremendous opportunities–estimated at $5 trillion a year–for companies that are positioned to innovate and deliver low-cost, sustainable technologies and services.[2]

Investors are growing increasingly aware of the risks that climate change, water scarcity, workplace conditions and other environmental and social issues present to companies' bottom lines. They are telling companies they invest in to respond with aggressive strategies that transform risk into opportunity.

Already, many companies are rethinking their business models to address these fast evolving risks and opportunities. More than half of global executives in a 2008 survey by the Economist Intelligence Unit considered corporate social responsibility (a synonym for sustainability) a high or very high priority–up from 34.1% in 2005.[3] A growing number of companies are asserting leadership on sustainability performance to distinguish themselves from their peers.

This paper outlines Ceres' vision and expectations for corporate best practices in the coming years–practices that must come to represent the norm, not the exception. The sustainability journey has already begun for many companies and for those who are just starting out, we offer a realistic and clear roadmap to accelerate their efforts. It is intended to challenge, as well as inform and assist, those who aim to integrate sustainability into their business. It explores the rationale and key considerations involved in making the shift to sustainability, details strategies and tools being used by some companies, and provides suggestions for the next generation of best practice.

Meeting the needs of billions in emerging markets presents tremendous opportunities:

$5 TRILLION A YEAR

The paper lays out four broad areas of activity that companies should focus on and achieve by 2020. Those areas include **governance**, **stakeholder engagement**, **disclosure** and **performance**. While the attention given to each component depends upon the particular business and industry, we believe this roadmap will prove invaluable to all companies.

← **World population, already straining limited resources, will top**

9 BILLION IN 2050

The first section outlines core **governance** building blocks–management structures, goal-setting and strategic decision-making processes–that are needed to integrate sustainability. Companies can use proactive **stakeholder engagement**, highlighted in the next section, to assess the relative importance of specific goals and the effectiveness of strategies. **Disclosing** critical information to stakeholders, according to the expectations set out in the third section, will help show that a company's commitment to sustainability is real and its performance credible.

Lastly, the roadmap details key **performance** areas for measuring how companies are progressing on sustainability. It includes demanding performance expectations in keeping with the scale and urgency of the sustainability challenges before us.

Now, more than ever, companies must begin calibrating their performance goals against national and international performance standards that are grounded in science. In the case of climate change, for example, companies must reduce their greenhouse gas emissions by at least 25 percent below 2005 levels by 2020 in order to meet reductions that leading scientists agree are necessary to prevent catastrophic warming.[4]

Just as sound business decisions must be based on science it is also important for companies to respond to societal expectations. It has become clear that it is not acceptable anywhere in the world to produce goods in unsafe or exploitative conditions. These are real business risks for global companies.

In the coming years, the strategies that companies pursue will determine not only their shareholder value, but also the future of our species and our planet. It is at once a daunting challenge and a huge opportunity.

↓ **DEFINITION**

Sustainability

a. Brundtland's is the standard definition of sustainability: "Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs. It contains within it two key concepts: the concept of needs, in particular the essential needs of the world's poor, to which overriding priority should be given; and the idea of limitations imposed by the state of technology and social organization on the environment's ability to meet present and future needs" (Our Common Future, Report of the World Commission on Environment and Development, 1987). When Ceres talks about sustainability, we are referring to how environmental, social and economic considerations are integrated into corporate strategy and capital markets for the long term.

KEY DRIVERS OF SUSTAINABILITY

COMPETITION FOR RESOURCES

The world's population is projected to increase to more than 9 billion people by 2050. Rising living standards will result in both expanded markets for goods and services and unprecedented demands on the planet's natural resources. Many of the resources once considered renewable–like forests and fresh water–have become finite when we consider that human demands are growing more quickly than the ability of natural processes to replenish them. While exhaustion of commodities can be monitored and measured, the impact of depletion on ecosystems is harder to gauge and often impossible to remedy.

With resource depletion comes risk of conflict as people struggle to meet their basic needs. Take water– population growth, economic development and climate change are straining access to fresh water globally. By 2025, two-thirds of the world's population will live in water-stressed countries, posing significant risks to the economic and social stability of entire regions and to the corporate operations in those regions.[5]

CLIMATE CHANGE

Our current fossil-fuel based economy has led to a growing concentration of greenhouse gases in the atmosphere that is driving more extreme weather events, more severe and frequent cycles of drought and flood, and rising sea levels. These phenomena are being met with new policies and regulations including those designed to limit and put a cost on carbon emissions. Businesses need to plan for a policy environment increasingly hostile toward carbon emissions and for the costs of adaptation to climate change.

A large number of businesses and investors have come together to call on governments at the national and global level to implement comprehensive climate policy. These groups include Business for Innovative Climate and Energy Policy (BICEP), US CAP, The Prince of Wales Corporate Leaders Group on Climate Change, the Investor Network on Climate Risk (INCR) and the Institutional Investors Group on Climate Change (IIGCC), among others. These businesses recognize the opportunity to profit from technologies that reduce emissions and create solutions to global warming.

ECONOMIC GLOBALIZATION

The integration of national economies into the global economy brings opportunities for business, but often with significant risks. More and more companies operate in or source from multiple countries with wide disparities in enforced environmental and social standards. Whatever the local enforced standard, many stakeholder groups demand, at a minimum, that companies meet international expectations.

CONNECTIVITY AND COMMUNICATIONS

Advances in digital communication over the last two decades have reduced not only the time it takes to build a reputation, but also the time it takes to destroy one. Communication is increasingly disaggregated across multiple social networks. Facebook has over 65 million users, and is growing by more than 200% per year. Twitter, while having a "mere" 7 million users, has shown year-to-year growth of over 1000%.[6] Using these types of tools, it has never been easier for people to track a company's sustainability performance and to widely disseminate their perspectives on it. We have entered an era of "radical transparency."[7]

b. "Human rights are rights inherent to all human beings, whatever our nationality, place of residence, sex, national or ethnic origin, colour, religion, language, or any other status. We are all equally entitled to our human rights without discrimination. These rights are all interrelated, interdependent and indivisible" (United Nations Human Rights, Office of the High Commissioner for Human Rights–What are Human Rights, 2010, Para. 1).

THE STAKEHOLDER PERSPECTIVE

GOVERNMENT

Governments in developing and developed countries are implementing policies in response to key sustainability issues, including greenhouse gas emissions, toxic chemicals, water use, labor, and human rights.[b] In the United States, there is renewed interest in developing more effective oversight of and accountability for corporate activities that impact society and the environment. In particular, the much-anticipated regulation of carbon emissions will provide a more level playing field for lower emitters.

INVESTORS

More investors are now asking companies to detail and quantify sustainability risks and opportunities in their financial disclosures. As company owners, they look to sustainability performance as an indicator of strong management, strong governance and long-term thinking about future growth potential. Long-term investors reward companies that integrate sustainability into strategic planning. Sustainability-based stock indices benchmark corporate performance against peer companies and place pressure on businesses to meet increasing expectations.

LABOR UNIONS

Unions expect companies to address issues that affect employees, whether they be socioeconomic issues such as wages and healthcare, or environmental issues such as safety and climate change. They actively mobilize and represent their members through formal negotiations, engagement on public policy, and collaboration with other organizations that support common positions.

CIVIL SOCIETY

NGOs and community groups expect companies to address their environmental and social impacts. Giving voice to planetary concerns and future generations, as well as those impacted by corporate action today, these groups pressure companies through legal action, public campaigns and collaboration to address a full range of sustainability issues.

BUSINESS PARTNERS AND SUPPLIERS

Companies expect that those they do business with will follow the same standards that they do for integrating sustainability into their business. Business-to-business relationships therefore increasingly incorporate sustainability standards and criteria reflected through changes in Request for Proposals (RFP) and procurement guidelines. As customers, companies are themselves pushing sustainability across sectors and the value chain. Groups of companies in the automotive, apparel, electric utility, electronics and pharmaceutical sectors are among those collaborating to raise sustainability standards across their entire industry supply chains.

CONSUMERS

A growing segment of individual consumers are putting their money where their values are, demanding an understanding of the sustainability impacts of the products and services that they buy. Consumer concerns include the conditions under which products are made, the materials used and post-use recyclability. An increasing interest in credible sustainability information accompanies this trend, including at the point of purchase. The economic crisis has not dulled consumer commitment to the environment, with 78% of U.S. consumers in a 2009 Cone survey indicating that they are as likely or more likely to buy environmentally responsible products as they were before the crisis.[8]

EMPLOYEES

One of the strongest forces demanding change comes from within. Current employees and talented job candidates seek work that is meaningful and of demonstrable value to society, and they are prepared to receive a lower salary in exchange for work at a socially responsible company.[9] They seek out employers that have a clear vision for their contribution to a sustainable global economy, and once inside, look to influence the direction of corporate sustainability and drive improvements through their specific responsibilities.

THE INVESTOR PERSPECTIVE

As with the recent collapse of the financial markets – stemming from a lack of regulations, failure of accountability, and inadequate disclosure of risks that investors were assuming – sustainability and climate change also present far-reaching hidden risks to which the financial industry needs to pay closer attention. Increasingly, investors are recognizing and taking action on governance issues, including environmental and social issues that pose material business risks and that have the potential to directly affect long-term financial performance. Conversely, they see substantial benefits to be gained by financing companies that are proactive on these issues.

The **Investor Network on Climate Risk (INCR)** is focused on the financial impacts of climate change. The group was established in 2003 with a membership of a dozen investors representing $600 billion in collective assets, and now includes over **80 investors with $8 trillion in collective assets**. INCR has been very active, calling for strong national and international climate policies, asking the U.S. Securities and Exchange Commission for standardized disclosure of sustainability risks, directly engaging companies, filing shareholder resolutions and making significant investments in clean technology.

We have seen an explosion of sustainability and specifically climate focused research and investment products in the past few years, much of it taking place in the midst of one of our greatest economic slow-downs. We have also seen the number of financial indices that address sustainability broaden and deepen. Many of these indices are being managed by "mainstream" financial houses, including the S&P/IFCI Carbon Efficient Index, HSBC Climate Index, Prudential Green Commodities Index, FTSE4Good, and NASDAQ's Global Sustainability 50 Index. And investors are seeing the results. For example, KLD Research and Analytics (now part of RiskMetrics) launched a Global Climate 100 Index and posted a 57 percent return (17 percent annualized) since its launch in 2006.[10]

In addition to stand-alone sustainability indices, financial organizations are integrating sustainability into core decision-making. Numerous banks, including Citi, Morgan Stanley, and Credit Suisse, have put in place a carbon focused due diligence process for any future lending for coal-fired power and other carbon intensive projects. Bank of America has also shown leadership by setting a specific target to reduce the rate of greenhouse gas emissions in its lending to the utility industry, and by disclosing publicly that it is using a $20 to $40 per ton cost of carbon in evaluating loans.

↑ **Investors are recognizing and taking action on**

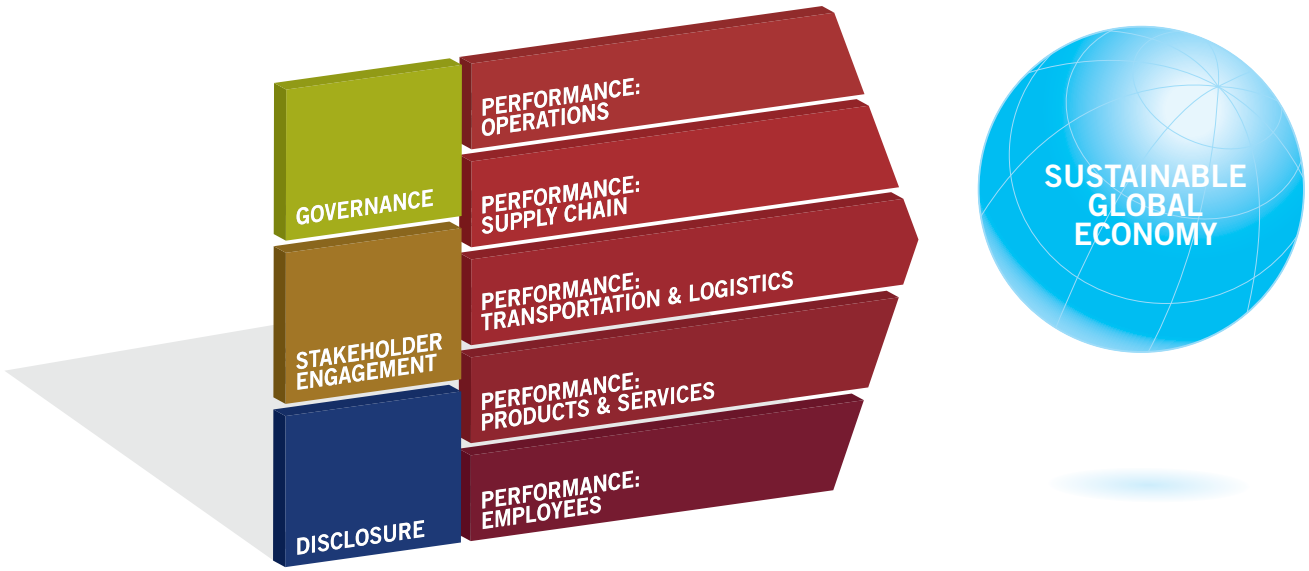
ENVIRONMENTAL, SOCIAL AND GOVERNANCE ISSUES...

Socially responsible investing has evolved from being a "boutique" issue, to growing at a faster pace than the universe of all investment assets under professional management – growing 18% between 2005 and 2007[11] – while professionally managed assets grew less than 3%. A report by Robeco Investment Management and Booz & Company expects responsible investing to grow to as much as 20% of total assets under management by 2015.[12]

The financial crisis has also resulted in an increased focus on the risk management processes at financial institutions, with a push for greater transparency, holistic risk identification and a longer-term focus. The 658 signatories to the Principles for Responsible Investment, which collectively represent over $18 trillion of assets, believe it is in the long-term interest of their beneficiaries to factor sustainability into investment decision-making. A 2009 Report by the Asset Management working group of the UNEP Financial Initiative asserts that investors have a fiduciary responsibility to consider sustainability components and those that do not may face very real risk by opening themselves up to legal liabilities.[13]

The bottom line for business is this: investors are rewarding companies that understand how sustainability issues impact their business and that are implementing strategies and actions that will enable them to thrive in a sustainable global economy.

GETTING STARTED WITH THE ROADMAP



IN THIS ROADMAP, WE PRESENT AN INTEGRATED APPROACH FOR EMBEDDING ENVIRONMENTAL AND SOCIAL CONCERNS INTO THE CORPORATE DNA.

The Ceres Roadmap focuses on areas where Ceres sees enormous opportunities for impact; however, it does not cover every aspect of sustainability.

It is designed to be of practical help to all, whether a business aims to establish a leadership platform, to fill gaps in its existing approach to sustainability or is still considering where to begin. Ceres suggests that businesses start by:

- Assessing the company's baseline environmental and social performance
- Analyzing corporate management and accountability structures and systems
- Conducting a materiality analysis of risks and opportunities

A company can then formulate its own route to sustainability based on the key directions laid out in the roadmap. The route a company takes will vary according to sector and corporate culture. Some businesses are further along the path toward sustainability than others. Companies that have successfully addressed particular challenges are highlighted in this report.

Each business has to create its own strategy for success, addressing both the risks and the opportunities of participating in the sustainable economy. That said, all of the expectations presented in the Ceres roadmap need to be addressed if a company is to achieve a comprehensive and coherent strategy.

Each chapter in this report follows a similar structure: a statement of the overall vision for that section of the roadmap, followed by an outline of the business rationale and relevant supporting trends. The remainder of the chapter includes a set of expectations with information on, "How to Get There." Case studies, examples and resources are provided throughout.

In this report we provide over 200 company examples, covering 20 sectors, as well as an extensive summary of resources and tools to ensure there is clear illustration for how companies can implement the roadmap and meet these expectations by 2020.

CERES' 21ST CENTURY CORPORATION VISION: 20 KEY EXPECTATIONS

GOVERNANCE FOR SUSTAINABILITY

G1 BOARD OVERSIGHT

The Board of Directors will provide oversight and accountability for corporate sustainability strategy and performance. A committee of the board will assume specific responsibility for sustainability oversight within its charter.

G2 MANAGEMENT ACCOUNTABILITY

The CEO and company management–from C-Suite executives to business unit and functional heads–will be responsible for achieving sustainability goals.

G3 EXECUTIVE COMPENSATION

Sustainability performance results are a core component of compensation packages and incentive plans for all executives.

G4 CORPORATE POLICIES AND MANAGEMENT SYSTEMS

Companies will embed sustainability considerations into corporate policies and risk management systems to guide day-to-day decision-making.

G5 PUBLIC POLICY

Companies will clearly state their position on relevant sustainability public policy issues. Any lobbying will be done transparently and in a manner consistent with sustainability commitments and strategies.

STAKEHOLDER ENGAGEMENT

S1 FOCUS ENGAGEMENT ACTIVITY

Companies will systematically identify a diverse group of stakeholders and regularly engage with them on sustainability risks and opportunities, including materiality analysis.

S2 SUBSTANTIVE STAKEHOLDER DIALOGUE

Companies will engage stakeholders in a manner that is ongoing, in-depth, timely, and involves all appropriate parts of the business. Companies will disclose how they are incorporating stakeholder input into corporate strategy and business decision-making.

S3 INVESTOR ENGAGEMENT

Companies will address specific sustainability risks and opportunities during annual meetings, analyst calls and other investor communications.

S4 C-LEVEL ENGAGEMENT

Senior executives will participate in stakeholder engagement processes to inform strategy, risk management and enterprise-wide decision-making.

DISCLOSURE

D1 STANDARDS FOR DISCLOSURE

Companies will disclose all relevant sustainability information using the Global Reporting Initiative (GRI) Guidelines as well as additional sector-relevant indicators.

D2 DISCLOSURE IN FINANCIAL FILINGS

Companies will disclose material sustainability issues in financial filings.

D3 SCOPE AND CONTENT

Companies will regularly disclose significant performance data and targets relating to their global direct operations, subsidiaries, joint ventures, products and supply chain. Disclosure will be balanced, covering challenges as well as positive impacts.

D4 VEHICLES FOR DISCLOSURE

Companies will release sustainability information through a range of disclosure vehicles, including stand-alone reports, annual reports, financial filings, websites and social media.

D5 PRODUCT TRANSPARENCY

Companies will provide verified and standardized sustainability performance information about their products at point of sale and through other publicly available channels.

D6 VERIFICATION AND ASSURANCE

Companies will verify key sustainability performance data to ensure valid results and will have their disclosures reviewed by an independent, credible third party.

PERFORMANCE

P1 OPERATIONS

Companies will invest the necessary resources to achieve environmental neutrality and to demonstrate respect for human rights in their operations. Companies will measure and improve performance related to GHG emissions, energy efficiency, facilities and buildings, water, waste, and human rights.

1. Greenhouse Gas Emissions and Energy Efficiency: Companies will reduce greenhouse gas emissions by 25% from their 2005 baseline by 2020:

- → Improving energy efficiency of operations by at least 50%
- → Reducing electricity demand by at least 15%
- → Obtaining at least 30% of energy from renewable sources

2. Facilities and Buildings: Companies will ensure that at least 50% of their owned or leased facilities, and all new construction, will meet rigorous green buildings standards. When siting facilities, companies will follow best practices that incorporate sustainable land-use and smart growth considerations.

3. Water Management: Companies will assess water-related impacts and risks and will set targets to improve water use and wastewater discharge, with priority given to operations in water-stressed regions.

4. Eliminate Waste: Companies will design (or redesign, as appropriate) manufacturing and business processes as closed-loop systems, reducing toxic air emissions and hazardous and non-hazardous waste to zero.

5. Human Rights: Companies will regularly assess key risks related to human rights throughout their entire operations, and will employ management systems that are aligned with internal policies and support the implementation of universal standards.

P2 SUPPLY CHAIN

Companies will require their suppliers to meet the same environmental and social standards as the company has established for itself. Companies will establish sustainable procurement criteria, catalyze improved supplier performance, and facilitate disclosure of suppliers' sustainability information.

1. Policies and Codes: Companies will set supply chain policies and codes aligned with overall social and environmental standards.

2. Align Procurement Practices: Companies will address sustainability performance in procurement criteria and contracting.

3. Engaging Suppliers: Companies will ensure that at least 75% of the company's Tier 1 and Tier 2 suppliers and 50% of Tier 3 suppliers meet the company's standards for sustainability performance.

4. Measurement and Disclosure: Companies will disclose a list of their Tier 1 and 2 suppliers and measure and disclose suppliers' sustainability performance.

P3 TRANSPORTATION AND LOGISTICS

Companies will systematically minimize their sustainability impact by enhancing the resiliency of their logistics. Companies will prioritize low impact transportation systems and modes, and address business travel and commuting.

1. Transportation Management: Companies will develop transportation criteria that incorporate distance requirements from site to market and establish decentralized and localized distribution networks.

2. Transportation Modes: Companies will review logistics to prioritize low-impact transportation modes.

3. Business Travel and Commuting: Companies will decrease greenhouse gas emissions from business travel and employee commuting by 50% from a baseline of 2005.

P4 PRODUCTS AND SERVICES

Companies will design and deliver products and services that are aligned with sustainability goals by innovating business models, allocating R&D spend, designing for sustainability, communicating the impacts of products and services, reviewing marketing practices and advancing strategic collaborations.

1. Business Model Innovation: Companies will innovate business models to reduce material inputs and prioritize a transition to sustainable products and services.

2. R&D and Capital Investment: Companies will use sustainability as a primary filter through which all R&D and capital investments are made. 50% of the R&D investment will be focused on developing sustainability solutions.

3. Design for Sustainability: Companies will approach all product development and product management decisions with full consideration of the social and environmental impacts of the product throughout its life cycle.

4. Marketing Practices: Companies will align their marketing practices and product revenue targets with their sustainability goals, and will market their designed-for-sustainability products and services with at least the same effort as their marketing of other products.

5. Strategic Collaborations: Companies will collaborate within and across sectors to innovate and scale sustainable products and services, and contribute to the development of open source solutions.

P5 EMPLOYEES

Companies will make sustainability considerations a core part of recruitment, compensation and training, and will encourage sustainable lifestyle choices.

1. Recruitment and Retention: Companies will incorporate sustainability criteria into recruitment protocols, employee performance processes, compensation and incentives.

2. Training and Support: Companies will develop and implement formal training on key sustainability issues for all executives and employees, and facilitate coaching, mentoring and networks for sustainability knowledge sharing.

3. Promoting Sustainable Lifestyles: Companies will promote sustainable lifestyle choices across their community of employees through education and innovative employee benefit options.

GOVERNANCE FOR SUSTAINABILITY

"As fiduciaries, it is incumbent that directors act in a way that considers the full spectrum of risks facing companies, including climate change, water scarcity and human rights."

Adele Simmons, Board of Directors
Marsh & McLennan Companies

VISION

Companies will embed sustainability from the boardroom to the copy room and will manage their entire value chain from a sustainability perspective.

Sustainability begins with board oversight and commitment and follows through into management systems and processes that integrate sustainability into day-to-day decision-making. It is this chain of accountability stretching from the boardroom to the factory floor or farm, that drives home the importance of achieving truly sustainable business performance.

As fiduciaries, corporate board members are obliged to assess risk. The financial impact of climate regulation, the scarcity of water and other resources, and litigation over poor labor practices – all represent examples of risks to businesses.

Corporate scandals and the current economic crisis have heightened demands for new approaches to governance, particularly in relation to executive compensation and risk management. As sustainability has risen up the corporate, investor and public policy agendas, it has become more fully integrated into these governance expectations. Shareholders, consumers, employees, civil society leaders and policymakers are all demanding greater accountability and transparency, as well as stronger alignment of corporate actions with public policies.

Corporate governance has always been a way to bring new thinking into decision-making at the top of the company. In sustainability terms, a fresh perspective can help identify ways to marry the firm's core competencies with the world's sustainability challenges.

Companies that embrace strong governance are better positioned to foresee and adapt to changing economic, social, environmental and political conditions in order to maximize value for both the company and society.

"Sustainability is increasingly being seen as an essential element of operational efficiency and risk management by boards of directors, and that means access to critical business information about environmental and social risks will be essential for long-term strategy."

Nell Minow, Editor and Co-Founder,
Corporate Library

The governance expectations that are outlined in this section are complementary to practices traditionally defined as "good corporate governance," such as executive compensation aligned with long-term value creation, director independence, and appropriately defining the roles and responsibilities of core board committees. The focus in "Governance for Sustainability" is more about establishing and overseeing stronger corporate alignment with the market and society's expectations, creating business value in the process. Companies that follow this path and embrace strong governance will be better positioned to foresee and adapt to changing economic, social, environmental, and political conditions. The mandate for strategic, long-term governance must flow from the very top of the organization. There is a growing expectation that boards of directors as fiduciaries should be informed leaders on sustainability issues that materially impact corporate performance and plans.

governance for sustainability

Trends

Board Engagement

- A 2008 survey of 1,040 directors of U.S. companies found that 39% of respondents expected that the board would be spending more time on sustainability issues during the current year than in the past.[14]
- 83% of the 636 companies in the Calvert Social Index "understand the importance of board diversity" and have at least one woman and/or a member of a minority on their board. Nevertheless, 62% of these companies had no women or minorities in the directorship pipeline–the top five highest paid positions in the company.[15]

Executive Accountability

- There has been small but accelerating recognition of the need for a senior executive focal point to drive the sustainability agenda. More and more companies are establishing C-level positions–including stand-alone Chief Sustainability Officer (CSO) positions–with direct responsibility for sustainability issues.[16] Between 2006 and 2009, the number of CSOs in the Russell 3000 companies increased from 6 to 204.[17]

Institutional Investor Interest

- A 2009 report by Eurosif on investment consultants and responsible investment found that 89% of investment consultants anticipate an increase of pension fund interest in environmental, social and governance (ESG) issues.[18]

EXPECTATION

G1: BOARD OVERSIGHT

The Board of Directors will provide oversight and accountability for corporate sustainability strategy and performance. A committee of the board will assume specific responsibility for sustainability oversight within its charter.

How to get there

RECRUIT DIRECTORS WITH DIVERSE BACKGROUNDS

Nominating committees should seek directors* with expertise in sustainability issues that are relevant to the company. Recruitment and boardroom succession policies should also aim to achieve diversity. Building a diverse board not only enables the corporate leadership to embody the values it champions, but to draw upon the different perspectives that diversity of gender, race, and geographic region–to name but a few criteria–can provide. In addition to diversity criteria it is important for companies to ensure sustainability considerations are part of the succession planning process.

INFORM DIRECTORS

To enable informed oversight and long-term planning, corporate boards should receive regular training and education on key sustainability issues. It is anticipated that such training will become a part of accredited director training programs offered by organizations such as the National Association of Corporate Directors, the International Corporate Governance Network and the Millstein Center for Corporate Governance.

MAKE A BOARD COMMITTEE RESPONSIBLE

In order to ensure that sustainability issues are overseen in sufficient depth, they must become the focus of a specific board committee. Companies should establish a dedicated sustainability committee or expand the role of an existing committee to include sustainability. A survey by Deloitte found that in many cases directors favor placing responsibility for sustainability into the governance and nominating committee.[19]

Board committee charters should spell out specific sustainability-related responsibilities and accountability structures, including the responsibility to oversee the content and effectiveness of policies, to review the company's sustainability targets, strategy and performance, and to review the adequacy of the company's transparency on that performance. The board sustainability committee should have the express ability to communicate regularly and directly with the senior-most executive responsible for driving the company's sustainability agenda, and to request reports from that individual on relevant matters.

The Corporate Sustainability Committee of the *HSBC* board is responsible for advising the HSBC board, committees of the Board and executive management on corporate sustainability policies, including environmental, social and ethical issues. The committee's charter obliges it to oversee the effectiveness of HSBC's targets, strategy, policies and performance on a range of sustainability issues as well as the company's transparency on those issues. The charter refers to international codes and principles, thus reinforcing the legitimacy of the company's sustainability priorities.

Nike's Corporate Responsibility Committee reviews significant policies and activities and makes recommendations to the board of directors regarding a broad range of operational and philanthropic sustainability practices and initiatives. The committee includes non-executive directors and its meetings are attended by Nike's Executive Team. The committee's charter gives it the power to review and make recommendations regarding some of the key "hot button" issues that the company faces, including human rights and environment issues.

* Throughout this section we refer to corporate boards but Ceres appreciates that executive oversight will not always be undertaken by a board of directors. This section should be taken to refer to whatever body carries out oversight in the enterprise.

EXPECTATION

G2: MANAGEMENT ACCOUNTABILITY

The CEO and company management – from C-Suite executives to business unit and functional heads – will be responsible for achieving sustainability goals.

How to get there

ENGAGE THE C-SUITE

When the size of the company warrants it, the CEO should appoint a publicly identifiable C-level executive to act as a focal point for efforts driving the sustainability agenda. This executive should report directly to the CEO and the board.

A management committee chaired by the CEO or Chief Sustainability Officer (CSO) and comprised of senior level managers from across the enterprise can provide a strong mechanism for leading and coordinating the integration of sustainability into strategy, planning and operations. The committee should envision the company's approach to the most critical sustainability issues over a 25-year view, translate that vision into specific, clearly articulated goals and strategies, ensure adequate resources are allocated, and review and update the vision at least annually.

SAP has created a Chief Sustainability Officer role to drive and coordinate all aspects of its sustainability efforts, from sustainability product innovation to the company's own operations. This position reports to an executive board member. The CSO coordinates sustainability roles and responsibilities across business lines, in part by means of a senior level sustainability committee comprising executives from each business line. The committee reports to the CEO and a committee of the board.

EMBED MANAGEMENT ACCOUNTABILITY

Management retains responsibility for achieving sustainability targets and programs through day-to-day operations and decision-making. Specific senior individuals responsible for sustainability-related outcomes could be identified in corporate communications in order to underscore that personal accountability.

Arizona-based electric power company *APS/Pinnacle West* likewise has a formal sustainability governance structure focused around an executive level Sustainability Policy Committee, chaired by the CSO. This committee sets strategy and provides oversight. It is complemented by a sustainability working group that includes managers from business units and drives internal coordination, as well as tracks risks, opportunities and performance. The working group sets up teams to manage particular initiatives.

Vancity, Canada's largest credit union, publicly identifies the titles and names of the executives responsible for achieving the various sustainability goals outlined in its Accountability Report.

EXPECTATION

G3: EXECUTIVE COMPENSATION

Sustainability performance results are a core component of compensation packages and incentive plans for all executives.

How to get there

ALIGN EXECUTIVE INCENTIVES

Sustainability performance results must be a core component of the evaluation of senior executive performance and compensation packages. The weighting given to sustainability performance should be disclosed in annual reports so that it is clear to shareholders and other stakeholders how executives are being rewarded.

Xcel Energy, in its 2009 Proxy statement, clearly lays out how certain sustainability metrics fit into annual incentive objectives for all executive officers. The filing sets out the weight assigned to GHG emission reductions and safety performance, alongside the weighting given to earnings per share.

The CEO and four executive directors of *National Grid* in charge of the company's electric utility, gas distribution and shared services business have performance targets tied to the company's aggressive carbon reduction goals.

" Sustainability is part of our everyday discussions at *National Grid.* Linking executive pay and climate change deliverables has increased accountability and positively impacted our culture. Employees across the company are increasingly incentivized to put sustainability at the heart of the way we do business."

Tom King, President
National Grid U.S.

↓ CASE STUDY

BUILDING SUSTAINABILITY INTO THE BOARD COMMITTEE CHARTERS

A board committee should have clear accountability for sustainability strategy and performance, whether by a standalone committee or by expanding the responsibilities of an existing committee. The committee charter should explicitly identify the committee's oversight duties. Below are some guidelines and good practice examples that companies may consider:

1. Purpose

The charter should clearly specify the scope of the committee's oversight of sustainability issues. *Royal Dutch Shell's* Corporate and Social Responsibility Committee is responsible for "reviewing the policies and conduct of the Shell Group of Companies with respect to the Shell General Business Principles (including Sustainable Development and the Health, Safety and Environment ("HSE") Policy), the Shell Code of Conduct and to major issues of public concern."

2. Composition

The committee's composition should include at least two non-executive directors. Ideally, these members should be chosen based on considerations that include expertise on sustainability issues of particular relevance to the business.

3. Duties and Responsibilities

The charter should specifically reference the company's priority sustainability issues. *Nike's* Corporate Responsibility Committee charter specifically mentions environmental and labor auditing and compliance.

The charter should clearly make the linkage between sustainability and business priorities. *Ford's* sustainability committee charter clearly states that the "principal functions" of the committee include assisting management in the formulation and implementation of policies, principles and practices to foster the sustainable growth of the company on a worldwide basis and to respond to evolving public sentiment and government regulation concerning vehicle emissions. The committee must also aid management in setting strategy, establishing goals and integrating sustainability into daily business activities across the company, and keep under review new and innovative technologies that could help the company foster sustainable growth.

The charter should include performance protocol, sustainability reporting and goal setting. *HSBC's* Corporate Sustainability Committee is tasked with the responsibility of reviewing and advising the Board on the Group's sustainability reporting and sustainability targets. The Committee also has an examination and approval function relating to the Group's environmental performance and impacts.

The charter should provide a framework for the integration of sustainability and risk management. *Sysco Corporation's* Sustainability Committee is explicitly charged with reviewing management's risk assessment and risk management policies and procedures with respect to sustainability impacts and considerations.

↓ CASE STUDY

CERES AND GOVERNANCE FOR SUSTAINABILITY

Ceres recognizes and consistently stresses the need for systemic change in the business sector. In order to see real and lasting impact, sustainability must become embedded in the DNA of companies.

As one of the primary sustainability issues, climate change poses significant risk to companies and should be factored into governance. Therefore, Ceres and RiskMetrics developed a 14-point framework and methodology for evaluating how companies are addressing climate risk.

Since 2003, Ceres has issued regular reports that score and benchmark the integration of climate risk and corporate governance by companies from a broad range of sectors, including consumer products, banking, and heavy emitting industries. These reports have drawn the attention of the investment community and in 2008 the California Public Employee Retirement System (CalPERS) and the California State Teachers Retirement System (CalSTRS)–two of the largest public pension funds in the United States together managing over $360 billion of assets–officially integrated the 14-point framework into corporate governance guidelines for their investment portfolios.

"Corporate governance is about aligning companies and investors to generate sustained, long-term share value," said Rob Feckner, CalPERS Board President. "Achieving sustained performance must include company actions to respond to environmental risks."[20]

	BOARD OVERSIGHT	WEIGHT
1	Board has explicit oversight responsibility for environmental affairs/climate change.	12%
2	Board conducts periodic review of climate change and monitors progress in implementing strategies.	
	MANAGEMENT EXECUTION	
3	Chairman/CEO clearly articulates company's views on climate change and GHG control measures.	20%
4	Executive officers are in key positions to monitor climate change and manage response strategies.	
5	Executive officers' compensation is linked to attainment of environmental goals and GHG targets.	
	PUBLIC DISCLOSURE	
6	Securities filings and/or MD&A identify material risks, opportunities posed by climate change.	14%
7	Public communications offer comprehensive, transparent presentation of response measures.	
	EMISSIONS ACCOUNTING	
8	Company conducts annual inventory of direct and indirect GHG emissions and publicly reports results.	16%
9	Company has set an emissions baseline by which to gauge future GHG emissions trends.	
10	Company has third party verification process for GHG emissions data.	
	STRATEGIC PLANNING AND PERFORMANCE*	
11	Company sets aggressive absolute GHG emission reduction targets for facilities, energy use, business travel, and other operations, and achieves these targets on schedule.	38%
12	Company has implemented company-wide programs to improve the energy efficiency of its operations.	
13	Company currently purchases renewable energy for a significant portion of its energy use and has set targets to increase future renewable energy purchases.	
14	Company pursues strategies to maximize opportunities from product and service offerings related to climate change.	
15	Company has assessed supply chain GHG emissions, engaged with suppliers on controlling emissions, addressed climate impacts of materials/packaging and improved logistics to reduce emissions.	

* Indicators adjusted from Climate Change Governance Framework to reflect focus on energy efficiency, renewable energy, products and services, and supply chain management.

Source: Table from Corporate Governance and Climate Risk: Consumer and Technology Companies, Ceres and Risk Metrics 2008

EXPECTATION

G4: CORPORATE POLICIES AND MANAGEMENT SYSTEMS

Companies will embed sustainability considerations into corporate policies and risk management systems to guide day-to-day decision-making.

How to get there

The governance structures referred to in previous sections set the accountabilities, goals and strategies for achieving sustainability. Embedding these within a complete Sustainability Management System, as opposed to a solely environmental management system, will ensure those strategies are implemented.

CRAFT KEY POLICIES ON MATERIAL ISSUES

Companies should develop policies covering all sustainability issues that materially (see p. 27 for more on materiality) impact the company's performance and plans, and outline the company's vision and strategy for implementing these policies. As part of this process, companies will need to engage with stakeholders to obtain feedback on the relevance of existing and proposed policies and to identify gaps. These policies should guide the company's activities across its operations, the supply chain, logistics, the design and delivery of products and the management of its employees.

Specifically, companies should have a policy on human rights that is publicly available. The policy should cover issues including the labor rights of employees, contract workers and supply chain workers, diversity and discrimination, and the respect of host communities. The policy should reference recognized frameworks, such as the Universal Declaration of Human Rights (UDHR), relevant ILO conventions, and other frameworks, including voluntary codes like the Principles on Security and Human Rights.

Pharmaceutical company *Novo Nordisk* has a human rights policy that references the UDHR, provides the company's view of its sphere of influence, and includes among other details Novo Nordisk's position on the right to health – the right most pertinent to its mission.

Biodiversity is another example of an issue that is material to many companies and on which a corporate policy should therefore be developed. Global mining company, *Rio Tinto*, developed its biodiversity policy and strategy in conjunction with an external advisory panel that included key conservation organizations such as Earthwatch Institute and Conservation International.

In 2008, recognizing investor, environmental and community concerns relating to the use of mountaintop removal (MTR) coal, *Bank of America* developed a coal policy, which aims, in part, to limit the financing of companies whose predominant method of extracting coal is through MTR.

↓ IN FOCUS

Focus on Human Rights

Company commitments to respect human and labor rights should be demonstrated and communicated through policies, and implemented through codes of conduct and management systems and rigorous ongoing monitoring and evaluation.

Policies should respect the four Fundamental Principles of the ILO Declaration on Fundamental Principles and Rights at Work:

- → Freedom of association and the effective recognition of the right to collective bargaining
- → Elimination of all forms of forced or compulsory labor
- → Effective abolition of child labor
- → Elimination of discrimination in respect of employment and occupation

And reference other core ILO Conventions dealing with:

- Minimum age
- Equal remuneration
- Occupational health and safety
- Freedom of movement

Management systems should establish and integrate guidelines, codes and practices across the whole company. These systems should include leadership development and employee training in order to build the company's overall capacity to identify and respond to human rights issues and should also include provisions to protect whistleblowers. Systems should ensure regular monitoring, performance assessments and audits, employ legitimate verification processes, and include effective, independent grievance mechanisms.

←G4. CORPORATE POLICIES AND MANAGEMENT SYSTEMS continued

ENLIST RISK MANAGEMENT SYSTEMS

Companies should incorporate consideration of environmental and social risks and opportunities into their business processes so that sustainability is factored into all decisions. This includes identifying environmental and social events or circumstances relevant to their business objectives, assessing them in terms of their likelihood and the potential magnitude of their impact, determining a response strategy, and monitoring progress. When a company considers an investment opportunity that has an impact on GHG emissions or water use, part of the sustainability risk associated with the decision can be addressed by using a shadow price for carbon or water, respectively. More generally, investment decisions should use discount rates that favor long-term planning or natural resource conservation.

PepsiCo's Environmental Management System identifies environmental risks and ensures compliance with regulations and company standards by applying formal governance and auditing processes to environmental programs and systems. The company also incorporates sustainability criteria into a Capital Expenditure Filter that assesses all capital expenditure requests over $5 million. PepsiCo requires that all requests be accompanied by a review of related sustainability risks and opportunities to track the sustainability payback on capital spend and thus improving investment decisions over time.

Companies should use ongoing stakeholder feedback to identify and prioritize sustainability risks, including emerging and long-term risks. The risk identification and management process should be based on the precautionary principle. As part of this process, companies need to identify and prioritize human rights risks and impacts. This analysis should consider the company's sector, local or national context, demographics and geographic vulnerabilities. Social and environmental impact assessment ought to be an ongoing process to ensure that the company can adjust to changing circumstances.

↓ DEFINITION

The Precautionary Principle

" When an activity raises threats of harm to human health or the environment, precautionary measures should be taken even if some cause and effect relationships are not fully established scientifically. In this context the proponent of an activity, rather than the public, should bear the burden of proof. The process of applying the precautionary principle must be open, informed and democratic and must include potentially affected parties. It must also involve an examination of the full range of alternatives, including no action."

Wingspread Statement on the Precautionary Principle, Jan. 1998 [21]

Many banks including *Citi* and *Barclays* have formal processes in place that assess the environmental and social risks–including human rights–in their finance, lending and investment portfolios. In relation to project finance, for example, these and other banks have signed onto the Equator Principles, which provide a framework for the integration of sustainability risk assessment and management into project finance. Several banks and other organizations are working on strengthening the Equator Principles, and some banks are applying the principles to a much wider range of investment practices.

↓IN FOCUS

Insurance Industry and Climate Risk

Insurance companies are particularly exposed to environmental and social risks through the practices of their clients. Insurers' exposure to sustainability-related liability was starkly illustrated through the wave of asbestos litigation starting in the 1980s, which nearly toppled London insurance company, *Lloyd's* and which, according to one estimate, amounted to as much as $54 billion in insured claims.[22] As society struggles with the physical effects of climate change and resource scarcity, insurers can be expected to see a rising tide of liability claims stemming from extreme events, human displacement, infrastructure failure, pollution of scarce water supplies, and other damages attributed to the action or inaction of corporate clients.

Some leading insurers, including *Swiss Re*, *Allianz* and *Zurich*, have already taken steps to identify high-risk practices across key industries, to advise clients to change risky practices or even in some instances to exclude certain coverage for industries where the risk cannot be priced accurately. Insurers are also optimizing their risk models to better incorporate changing hazards associated with climate change and to test adaptation strategies in light of intensifying hazards. Most insurers, however, still have a great deal of work to do to develop public policies or frameworks for gauging sustainability risks.

EXPECTATION

G5: PUBLIC POLICY

Companies will clearly state their position on relevant sustainability public policy issues. Any lobbying will be done transparently and in a manner consistent with sustainability commitments and strategies.

How to get there

ADVANCE POLICY POSITIONS RESPONSIBLY

Boards and executive team members should be involved in the development of the company's public policy positions, and companies should disclose their positions, as well as their membership in and contributions to trade associations. When appropriate, companies should play an active role in developing trade association positions that encourage best practice sustainability performance consistent with their own environmental and social performance goals.

In 2009, *Apple Inc., Exelon Corp., PG&E Corp.,* the *Public Service Company of New Mexico,* and *Mohawk Fine Paper* each announced that they were leaving the U.S. Chamber of Commerce because the Chamber's position opposing meaningful climate change legislation did not reflect their environmental policy positions.

" Leadership from the business community is essential to our success in protecting human health and the environment. BICEP is pioneering change, and proving every day that the environmentally sound thing to do is also the economically sound thing to do." [23]

Lisa Jackson, Administrator
U.S. Environmental Protection Agency

↓ CASE STUDY

BUSINESS FOR INNOVATIVE CLIMATE AND ENERGY POLICY (BICEP)

In 2008 Ceres, together with five founding companies– *Levi Strauss & Co., Nike, Starbucks, Sun Microsystems* (now part of Oracle Corporation), and *Timberland*–launched Business for Innovative Climate and Energy Policy (BICEP) to bring large consumer company voices to the climate and energy policy debate in Washington DC. The BICEP member companies, now numbering 17, support nine principles:

- → Set short- and long-term greenhouse gas reduction targets
- → Stimulate green job growth
- → Adopt national renewable energy standard
- → Capture vast energy efficiency opportunities
- → Boost investment in renewable energy, energy efficiency and carbon capture and storage technologies
- → Establish cap-and-trade system with 100% auction of carbon allowances
- → Encourage transportation for clean energy economy
- → Limit construction of new coal plants to those that capture and store CO_2
- → Assist developing countries in adapting to climate change and reducing carbon emissions

BICEP members believe that climate change will impact all sectors of the economy and that varied business perspectives are needed in developing U.S. and international climate policies. In 2009, BICEP companies met with 50 House and 40 Senate members, senior White House and agency officials, and attended the international climate negotiations in Copenhagen. BICEP companies also joined with other leading U.S. companies to call on President Obama to secure a robust international agreement–one that establishes significant emission reduction targets and secures substantial U.S. financing. These businesses and others continue to push for strong international and U.S. domestic policies providing emissions reductions and market certainty necessary to unleash much-needed investments to develop innovative solutions for climate change.

STAKEHOLDER ENGAGEMENT

"To operate successfully in a complex global business environment, forward-looking companies need to open their doors to diverse stakeholders and incorporate these perspectives into strategic decisions and sustainable development initiatives."

Ray Offenheiser, President
Oxfam America

VISION

Companies will regularly engage in robust dialogue with stakeholders across the whole value chain, and will integrate stakeholder feedback into strategic planning and operational decision-making.

Stakeholder engagement is a critical process that helps companies understand their key environmental and social impacts, identify risks and develop innovative solutions to sustainability challenges. Stakeholders include people or groups within or outside the company who are affected by the company's activities (See Figure S1).

Employees are a key internal driver of sustainability performance. They have long been advocates for their own labor rights. More recently, their interest and commitment has been directed towards the pursuit of innovations in sustainability. Efforts to engage internal stakeholders have evolved beyond the appointment of dedicated green teams and internal CSR departments. Now engagements are more strategic, focused on core business issues and involving senior executives from different business lines, geographic regions, and areas of expertise.

External stakeholders are also getting more attention. Engaging with and responding to external stakeholders helps companies establish credibility and support for their license to operate. It is especially critical for multi-national companies to capture the input of stakeholders in specific markets to understand local impacts.

The role and process of stakeholder engagement has evolved over the past few decades. Historically, companies engaged local community members and other organizations to meet regulatory requirements and secure permits for specific locations. As companies began to realize the benefits of regular dialogue with key constituency groups, engagement transitioned from a process largely focused on compliance conditions to one that was about identifying and managing a wider range of risks. Such stakeholder engagement proved invaluable as a way of working through issues in the wake of incidents or conflicts. Focus groups, one-off meetings, and ongoing engagements also help companies to understand reputational risks.

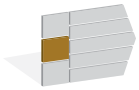
Now companies are engaging stakeholders to get out ahead in addressing emerging issues. Companies are increasingly seeing the connection between engagement, disclosure and corporate performance. By focusing on those issues that are most important to stakeholders, materiality analysis better equips a company with the insights that can foster innovation, including the development of new business practices, products and services. Investors, for their part, are beginning to recognize that companies that routinely engage stakeholders on sustainability issues are also typically leaders in risk management and innovation.

"Constructive, ongoing engagement between companies and investors on sustainability issues is a critical tool for driving the integration of sustainability factors in business strategies. This will bolster investor understanding of how companies are addressing related risks, and capitalizing on opportunities and potential competitive advantages over the long-term."

Kenneth B. Sylvester, Assistant Comptroller for Pension Policy
New York City Comptroller's Office

This has encouraged companies to adopt a more expansive approach to identifying and communicating with stakeholders, including engagement on a broader range of topics. There is now greater disclosure of the scope, process, and results of stakeholder dialogues. Companies are also using new methods to reach different stakeholder groups. Emerging communication vehicles provide both risks and opportunities. In particular, the rapid growth in social media has not only created new forums for dialogue, but has begun to blur the lines between engagement and disclosure.

Examples of successful stakeholder engagement identified in this section represent a distillation of Ceres' extensive experience in this area.



stakeholder engagement

Trends

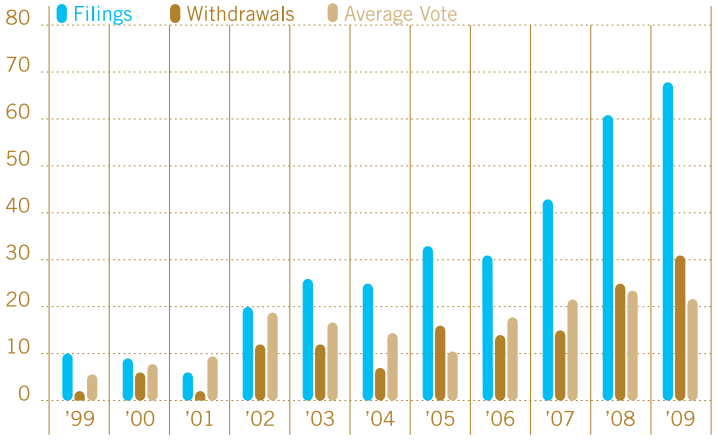
- According to a 2008 survey by KPMG:[24]
  - 62% of the 250 largest global corporations in the Fortune 500 (Global 250) engaged in formal stakeholder engagement– nearly double the number in 2005. However, only 32% of companies that engaged in formal dialogue publicly responded to the feedback they received.
  - 65% of Global 250 companies disclosed who their stakeholders are and how they are engaged

Stakeholder Demand for Disclosure

- 75% of respondents to a 2008 IBM survey of 250 business leaders worldwide reported that the number of advocacy groups collecting information about their business had increased over the past three years. 63% of respondents felt they had access to sufficient information about the sourcing and content of their products to satisfy customer information needs, yet three quarters of respondents admitted to not knowing their customers' sustainability concerns well.[25]

Rising Investor Engagement

- Investors have been filing an increasing number of shareholder resolutions on sustainability issues, including climate and disclosure over the past 10 years, with 68 submitted in 2009 alone. There have also been a record number of resolutions withdrawn due to positive company commitments.[26]



North American Shareholder Resolutions on Climate Change (1999–2009)

S1: FOCUS ENGAGEMENT ACTIVITY

EXPECTATION

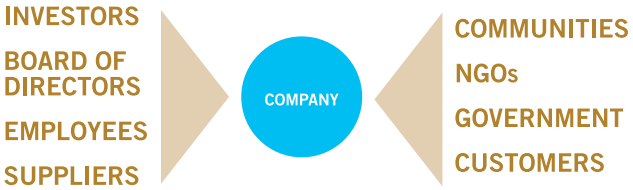
Companies will systematically identify a diverse group of stakeholders and regularly engage with them on sustainability risks and opportunities, including materiality analysis.

How to get there

IDENTIFY STAKEHOLDERS

Companies should systematically engage a diverse array of stakeholders from various key constituencies, both internal and external. Stakeholder mapping is the process whereby companies identify stakeholders and understand, track and assess how each group is being engaged on key sustainability issues by various business lines, across geographies and the entire value chain.

The diagram below offers a classic high-level representation of the range of a company's stakeholders. The mapping exercise should take this to the next level of detail, identifying specific stakeholders or stakeholder groups.



↑ **FIGURE S1** *Identifying Stakeholders* [27]

Mapping helps ensure that the company is engaging a broad range of stakeholders, while identifying overlaps that can be eliminated to improve efficiency of engagement activities. Large companies could employ a multi-national stakeholder advisory team to help address globally relevant sustainability challenges. Companies that have significant local impacts will need to prioritize community engagement.

Mapping also helps determine the appropriate depth of engagement to be maintained with particular constituencies. It is an opportunity to assess which stakeholders are best positioned to provide the company with expert feedback on the company's key sustainability performance indicators.

Healthcare company *Baxter* discloses a detailed list of stakeholders on its website, describing them and the channels by which engagement takes place. *Weyerhaeuser*, similarly, lays out clearly a list of its recognized stakeholder groups and how it engages with each.

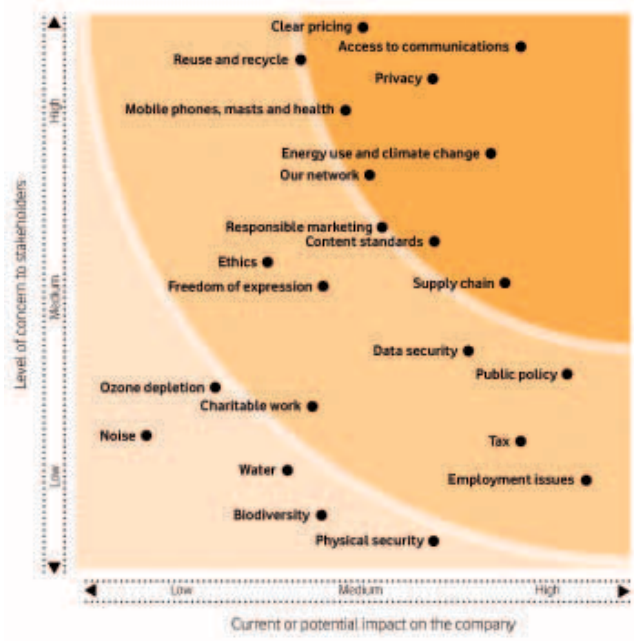
IDENTIFY WHAT MATTERS

Companies should identify key issues of concern to the company through an internal materiality analysis and should then share this analysis with external stakeholders. Stakeholder dialogue can be used to identify additional issues, prioritize efforts, and recognize emerging risks that could become increasingly important to the business over the long term. The company should then explore the links between identified material issues and the leadership team's vision and strategy.

The company's view of materiality should take into account what stakeholders consider to be significant and provide an explicit response to that feedback. *Ford's* 2008/09 Sustainability Report includes an interactive materiality matrix that categorizes issues based on two dimensions: the degree of stakeholder concern and the extent of the current or potential impact on the company. *Vodafone,* too, uses a materiality matrix to identify the issues of greatest importance to the company and to stakeholders. It then uses the matrix again to prioritize sub-issues.

↓ **FIGURE S1-2**

Vodafone Material Issues [28]



EXPECTATION

S2: SUBSTANTIVE STAKEHOLDER DIALOGUE

Companies will engage stakeholders in a manner that is ongoing, in-depth, timely and involves all appropriate parts of the business. Companies will disclose how they are incorporating stakeholder input into corporate strategy and business decision-making.

How to get there

REACH OUT REGULARLY

Companies should engage with stakeholders regularly and proactively in step with the business planning cycle, as well as in response to unexpected events. Specific engagement agendas may be timed to accompany key geographic or cultural events, initiatives, or emerging trends.

For multinational companies, engagement with stakeholders at the global corporate level should occur at least once a year, whereas engagements at country or community level should occur more frequently.

USE APPROPRIATE CHANNELS

Different constituencies should be engaged through channels appropriate to each group. Community Action Panels might be the best way to engage with community groups near company facilities; employees can be engaged through the company intranet or employee surveys; government can be engaged through regulatory discussion forums. Every avenue of communication offers an opportunity to interact with one or more stakeholder groups on sustainability issues.

An example of using direct community engagement that was successful for *Shell*, was its efforts to obtain support for one of its projects in the Philippines. A study by the World Resources Institute found that Shell's engagement helped them avoid project delays, which resulted in $50–$70 million in savings and a return on investment of 1,200% on its community consent efforts.[29]

Many companies, for example, are turning to online communication tools such as blogs and social media platforms, including Facebook, Twitter, and Justmeans, to engage their connected stakeholders. Conversations about companies are now taking place online all the time whether initiated by those companies or not. Companies should identify, evaluate, or create opportunities that allow for active, transparent, and quality online engagement with stakeholders.

To engage consumers on the company's sustainability strategy and performance *Seventh Generation* uses a broad social media strategy that includes the Chairman's blog, employee blogs, Facebook, LinkedIn, a YouTube channel, Twitter, and Justmeans. The company's sustainability report website engages users by offering the opportunity to "crowd-source" a book of best practices in corporate sustainability.

Regardless of the relative formality or informality of the engagement channel, companies should commit to ensure that they provide credible information that is supported by performance data. While online forums can complement existing stakeholder processes and engage a much broader set of stakeholders, online engagement should not replace traditional engagement or disclosure that the company has in place. Companies should also be aware that online engagement is only effective for those stakeholders with access to technology.

" Through our external stakeholder engagement process, we have listened to the need to speak openly and candidly about the challenges and dilemmas in our business. This type of frank assessment is an important part of how we're going to make progress and improve as a company."

Bob Langert, VP Corporate Social Responsibility
McDonald's Corporation

DEMONSTRATE ACCOUNTABILITY

Companies should disclose the feedback provided by key stakeholder groups and explain how this has influenced their business strategy. This disclosure reinforces the two-way nature of engagement and completes the accountability feedback loop. When companies are unable to address all stakeholder concerns, they should be explicit about the rationale for not doing so. This transparency will build the trust and credibility necessary for ongoing long-term engagement.

In 2006–07, Ceres engaged with the *New York Organic Fertilizer Company* (NYOFCo) as a part of our Facility Reporting Project. NYOFCo, a facility based in the South Bronx, is in the business of treating waste from the city of New York and converting it into fertilizer. Ceres organized a series of five community meetings between the facility and its neighboring community, addressing a number of contentious issues including odor, public health and safety. Through this focused engagement, NYOFCo committed to a series of performance and communications commitments that were then disclosed in their facility report.

↓ CASE STUDY

THE CERES STAKEHOLDER ENGAGEMENT MODEL

For more than 20 years Ceres has been bringing the investor, business and NGO communities together in constructive dialogue to advance improved corporate sustainability performance. Drawing primarily upon the depth and expertise of the Ceres coalition, the Ceres stakeholder engagement model features diverse teams of credible, external stakeholders that provide ongoing input to a company on policy, strategy, performance and disclosure. In 1995, Ceres brought companies together with stakeholders in 20 unique dialogues. In 2009, we convened over 115 engagements.

We believe it is critical for companies to be at the table with stakeholders who will challenge them with differing opinions and insights. A diversity of expertise and perspectives results in the identification of emerging issues, enabling companies to take a proactive approach to sustainability.

Ceres stakeholder engagements are confidential, collaborative and solutions oriented. Ceres is an active participant in these dialogues, and along with other stakeholders, offers honest and constructive feedback. A key part of the Ceres model is creating an accountability loop where companies not only receive feedback from stakeholders, but also respond on how they will act on the feedback received. The long-term nature of the Ceres dialogues also helps stakeholders and companies to develop the mutual trust necessary to work together to identify smart business solutions for sustainability challenges.

S3: INVESTOR ENGAGEMENT

EXPECTATION

Companies will address specific sustainability risks and opportunities during annual meetings, analyst calls and other investor communications.

How to get there

SPEAK TO THE STREET

Investors represent a key group of stakeholders that companies should engage in a proactive and regular manner. Companies should report on and discuss specific sustainability risks and opportunities in investor communications and engagements, including annual meetings and quarterly earnings calls.

These engagements should provide investors with a deeper understanding of sustainability risks and opportunities. Clear, concise sustainability information allows investors to evaluate performance, so that they may reward companies whose activities address social and environmental challenges.

At *General Electric's* annual shareholder meetings, CEO Jeffrey Immelt often explains the business opportunities presented by sustainability challenges and highlights the company's efforts to develop solutions to address them. In 2008, Immelt highlighted the company's commitment to growing its ecomagination initiative and in 2009–a year almost entirely focused on the company's plans for weathering the economic crisis–Immelt addressed GE's efforts to develop clean energy technologies and solutions as a prime business opportunity.[30] In addition to the updates provided at the annual shareholder meetings, ecomagination and healthymagination are featured every month in GE's investor update on business highlights.

" The opportunity to directly engage with stakeholder experts from NGOs, policy and industry is valuable for our business. This engagement resulted in a deeper understanding of how the impacts of Dell's supply chain could be further integrated into our sustainability strategy."

Gil Casellas, VP, Corporate Responsibility
Dell, Inc.

↓ CASE STUDY

INTEGRATING STAKEHOLDERS INTO STRATEGY DEVELOPMENT

In 2008 *Dell, Inc.* began the process of developing a comprehensive environmental strategy, called Enviro 2.0, to help the company move towards Michael Dell's goal of becoming the greenest technology company on the planet. Based on past experience working with stakeholders, Dell recognized the value in bringing together external experts with the key senior executives from each of its business lines to provide input during the early development of the strategy. Ceres worked with Dell to identify and match key stakeholders with each of Enviro 2.0's six pillars: Climate Leadership, Sustainable Operations, Product and Packaging Stewardship, Global Recycling, Services and Solutions, and Engagement and Empowerment. The team included experts in climate and energy, life cycle assessment, e-waste, materials, packaging, communications, and employee engagement, as well as investors and government representatives.

Through a series of dialogues between stakeholders and Dell's business line leaders, the company established goals, targets, and metrics that would be used for measuring success for each of the six pillars. The culmination of these dialogues was an in-person meeting bringing together all 30 stakeholders, more than two-dozen Dell employees, as well as Michael Dell, to finalize Enviro 2.0. Ceres and the stakeholder team will continue to engage with Dell to ensure that the strategy is implemented by the business lines and that stakeholder feedback is addressed.

EXPECTATION

S4: C-LEVEL ENGAGEMENT

Senior executives will participate in stakeholder engagement processes to inform strategy, risk management and enterprise-wide decision-making.

How to get there

INVOLVE EXECUTIVES

To demonstrate the company's commitment to sustainability, senior executives–including members of the C-suite–should participate in stakeholder engagement. This is an important opportunity for corporate leaders to hear directly from external stakeholders, including NGOs, investors, customers, suppliers, and members of the community. This process provides executives with a first-hand understanding of stakeholder concerns and how they align with the company's business and sustainability priorities. Board members will also gain value by participating in these discussions.

Since 2007, Ceres has worked with electric utility *American Electric Power* (AEP) to organize multi-stakeholder engagements that include more than 40 representatives from the company's senior management team, including the CEO, CFO, COO and presidents of AEP's various operating companies. These individuals are brought together with a multi-stakeholder group of investors, environmental NGOs, academia, and labor group representatives to discuss the company's sustainability policy, strategy and disclosure. AEP's board of directors is kept informed about the engagement process and the results from this dialogue.

" Transparency and accountability along with a close working relationship with our stakeholders will grow our business and serve our shareholders' interests." [31]

Mike Morris, Chairman, President, and CEO
American Electric Power

In addition to *Timberland's* regular ongoing engagement with a dedicated stakeholder team, CEO Jeff Swartz engages with stakeholders in quarterly conference calls focused on a particular sustainability issue of concern to the company. The open question and answer format of these sessions allows stakeholders easy and direct access to the chief executive and lends itself to generating maximum candor and transparency. These calls are archived and publicly available on the Timberland website.

DISCLOSURE

"Corporate transparency, accountability and an honest assessment of social and environmental risks are essential elements of fully understanding risk in the twenty-first century and enhancing shareholder value."

Denise Nappier
Connecticut State Treasurer

VISION

Companies will report regularly on their sustainability strategy and performance. Disclosure will include credible, standardized, independently verified metrics encompassing all material stakeholder concerns, and detail goals and plans for future action.

Comprehensive disclosure of sustainability performance and impacts is a key part of a company's sustainability journey. What gets measured gets managed, and what gets disclosed gets done. Disclosure is not just a way for companies to tell their story. It is also a way to build relationships with key groups and a critical part of the process for determining their impacts and identifying new business opportunities.

The growing call for mandatory environmental and social disclosure is pushing reporting to the mainstream. A number of countries worldwide already require some form of corporate sustainability disclosure, and there is growing support for similar requirements in the United States.

Since 2002, when 60 organizations formed the Corporate Sunshine Working Group, there has been ongoing investor engagement with the U.S. Securities and Exchange Commission (SEC) over its rules, guidance and enforcement activity relating to corporate disclosure of environmental impacts. In June 2009, investors representing $1.4 trillion in assets called on the SEC to issue interpretive guidance to get companies to disclose climate and other material sustainability risks in their financial filings. The SEC released guidance on climate risk disclosure in January 2010.

In September 2009, the U.S. Environmental Protection Agency issued a rule that requires the disclosure of greenhouse gas emissions by large sources and suppliers in the United States. U.S. insurance regulators–through the National Association of Insurance Commissioners (NAIC)–also require that insurance companies disclose climate risks and opportunities annually to their customers and investors.

Market information providers, including *Bloomberg*, are taking advantage of this rising interest in corporate sustainability disclosure. In August 2009, Bloomberg launched a new product that allows clients to search, display and store sustainability information of over 3,000 publicly traded companies on their terminals.

" Bloomberg is committed to sustainability, not only as a matter of principle, but as good business too. Operating sustainably can enhance business efficiency. And our product teams are developing new tools for the financial community to manage risk and leverage opportunities around this issue." [32]

Peter Grauer, Chairman
Bloomberg, L.P.

The growth in social media has also begun to blur the line between disclosure and engagement, creating new opportunities for dialogue but also new pressure for transparency. As social media enables internet users to share news and make their opinions about corporate sustainability issues known in real time, companies have to be prepared for open and honest discussion of sustainability performance issues as they arise.

This section identifies the characteristics of an approach to disclosure that meets these new and emerging challenges.

Trends

More Companies Are Reporting

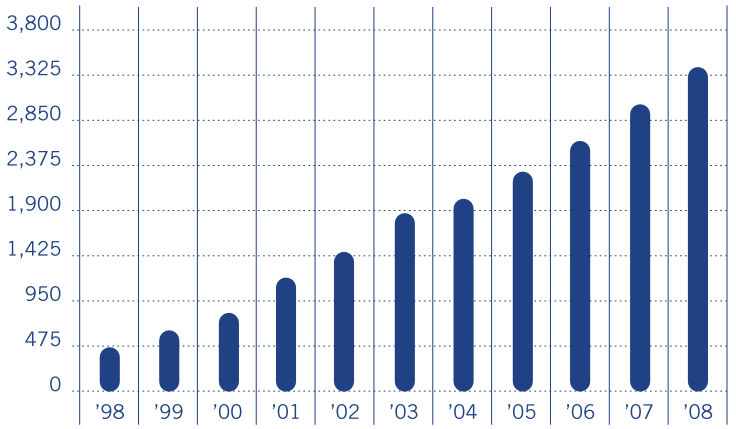
- The 2008 KPMG Survey of Sustainability Reporting among the world's 250 largest companies found:[34]
  - 79% are now issuing stand-alone sustainability reports and a further 4% are integrating sustainability data into their annual financial reports
  - 77% claim to use the Global Reporting Initiative Guidelines in their reporting.
  - 73% of the largest U.S. companies by revenue issue sustainability reports, compared to only 32% in 2005
- The GRI Guidelines are now the gold standard: 64% of companies listed on Germany's DAX 30, 48% of those listed on France's CAC 40, and 22% of the UK's FTSE 100 report using the GRI guidelines.[35]

Disclosure Expands Along the Value Chain

- The boundaries of corporate disclosure are beginning to expand. In 2008, 34 companies participated in the Carbon Disclosure Project's Supply Chain Survey. These companies encouraged a total of 2,318 suppliers to disclose aspects of their climate related plans and impacts.[36]

Human Rights Disclosure

- A 2006 survey of Fortune 500 companies on their approach to human rights found that:[37]
  - 93% reported having human rights principles or practices
  - 75% claimed to be reporting externally on human rights issues
- However, a 2009 study found that while some companies are increasingly disclosing information on human rights, the quality of the reporting is relatively weak, typically providing only isolated and anecdotal examples.[38]



↑ *Global Report Output per year (1998–2008)* [33]

D1: STANDARDS FOR DISCLOSURE

EXPECTATION

Companies will disclose all relevant sustainability information using the Global Reporting Initiative (GRI) Guidelines as well as additional sector-relevant indicators.

How to get there

APPLY THE LEADING REPORTING STANDARD

The GRI Guidelines have become the de facto standard for sustainability reporting. In 2009, over 1,100 reports officially registered their sustainability reports with the GRI. Using these guidelines enables consistent, comparable disclosure on sustainability performance, risks and opportunities.

Companies should use the GRI framework's principles and indicators to disclose their performance. The GRI has 15 sector supplements including oil and gas, financial services, and public agencies, as well as specific issue guides on areas such as human rights. These additional guidance documents are designed to help organizations navigate more deeply into sustainability reporting. Companies find additional sector-relevant disclosure guidance developed by regulatory agencies, and other national bodies in the countries where they operate.

↓ CASE STUDY

CERES AND DISCLOSURE

From the creation of the Ceres Principles at our inception in 1989, Ceres has worked to create tools and standards that companies can use to meet mounting expectations for improved disclosure. Disclosure is at the core of Ceres' history and we strongly believe that what gets measured gets managed and what gets disclosed gets done.

- In 2002 Ceres launched the Global Reporting Initiative (GRI)– currently the de facto standard for sustainability reporting with approximately 1,100 companies registered as users worldwide.
- Ceres' 80-plus network companies all commit to regular sustainability reporting and ongoing engagement with the Ceres stakeholder teams in developing those reports.
- Ceres regularly publishes sector and issue-focused reports that evaluate corporate sustainability disclosure and provide guidance for companies looking to improve. These Ceres reports have focused on climate and water risk disclosure, as well as specific sectors such as the utility and auto industries.
- In partnership with INCR and other organizations Ceres created the Global Framework for Climate Risk Disclosure, which encourages standardized disclosure to make it easy for companies to provide information and for investors to analyze and compare companies.
- Ceres has engaged the U.S. Securities and Exchange Commission (SEC) on the issue of climate disclosure since 2004. A key priority is encouraging the SEC to develop interpretive guidance on environmental, social and governance disclosure, particularly in regard to climate change risks that companies should be providing. The SEC issued clarifying guidance on corporate climate disclosure in January 2010 that is reflective of Ceres input. This represents a critical step forward in creating a level playing field for all companies and improved information for investors.

There has been a tremendous evolution and uptake in sustainability disclosure over the past 10–15 years and Ceres believes that we have reached a tipping point. Rigorous reporting of material sustainability information is an expectation of all large companies and by 2020 will be required as a standard practice by all sizes of companies.

EXPECTATION

D2: DISCLOSURE IN FINANCIAL FILINGS

Companies will disclose material sustainability issues in financial filings.

How to get there

MAKE FINANCIAL DISCLOSURES COMPLETE

A company's financial filings should include discussion of material environmental and social risks, including strategy, performance data and forward looking information as appropriate. Companies should disclose sustainability-related liabilities and costs in financial statements even where contingent or difficult to quantify. A number of groups, including the International Federation of Accountants and the Canadian Institute of Chartered Accountants, are already developing standards to address particular disclosure challenges, such as climate change.

Much of the pressure to improve corporate disclosure of sustainability risks in financial filings is coming from the investor community. Since 2004, a broad coalition of investors and NGOs, including the Ceres-led Investor Network on Climate Risk (INCR) has been engaging with the U.S. SEC on financial disclosures. This resulted in the SEC's issuance of interpretive guidance on climate risk disclosure in 2010. The guidance outlines climate-related "material risks," which companies should be disclosing to investors, including: physical and regulatory impacts, as well as new economic and business opportunities. These groups continue to push the SEC to require publicly traded companies to assess and fully disclose, not only their financial risks from climate change, but also other material environmental, social and governance (ESG) risks.

Investor pressure on the SEC in the U.S. mirrors an international trend towards mandating corporate disclosure of sustainability issues. A number of governments, including the U.K., France, Germany and Malaysia, now require assessments of ESG risks in their annual reports.[39]

In the U.S., material sustainability risks that companies are starting to include in 10-Ks and other financial disclosures include climate change, water availability, and human rights.

A 2009 report by Ceres and the Environmental Defense Fund analyzed climate risk disclosure in the financial filings of companies in a number of "high risk" sectors, including oil and gas, insurance, coal, transportation and electric utility. The report concluded that while an increasing number of companies are disclosing climate risks, the overall quality of disclosure was still inadequate. Companies that are providing more complete disclosure include *PG&E* and *Shell*.

As this trend develops, more companies are considering how to incorporate other sustainability risks into their 10-Ks. The *Coca-Cola Company*, *Intel* and *APS/Pinnacle West* (an Arizona-based electric power company) all made disclosures in their 2008 10-K forms regarding the potential business risks posed by water scarcity.

" In order for our economy to advance in a responsible, sustainable way, environmental, social and governance should be integrated into investment decision making – it is our fiduciary duty. To accurately assess a company's sustainability performance, investors need comprehensive and transparent corporate sustainability disclosure."

Dr. Julie Gorte, Senior VP Sustainable Investing
Pax World Investments

D3: SCOPE AND CONTENT

EXPECTATION

Companies will regularly disclose significant performance data and targets relating to their global direct operations, subsidiaries, joint ventures, products and supply chain. Disclosure will be balanced, covering challenges as well as positive impacts.

How to get there

The increasing breadth and depth of disclosure means that companies will need to extend the boundaries of their reporting in terms of geography, longer timeframes, and specific facilities and joint ventures. This requires companies to adjust and develop management and data collection systems.

LOOK BACKWARDS AND FORWARDS

Companies should capture both past sustainability performance and their plans for the future. Past performance data should extend back at least three years and ideally five years. Looking forward, companies should disclose emerging issues, using data projections on key environmental issues, such as GHG emissions, and on human rights and community impact trends. They should include short-term goals and, for key issues, long-term goals over a timeframe appropriate to the issue's pace of development.

Personal care products firm *Burt's Bees* discloses what it calls its Big, Hairy, Audacious Goals – stretch goals that the company aims to achieve by 2020. These include making all product packaging either post-consumer recycled or biodegradable, and being carbon free and 100% powered by renewable energy.

In 2008, *National Grid* set a long-term target to reduce its Scope 1 and Scope 2 GHG emissions by 80% by 2050. The company also discloses a shorter-term reduction target of 45% by 2020. The timeframes and magnitude of these goals resonate well with current climate science.

Covering the breadth of key sustainability issues is part of comprehensive disclosure. *Alcoa* has set itself specific sustainability goals in 15 distinct areas, including GHG emission reduction, health and safety, and the use of volatile organic compounds.

In addition to disclosing greenhouse gas performance data for recent years as well as the current year, *Suncor* provides a projection of emissions going forward (see figure D3). This provides important information for stakeholders and investors to understand the future risks the company faces.

On key issues, companies should disclose performance data on both an absolute and a normalized basis in order to demonstrate robust data management systems. Where appropriate, data should be made available at shorter intervals – bi-annually, quarterly or monthly – rather than just annually.

↓FIGURE D3

Suncor Greenhouse Gas Performance Data and Projections[40]

Suncor Energy GHG Emissions Actual and Estimates (1990 – 2013) [1][2][3][4][5]

thousand tonnes CO_2 equivalents (CO_2e)

	90	00	04	05	06	07	**08**	09	10	11	12	13
Business as usual (BAU) CO_2e emissions (thousand tonnes CO_2e)	4 832	10 737	18 585	14 740	20 828	19 355	**18 878**	23 480	22 666	24 377	22 826	23 469
Actual and estimated CO_2e emissions (thousand tonnes CO_2e)	4 832	7 783	10 627	9 873	11 508	11 766	**11 115**	13 889	13 639	14 026	13 724	13 531

1. Estimates are based on current production forecasts and methodologies. The tables contain forward-looking estimates and users of this information are cautioned that the actual GHG emissions and emission intensity may vary from the estimates contained in the table.
2. Data from 1990 to 2000 does not include Suncor's U.S. operations.
3. Data includes direct and indirect CO2e emissions.
4. Data and estimates for 2006 onward include the St Clair Ethanol Plant.
5. Data and estimates have changed from last year's report due to Oil Sands methodology changes that reflect the inclusion of biomass, a methodology change in the calculation of fugitive emissions using LDAR data, and revisions to emission factors based upon AENV's request. These changes are also consistent with the methodology used for SGER Bill 3 reporting.

Definitions
Direct GHG emissions: Emissions from sources that are owned or controlled by the reporting company.
Indirect GHG emissions: Emissions that are a consequence of the operations of the reporting company, but occur at sources owned or controlled by another company (e.g. purchased electricity).
Absolute (total) emissions: The total GHG emissions (direct and indirect emissions) of a facility or reporting company.
Emission intensity: Ratios that express GHG impact per unit of physical activity or unit of economic value (e.g. tonnes of CO2e emissions per unit of gross production).

D3. SCOPE AND CONTENT continued

GO BEYOND DIRECT OPERATIONS

Just as sustainability management has expanded to include responsibility for supply chain issues and Extended Producer Responsibility, companies should broaden their reporting scope to include not just the impacts of their direct operations around the globe, but also their material impacts backwards and forwards along the value chain. For example, companies should disclose their Scope 3 GHG emissions, including emissions attributable to the company's supply chain and to the use of their products.

In 2007, *PepsiCo's* Walkers Crisps became the first product to bear the Carbon Trust's Carbon Reduction Label on each pack. The label details the product's carbon footprint, 70% of which in the case of this snack food originates beyond the company's direct operations, further up the supply chain.

Fortum, the Finnish energy company, discloses its Scope 1, 2 and 3 emissions. Within the company's Scope 3 figures, the company includes "indirect emissions from the production and transportation of the fuels we use at our power plants, from the air travel by our personnel and from the use of our products." [41]

Broader reporting boundaries extend to key social issues, too. Companies should report on issues related to workers, communities and product safety wherever the company directly, or through its partners, undertakes production or marketing around the globe (see page 59 for more on supply chain disclosure).

In its 2008–09 Social Responsibility Report, *Gap* provides three-year trend data on the performance of factories in its supply chain. The company presents this data by region and by country, offering detailed regional data of the violations of its Code of Vendor Conduct.

" As the world's largest IT company, HP has the one of the most complex and truly global supply chains. We realize that a large part of our footprint lies in our supply chain and believe that disclosure and supplier engagement on sustainability are key for demonstrating leadership and raising standards across the entire industry."

Engelina Jaspers, VP of Environmental Sustainability Hewlett-Packard

↓ **IN FOCUS**

Greenhouse Gas Disclosure: Scope 1, 2, and 3

Companies are increasingly expected to measure and disclose emissions throughout the entire value chain. A comprehensive approach to greenhouse gas (GHG) emissions measurement and management encompasses Scope 1, 2 and 3 emissions:

- → Scope 1: All direct GHG emissions
- → Scope 2: Indirect GHG emissions from consumption of purchased electricity, heat or steam
- → Scope 3: Other indirect emissions, such as the extraction and production of purchased materials and fuels, transport-related activities in vehicles not owned or controlled by the reporting entity, electricity-related activities (e.g. transmission and distribution losses) not covered in Scope 2, outsourced activities, waste disposal, etc.

For many companies, a significant portion of their GHG emissions are in their supply chain or from the use of their products and services. The World Resources Institute (WRI)/World Business Council for Sustainable Development (WBCSD) Greenhouse Gas "Product and Supply Chain" Protocol Initiative is developing a standardized method to inventory Scope 3 emissions. This inventory will include emissions associated with the product life cycle and corporate value chains, accounting for both upstream and downstream impacts. The multi-stakeholder initiative is addressing such challenges as mapping the value chain and setting boundaries, prioritizing relevant emissions, allocation methods, and data collection. Increased knowledge and understanding of these impacts will support more sustainable decisions about sourcing and product development.

DRILL DOWN

Companies should disclose corporate level data and facility-level data as appropriate, and should publicly disclose the names, locations and aggregate performance-related information for all such facilities, including contract facilities.

Facility-level information is important to community stakeholders, especially on issues such as water, pollution, emissions and labor issues. Facility-level data is the backbone of supply chain disclosure.

A major challenge for companies is addressing the sustainability impacts of their commodity purchases. The Better Cotton Initiative (BCI) was created to address this issue in relation to cotton production. This initiative engages a range of stakeholders around the task of improving the sustainability of this commodity market. BCI's aim is to have wide-ranging industry impact, and to instigate long-term benefits for farmers and others dependent on cotton for their livelihood. The stakeholder partner group currently includes NGOs, producers, brands, retailers and suppliers, and has been supported by government funding. Through this collaboration, in the future companies should be able to disclose details of the impacts of their apparel products down to the level of individual farms.

ADDRESS DILEMMAS AND CHALLENGES

Companies should disclose their performance in a way that is balanced, adequately addressing dilemmas as well as successes. Picking issues that are a particular challenge for the company and providing the rationale for the direction that the company has chosen to pursue is critical for balanced reporting.

Patagonia's Footprint Chronicles allow the consumer to track specific products online from design through delivery. The easy-to-read analysis lays out the positive environmental and social attributes of specific products and the challenges that still remain within the product's life cycle. The website offers photos and video interviews of suppliers discussing their own challenges and thoughts for the future.

Ford's 2008–09 Sustainability Report came directly on the heels of one of the hardest years in the company's century-long history. Ford's Sustainability Report directly addresses the challenges the company faced – and continues to face – as a result of the recent economic downturn, including restructuring, layoffs, and factory closings. The report provides detailed disclosure of the company's financial recovery plan and where it sees opportunities for sustainable business practice now and in the future.

↓ IN FOCUS

Diversity Disclosure

For a number of years, socially responsible investors have been pushing companies to disclose comprehensive workforce diversity data by making public their mandated disclosure to the Equal Employment Opportunities Commission (EEOC). Groups like Sustainable Investment Research Analyst Network (SIRAN) believe that making this information public is a key tool to foster progress on hiring, promoting and retaining minority and female employees. A growing number of U.S. companies, including Sunoco, Intel and IBM, are now reporting full EEO-1 data, which provides a detailed breakdown of employee diversity by job category.

↓ CASE STUDY

CERES AND THE FACILITY REPORTING PROJECT

In 2003, Ceres and the Tellus Institute launched the Facility Reporting Project (FRP), a multi-stakeholder effort to create guidance on developing consistent, comparable, and credible sustainability reports for individual facilities based on the GRI Guidelines.

The guidance defines indicators (or metrics) for reporting sustainability performance and provides recommendations on the reporting process and stakeholder engagement. Companies, including *Ford, Timberland, La-Z-Boy, Rockwell Collins,* and *Smithfield Foods* have used the FRP Curriculum and Training process to disclose facility-level impacts in stand-alone reports.

CAPTURE THE BUSINESS CASE

To demonstrate the importance of environmental-related investments, companies should include a cost-benefit summary for key environmental expenditures.

In its 2007 Corporate Responsibility Report, *ST Microelectronics* details the costs of its environmental improvements to installations, and specific benefits derived from savings in energy, water and chemical use.

Since 1994, healthcare company *Baxter International* has included an Environmental Financial Statement in sustainability reports that track the business impacts of the company's environmental programs, including income, savings and cost avoidance.

BENCHMARK AGAINST PEERS

Companies should benchmark their performance against the performance of their sector (where possible against peer company data) and publish the results in their report. *Bristol-Myers Squibb* benchmarks and discloses its performance on a range of environmental indicators against anonymous data for its pharmaceutical company peers. Issues covered include energy use, CO_2 emissions, water use and waste generation.

EXPECTATION

D4: VEHICLES FOR DISCLOSURE

Companies will release sustainability information through a range of disclosure vehicles, including stand-alone reports, annual reports, financial filings, websites and social media.

How to get there

REPORT REGULARLY

Companies should report comprehensively at a minimum on a biennial and, ideally, annual basis, normally at the same time as release of financial reports for the same period. Companies should release data updates annually and more often where appropriate.

TARGET YOUR REPORTING

Companies should increasingly customize their disclosure based on concerns and communication preferences of audiences involved.

Companies can use tools such as dedicated websites, social media, and consumer labeling to engage with target constituency groups. Regardless of the engagement channel, disclosure standards should be rigorous and credible.

↓CASE STUDY

REACHING DIFFERENT AUDIENCES

Companies are starting to use a wide array of techniques to share and discuss aspects of their sustainability plans and performance with different groups of stakeholders. Recent consumer concerns about contaminated food have led many producers to look at ways of improving their ability to trace products back to their source and provide consumers with a new level of transparency. For example, *Dole* created a website for their organic program where customers can type in the 3-digit code found on a sticker on their fruit and get information about the farm where the fruit came from, including location, size, relevant certifications, and even photos of the farmers themselves. This deeper look into the value chain also provides companies the opportunity to communicate any challenges or problems that have arisen in a product's life cycle.

Timberland communicates directly with consumers through its "Green Index" labels featured on the company's shoeboxes. The labels highlight the name and location of the factory where products are made. The labels also describe the climate impact, chemicals used, and resource consumption of the product. Timberland is actively engaging its industry peers to create a standardized label that will offer comparability for the consumer.

Companies are also using social media to reach consumers and employees. Business for Innovative Climate & Energy Policy (BICEP) companies, including *eBay, Starbucks,* and *Symantec*, are using Twitter and Facebook to educate consumers and build public support for comprehensive climate legislation. Companies like *AEP*, *McDonald's*, and *Sun Microsystems* are using podcasts and blogs to communicate internal and external perspectives on their sustainability programs to employees.

The creation and uptake of new and different social media vehicles will allow companies to customize messaging to a wide array of stakeholders; yet as these options grow it will be critical for companies to ensure that all communications are based on strong results and data to ensure credibility.

D5: PRODUCT TRANSPARENCY

EXPECTATION

Companies will provide verified and standardized sustainability performance information about their products at point of sale and through other publicly available channels.

How to get there

BEHIND THE LABEL

Using the data and analysis discussed above, companies can foster sustainable consumer behavior by disclosing key social and environmental indicators for their products. Boosting such awareness can help create a competitive advantage as consumers start to look for this type of information when purchasing products.

Growing consumer concerns about chemicals used in home products has led some companies to adopt leadership positions. *SC Johnson* is now disclosing all the ingredients in its air care and home cleaning products, including details of fragrances, dyes and preservatives. Ingredients are available through three communications channels: a website, a dedicated toll-free number, and product labels.

In 2008 *Seventh Generation* introduced a three-part label on its products that discloses a full ingredient list, complete with an explanation of each ingredient. The company supplements this information with online material safety data sheets that provide additional product health and safety information. In addition, the company has an application that can be downloaded to a cell phone so that customers can research the nature of ingredients listed on any household product while standing in the shopping aisle.

USE STANDARDIZED DISCLOSURE

Companies should support efforts to standardize labeling within and across sectors to enable credible, understandable information sharing between companies and consumers.

Walmart's Sustainability Index initiative represents a step in this direction. The company has sent its more than 100,000 suppliers a brief survey containing 15 questions designed to help evaluate a supplier's level of leadership on a range of sustainability criteria. As the initiative evolves, Walmart intends to reduce this information to a simple product label to inform consumer choice. Although the questionnaire provides company-level information, the long-term goal is to extend analysis to the product level. Walmart is working to keep other retailers and stakeholders informed as it develops the program. It is now encouraging them to join a consortium to develop the Sustainability Index as a transparency tool for the retail sector.

The de facto standard for product-level environmental transparency is the Environmental Product Declaration (EPD). The EPD, as it is known, meets the International Standards Organization's 14025 standard and communicates aspects of a product's environmental performance such as raw material acquisition, energy use and efficiency, the use of hazardous substances, recycled content use and emissions.

While product labeling in the U.S. is still voluntary, Japan and several countries in Europe are considering requiring such disclosure by law. The Japanese Ministry of Economy, Trading and Industry has been developing guidelines for disclosing the carbon footprint of products since 2008.[42] The French government has already taken steps: many goods in France will be required by law to have EPDs by the end of 2010.[43]

A critical issue for product labeling–as with corporate sustainability claims and disclosure more generally–is credibility. There is a considerable "trust gap" between green claims and consumers' expressed ability to assess them. Standardization means the information in an EPD can be more readily certified to a public standard and verified by a credible third party. *Interface* companies, for example, enhance the credibility of product disclosures by providing a third party verified EPD–the first carpet manufacturers to do so.

D6: VERIFICATION AND ASSURANCE

EXPECTATION

Companies will verify key sustainability performance data to ensure valid results and will have their disclosures reviewed by an independent, credible third party.

How to get there

OBTAIN EXTERNAL VERIFICATION

At a minimum, companies should have an independent and credible third party verify key sustainability systems, information and data. Companies adopting a leadership position on disclosure should verify all of their sustainability disclosures.

The company should clearly state the name of the group that has provided the assurance, as well as the methodology and the scope of the process involved. Inclusion of a verification statement by the third party describing the scope and design of the assessment will add to the credibility of the disclosures.

SHARE STAKEHOLDER PERSPECTIVES

To help demonstrate that engagement processes are substantive, credible and transparent, companies should include unedited stakeholder perspectives in their disclosures.

These statements can be in the form of quotations from external parties, or more substantive letters or statements that critique the company's performance and plans and make recommendations for the future.

The sustainability reports for *Gap* and *General Electric* are good examples of how a company might include a variety of feedback from external stakeholders in their reporting of engagement activities.

American Electric Power worked with Ceres and a panel of stakeholders, including investors, NGOs, academia and religious groups, to obtain feedback on their strategy, performance and disclosure. The stakeholders contributed to a joint statement that was published, unedited, in the company's 2009 sustainability report. The statement called for, among other steps, bold action on climate change, support for climate policies and a commitment to address the use of coal in the supply chain.

↓ CASE STUDY

CORPORATE REPORTING ON WATER RISK

Pressures related to water availability are growing globally, making numerous industries vulnerable to water disruption throughout their operations and supply chains. These pressures can directly threaten a company's production levels, profit margins, and even "license to operate" in water-stressed areas. In light of these impacts, investors are increasingly seeking information from companies on how they are addressing and managing material water risks and opportunities.

A 2010 Ceres report, Murky Waters: Corporate Reporting on Water Risk evaluates and ranks the water disclosure practices–in both voluntary reporting and mandatory financial filings–of 100 publicly traded companies in eight key sectors exposed to water-related risks. The report assesses companies based on five categories of disclosure: water accounting, risk assessment, direct operations, supply chain, and stakeholder engagement.

Based on this assessment, the report lays out a set of best practices and recommendations for companies to improve water reporting, such as:

- → Including material risk factors and performance data in financial filings;
- → Providing water performance data broken down to the facility level for operations in water-stressed regions;
- → Outlining actions and policies for assessing and managing water risks, including quantified targets for reducing wastewater and water use;
- → Disclosing how they are collaborating with stakeholders and suppliers on water risks, including setting performance goals for key supply chains;
- → Describing specific strategies for developing water-related products with strong market potential in a water-constrained world.

For more information, reference the Water Management section on page 50.

PERFORMANCE

"GE has never forgotten the importance of R&D. Each year, we put six percent of our industrial revenue back into technology–so much that more than half of the products we sell today didn't even exist a decade ago. We've made a business decision to focus all the innovative powers of GE on solving the problems of energy use and environmental stewardship." [44]

Jeffrey Immelt, CEO and Chairman, General Electric

VISION

Companies will routinely and systematically improve sustainability performance across their entire operations, extending from the initiation, design and delivery of products and services to the management of employees and the supply chain.

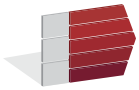
Governance, stakeholder engagement and disclosure are essential building blocks for embedding sustainability within the corporate DNA. The ultimate measure of a company, however, is how that company performs on the environmental and social issues linked to its business.

Sustainability is important for society and the planet, but it also presents companies with substantial opportunities to support business growth. Tackling sustainability helps companies reduce costs in a carbon-constrained world, to turn waste into assets, to eliminate costly inefficiencies, and to avoid conflicts in operations and supply chains. And yet something bigger is afoot: sustainability is providing the spark to innovation. New business models are being forged and companies are funneling their talents into the creation of new products and services to solve complex sustainability challenges. Engagement with employees on environmental and social issues is opening the tap on a vast pool of latent intellectual capital.

In this section, we identify and set out 20 sub-expectations for performance in five key operational areas of almost universal relevance:

- **Operations** Companies will seek environmental neutrality and demonstrate respect for human rights in their operations, and will invest in human and capital resources necessary to support these goals.
- **Supply Chain** Companies will ensure that suppliers meet the same environmental and social standards–including disclosure of goals and performance metrics–as the company has set for its internal operations.
- **Transportations and Logistics** Companies will systematically minimize the sustainability impacts of the transportation used for inbound and outbound logistics, business travel and commuting.
- **Products and Services** Companies will design and deliver products and services that contribute to a more sustainable economy.
- **Employees** Companies will make sustainability considerations a core part of recruitment, compensation and training of employees and contractors.

Due to the depth of information found in the Performance chapter, we have included specific trends within each particular section to provide additional context. In setting expectations for the road toward 2020, we again recognize that companies will need to establish performance goals that reflect their own business models and corporate culture, as well as their unique risks and opportunities. The targets and goals are guidelines; some companies will be able to surpass them and others may find them unachievable, but they are meant as mileposts to raise the bar on sustainability performance.



P1: OPERATIONS

EXPECTATION

Companies will invest the necessary resources to achieve environmental neutrality and to demonstrate respect for human rights in their operations. Companies will measure and improve performance related to GHG emissions, energy efficiency, facilities and buildings, water, waste, and human rights.

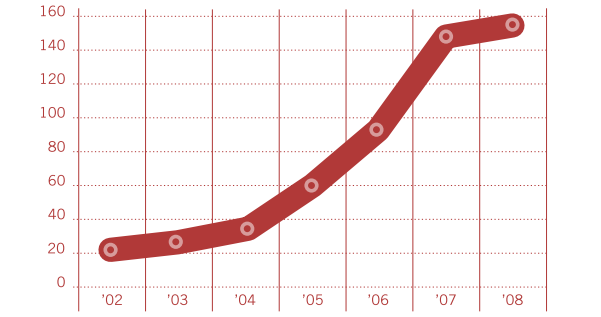
The activities over which a company exercises control or influence – its direct operations – offer the most immediate opportunities for improving corporate sustainability performance. While the range of operational activities differs depending on the nature of the company's business or sector, it generally includes not just the company's traditional core operations but also value chain partners such as joint ventures and franchises.

The business case for action on the environmental impacts of direct operations is straightforward. Energy efficiency, for example, is the prime way to reduce energy use and greenhouse gas emissions in operations. Implementing energy efficiency measures offers a clear return on investment both for businesses and homes. A McKinsey study found that the United States could save $1.2 trillion through 2020, and reduce energy consumption by 23% by investing $530 billion in energy efficiency measures. Nearly two-thirds of these savings would be attributable to businesses alone.[45]

It is important to pay attention to the social impacts of operations if overall sustainability commitments are to be achieved, and doing so can result in concrete bottom line results. Companies that establish strong social policies, commit to fair and safe working conditions and invest in employee training and development tend to see measurable improvements in worker safety, satisfaction and productivity. A demonstrated commitment to human rights, diversity and equality in the workplace also enhances recruitment and retention, and lays the groundwork for the achievement of broader sustainability and performance goals. For example, as a media and entertainment company, Time Warner's cultivation of the diversity of its people, content and products, is a business imperative. It is achieved by auditing the breadth and diversity of their content, analyzing the appeal of content to new and emerging audiences, and developing diverse talent. These efforts are designed to foster market leadership and grow their overall media business and multicultural audience appeal.

This section considers these and other opportunities for companies to enhance sustainability across the operation, including building and facilities management, water management, the elimination of waste and respect for human rights. For each topic there are expectations, suggestions on how to take action and practical examples of how other companies have tackled these challenges.

Trends



↑ *Global Trends in Sustainable Energy Investment ($ Billions)*

→ New investment in renewable energy worldwide was $155 billion in 2008.[46]

→ During 2008, U.S. installed wind capacity grew by 50%[47] and installed solar capacity grew by 16%.[48]

Green Buildings

→ Buildings today represent 40% of the world's total energy demand, and this demand is expected to increase by 45% between 2002 and 2025.[49]

→ The green building market has grown from just 2% ($10 billion) of overall construction in 2005, to 15–20% of new construction in 2008 ($36–49bn) and is expected to grow to between $96 and $140 billion by 2013.[50]

Water Risk

→ By 2030, according to a 2009 McKinsey study, we will require 40% more water than is currently available by accessible and reliable supply. Agriculture is the largest water user accounting for 71% of global withdrawals.[51] This world-scale water scarcity risk provided the impetus for the creation of the CEO Water Mandate, an initiative with 58 company signatories as of November 2009.[52]

Chemical Use

→ Many countries have been, or are currently, revising and signing agreements to monitor and control chemicals for safe use. In Europe, the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) Directive entered into force in 2007; the U.S., Canada and Mexico agreed to review use of certain chemicals and to share information in 2007; and in 2009, the U.S. administration announced principles to guide the drafting of tighter laws to govern how the Environmental Protection Agency (EPA) controls toxic chemicals.[53]

Human Rights

→ In 2008, over 260 global companies reaffirmed their recognition of the Universal Declaration of Human Rights and committed to improve disclosure regarding human rights issues related to their business operations.[54]

P1.1: GREENHOUSE GAS EMISSIONS AND ENERGY EFFICIENCY

Companies will reduce GHG emissions by 25% from their 2005 baseline* by 2020, by:[55]

- → Improving energy efficiency of operations by at least 50%
- → Reducing electricity demand by at least 15%
- → Obtaining at least 30% of energy from renewable sources[56]

* Ceres' position is aligned with scientific targets that call for the U.S. to achieve GHG emission reductions of 80% below 1990 baseline levels by 2050 and at least 25% reduction below 1990 by 2020. This expectation uses 2005 as the baseline, as this is consistent with pending U.S. climate policy legislation.

How to get there

ASSESS ENERGY USE AND SET GOALS

A key first step in lowering a company's carbon-footprint is lowering energy use. Companies can begin this process with a systematic inventory of energy use in operations, after which the company can set absolute reduction targets and phased interim goals.[57] This will position companies to develop and prioritize energy reduction strategies and allocate sufficient capital and human resources to support long-term investment in energy efficient technologies and processes.

In partnership with the U.S. Department of Energy, aluminum producer *Alcoa's* Energy Efficiency Network – a team of Alcoa experts and consultants – conducts energy efficiency surveys at operating locations and identifies areas for improvement. To date, this program has found more than $60 million in potential savings opportunities. The company's strategic environmental plan includes a target for savings of $100 million per year through energy efficiency and environmental management.[58]

Since 2001, chip maker *Intel* has turned an investment of $23 million in energy efficiency and conservation projects into savings of more than $50 million and reduced emissions. Projects have included the installation of more efficient lighting and "smart" system controls; boiler and chilled water system improvements; and cleanroom heating, ventilation, air-conditioning, and heat recovery improvements. In 2009, Intel will invest over $5 million on more than 30 projects in an effort to save at least 30 million kWh of electricity and 750 therms of fossil fuel each year in operations.[59]

GENERATE OR PROCURE RENEWABLE ENERGY

To reach the greenhouse gas reduction goal above, all companies will need to set specific targets for the procurement of solar, wind and other renewable forms of energy generation that have little or no carbon footprint. Energy companies should set targets for renewable energy production and allocate sufficient levels of capital to boost renewable generation over time. As we move towards a global price on carbon the business case for investment in renewable energy will solidify. To overcome market capacity constraints, companies may find it advantageous to invest in projects on-site or to promote local investment in cost-effective generation capacity.

The office supply store chain *Staples* forged an innovative partnership with *SunEdison* to help the retailer meet its renewable energy goals without the capital expense of installing solar equipment. The company hosts 25 active rooftop solar systems on its rooftops, and has more under construction. Staples expects these solar systems to generate enough electricity annually to power 400 homes.[60]

USE CREDITS AND OFFSETS STRATEGICALLY

The shape of the carbon marketplace is evolving rapidly as climate policies are enacted globally. Energy and carbon reduction strategies can be supplemented with purchase of verified Renewable Energy Credits or Certificates (RECs), which represent a fixed amount of energy generated from renewable sources, or carbon offsets that signify actual reductions in GHG emissions.

Energy efficiency and conservation, renewable energy production or procurement should be pursued first. In lieu of an internationally recognized standard, companies can reference Green-e, the Gold Standard, and the Voluntary Carbon Standard for RECs and offsets purchased to ensure credibility of these efforts.

↓CASE STUDY

21ST CENTURY UTILITY

The electric power sector is responsible for one-third of global GHG emissions. Reducing the sector's emissions is essential for limiting negative climate impacts and jump-starting a low-carbon sustainable economy. The scale and magnitude of the necessary changes requires a fundamental rethinking of how we produce, distribute, and use energy. To enable this shift, the power sector will need to:

- → Aggressively manage and reduce carbon emissions across the enterprise
- → Pursue all cost effective energy efficiency
- → Dramatically scale up renewable and distributed energy
- → Realize smart grid carbon and consumer benefits
- → Conduct robust and transparent resource planning

Collectively we will need to overcome regulatory and market barriers to a sustainable 21st century power sector, including establishing regulatory policies that reward utilities for energy efficiency performance and developing system planning and financial analytic tools to better recognize the economic and environmental benefits of non-traditional clean energy resources.

In 2009 Ceres launched its 21st Century Utility Initiative – bringing together power companies, investors, NGOs, regulators, experts and consumers – to address these challenges and help accelerate the transition to a low-carbon economy. Ceres will continue to engage these key constituencies – encouraging regulators to establish effective policies, educating investors to assess and reward best practices in the sector, and working with the utilities directly to implement changes.

Resources: Climate Leaders, Natural Resources Defense Council, National Wildlife Federation

P1.2: FACILITIES AND BUILDINGS

Companies will ensure that at least 50% of their owned or leased facilities, and all new construction, will meet rigorous green buildings standards. When siting facilities, companies will follow best practices that incorporate sustainable land-use and smart growth considerations.

How to get there

ASSESS, ANALYZE, SET GOALS

Companies should begin by conducting comprehensive audits to ascertain a baseline measurement of current resource use, efficiency, waste and employee health and safety considerations in buildings and facilities. Several guidelines exist to support this assessment, such as BREEAM and LEED, the rating systems developed respectively by the research agency BRE in the UK and by the U.S. Green Building Council.

There is a demonstrable overlap between aspects of green building and the creation of healthy workplaces. Sickness and healthcare costs can be reduced by implementing green building measures to reduce indoor air pollutants in company facilities. Improved ventilation and better use of daylight correlate with higher productivity and lower absenteeism.[61]

When *Genzyme*, the biotechnology company, moved its headquarters into a new LEED-certified building, sick time fell by 5% and 58% of employees said they were more productive in the new environment than in the previous headquarters.[62]

The baseline facility audits should produce a complete picture of key opportunities for reducing energy, water and waste, as well as promoting safe, healthy work environments. This analysis will inform and help prioritize strategic planning and capital allocation decisions regarding building retrofit projects, investing in new technologies, and siting and construction of new facilities.

Property manager *Jones Lang LaSalle* (JLL) enrolled 100% of the buildings in its multi-tenant property portfolio in the U.S. Environmental Protection Agency's ENERGY STAR program. This helped the company to set performance goals, create and implement action plans, and assess performance and progress. JLL properties' average ENERGY STAR score of 67 is 17 points better than the average building score of 50, equating to $50,000 in energy cost savings annually per building.[64]

McDonald's is integrating electrical control systems across its restaurants worldwide – both owned and franchised – as part of a strategy to improve energy efficiency and cut costs.[65] Such integrated systems control lights, heating and air conditioning. They also monitor temperatures, allowing the company to optimize equipment use, make maintenance more efficient, and ensure employee safety.

↓CASE STUDY

NET ZERO EMISSION FACILITIES

Many companies are realizing financial and environmental benefits from adopting new practices and technologies that seek to achieve a "net zero" impact on the environment. Companies are taking their facilities off electrical, water and natural gas grids and sustaining their operations almost entirely on renewable sources and recycled inputs.

At its Casa Grande plant in Arizona, *Frito-Lay* turns corn and potatoes into bags of chips using large amounts of energy and also creating vast amounts of wastewater, starch and potato peelings. The company is pursuing an aggressive strategy to make this a zero emissions facility. It is building acres of solar arrays and biomass generators, and installing high-tech filters that will recycle most of the water used for rinsing and washing potatoes. The leftover sludge will be burned to create methane gas to run the plant's boiler. The retrofit, scheduled for completion in 2010, will reduce electricity and water consumption by 90%, natural gas use by 80% and greenhouse gas emissions by 50 to 75%.[63]

↓CASE STUDY

SMART GROWTH IS SMART BUSINESS

Sprawling development patterns and poorly managed growth increase traffic congestion, impact air and water quality, and put stress on infrastructure and utilities. Such trends threaten the fiscal health of congested regions, create burdens for employees and ultimately, undercut business profitability. A Brookings Institute study found that the carbon footprint of American metropolitan area residents is, on average, 8.21 tons – 14% less than those living outside cities. This is mostly due to high density development patterns and rail transit.[66]

Cities have been leading efforts to encourage and incentivize "Smart Growth" principles, by taking actions including developing more light rail options, regenerating downtown areas, establishing green building programs and investing in renewable energy generation. In 2009 Denver was recognized for its FasTracks initiative, which will include the creation of 119 miles of light and commuter rail lines, 31 park-n-rides, 57 transit stations, expanded bus service, and the redevelopment of a downtown multi-modal center.[67] Chicago is also active in smart growth initiatives and has set up a Green Buildings Permit program, which provides developers and owners with an incentive to build green by streamlining the permit process timeline for projects. Projects accepted into this program can receive permits within fifteen to thirty days, while the standard permitting process takes up to 90 days.[68]

Companies are starting to use smart growth approaches when they expand or consolidate their operations. This might include giving preference to reinvesting in established communities and existing buildings, investing in infill development, revitalizing brownfield sites, and developing near public transit. Atlanta-based telecommunications company *BellSouth*, for example, recently consolidated 10,500 employees scattered in 25 suburban offices into three urban centers.[69] The buildings were sited adjacent to major transit routes and the company improved parking availability at four end-of-line metro transit stations to minimize employee travel times and, ultimately, to attract, retain and enhance the quality of life of its employees.

GREEN YOUR LEASE

When entering into leases, companies and lessors can establish "green leasing" arrangements that enable them to capture accurate data on energy use, water use, materials and waste. Companies and property managers can then work together to address these issues in line with their overall sustainability goals. There are a number of organizations and companies that have drafted detailed leasing processes that include all the components for a green lease (see the sidebar).

SUPPORT PUBLIC POLICY

Companies should support local, state and regional policy efforts to strengthen building codes and standards that promote healthy work environments, more sustainable construction and facility management practices, as well as the siting of buildings to support smart growth initiatives (e.g. brownfield development, access to public transportation).

" Energy efficiency is core to business sustainability – implementing retrofits saves building owners millions of dollars and enhances asset values while significantly reducing greenhouse gas emissions. That's a win-win for owners, tenants and the global environment."

Lauralee Martin, CFO
Jones Lang LaSalle

Resources: BOMA's Guide to Writing a Commercial Real Estate Lease, Including Green Lease Language, Rocky Mountain Institute – Built Environment

P1.3: WATER MANAGEMENT

Companies will assess water-related impacts and risks and will set targets to improve water use and wastewater discharge, with priority given to operations in water-stressed regions.

How to get there

The nature and extent of corporate impacts on and risks relating to fresh water scarcity will differ by geographic region and type of business. Even so, in an environment where increasing numbers of people suffer from limited water availability, companies will face growing pressure to manage those impacts.

ASSESS, ANALYZE, SET GOALS

As with energy efficiency, a comprehensive water audit will help companies identify "low hanging fruit" opportunities to reduce water withdrawals, consumption and discharges across their operations.

Analysis of specific risks from local-level hydrological, social, economic and political factors, combined with local water footprint data, should be used to set absolute reduction targets in water use and discharge.

Companies should prioritize efforts to reduce operational water impacts in water-stressed regions. To comprehensively assess and manage the risks associated with water scarcity, Diageo, the global alcoholic beverage company, identified 11 of its 52 manufacturing plants to be in water-stressed areas. The company set a target to half non-ingredient water use at these plants as well as to improve water efficiency at all non-stressed sites by 30% by 2015.

"The days of undervaluing water are gone. The 21st century will be one of strategic corporate water management, radical efficiency, and pricing that reflects water's value as a human right, an ecological necessity, and a business input with real economic worth."

Dr. Peter Gleick, President and Co-founder
Pacific Institute

REUSE AND RECYCLE

To improve efficiencies and decrease stress on freshwater sources, companies should find innovative ways to recycle or to reuse water across their operations.

Unilever's business in India, a country with major water availability challenges, is using numerous strategies to reduce its impact on water supplies and mitigate associated risks. Technological innovations have reduced the company's groundwater consumption by 50%; rainwater is harvested at a quarter of its factories for non-manufacturing processes and to replenish groundwater systems; and processing water is recycled at two-thirds of sites.[70]

CONSIDER THE ENERGY-WATER NEXUS

When developing water management plans, companies should be mindful of the potential impacts of climate change on water supplies and water quality, and assess the energy implications of water-related technologies and investments. Integrated approaches to improve water and energy management will yield reduced water use, as well as reduced energy costs associated with heating or pumping that water.

For example, water movement and treatment in the U.S. consumes some 100 million MW hours of electricity per year – this is approximately 3–4% of all electricity generated nationwide. Of this, some 95% is used for pumping,[71] and the balance is used for water treatment. In some regions of the country, like California, energy needs are much higher. Due to the impact of that state's climate and geography, some 19% of its electricity is used to move or treat water.[72]

At a single plant, an integrated approach to water and energy use saved *IBM* $3 million while increasing output by 33%. This included a 27% reduction in water purchases, almost $1 million in water treatment savings, and $1.5 million in energy savings, without incurring any capital costs.[73]

FACTOR IN WATER WHEN SITING

Companies should consider water availability – including the risk of contaminating water sources – when siting new facilities and operations. Such consideration should include engaging with local stakeholders to better understand, anticipate and collectively manage shared water resources.

The *Coca-Cola Company* considers water resources when planning new manufacturing sites, deciding on plant closings, making acquisitions or expanding production at existing plants. The company has required all plants to undertake by 2013 a comprehensive plant evaluation contained in the company's Standard for Source Water Protection. It covers source mapping, source vulnerability assessments, and the development and implementation of source water protection plans.

Resources: Pacific Institute, Water Footprint Network, WBCSD's Global Water Tool

P1.4: ELIMINATE WASTE

Companies will design (or redesign, as appropriate) manufacturing and business processes as closed-loop systems, reducing toxic air emissions and hazardous and non-hazardous waste to zero.

How to get there

CLOSE THE LOOP

New manufacturing techniques can enable companies to adopt zero-waste, closed-loop manufacturing processes. By doing so, companies can dramatically reduce inputs and costs for the production of good and services.

Undertaking life-cycle assessments ("LCAs") can help companies move to less impact and zero waste products and manufacturing processes. LCA is a process for evaluating current or new materials, inputs and processes to continuously improve the efficiency of resource use. Whenever LCAs show that key resources are at risk, or are particularly scarce or harmful to the environment or human health, a company can work to find suitable substitutes. Companies usually start this process with one facility or one product and then build from this learning to apply these concepts to the full business.

International paper merchant *PaperlinX* has developed a paper recycling service called yoyo™. The company removes a customer's waste paper using its own delivery vans at the same time it delivers new stock, thus lowering transportation costs and saving carbon emissions. The paper collected is recycled into yoyo™ brand 100% recycled paper.

Carpet manufacturer *InterfaceFLOR* has developed a closed loop process called ReEntry® 2.0. Carpet fiber is cleanly separated from its backing so that the maximum possible amount of post-consumer material can be recycled into new products with minimal contamination. These process and product design innovations have helped the company to divert 200 million pounds of material from landfills between 1995 and 2009. Interface believes it can achieve a zero footprint by 2020.[74]

TURN WASTE INTO WEALTH

Businesses should identify new ways to use what has traditionally been considered waste as an input into new products. Where there are opportunities to match wastes and inputs between companies and sectors, companies should look at ways to coordinate manufacturing processes to derive cost savings and greater operational efficiencies. Think in terms of industrial ecology–the outputs of one industry are the inputs of another, thus reducing use of raw materials and pollution, as well as saving on waste treatment.

Since 1961, industries around the town of Kalundborg in Denmark have evolved to make use of one another's process waste. A *Statoil* refinery gets 15% of its steam from the surplus produced by an *Asnæs* electricity plant; the refinery has a process for eliminating sulfur dioxide from flue gas that then supplies 100,000 tons of the gypsum by-product to a wallboard producer; trout and turbot are grown using the surplus heat from a *Novo Nordisk* facility. Through 1993, Kalundborg's $60 million investment in infrastructure to transport energy and materials has produced $120 million in revenues and cost savings. [75]

Another example of a city that has taken a networked approach to maximize by-product synergy and material reuse opportunities is Chicago's Waste to Profit Network. This network of over 200 Chicago area companies, institutions, and government departments has: diverted 165,000 tons of waste from area landfills, reduced 102,000 tons of carbon dioxide, and created $15.6 million in cost savings and additional revenue for participants.[76]

Other industrial ecology initiatives are being pursued in North America and elsewhere. Overall, this remains a largely untapped opportunity for meeting environmental and economic needs.

P1.5: HUMAN RIGHTS

Companies will regularly assess key risks related to human rights throughout their entire operations, and will employ management systems that are aligned with internal policies and support the implementation of universal standards.

How to get there

INTEGRATE INTO THE SUSTAINABILITY MANAGEMENT SYSTEM

Companies will most effectively protect their own interests, as well as the interests of their employees, contract laborers and host communities, by integrating a strong, clear human rights policy systematically across the organization.

ADDRESS INDIRECT IMPACTS

While there are limits to a company's direct impact and control of its entire supply chain, corporate policies and practices should recognize the rights of supply chain workers, including contract workers, as well as those directly employed by the company. Human rights typically extend to a broad range of socio-economic impacts that a company has in host communities. Society increasingly expects a company's obligation to respect human rights to extend beyond direct operations and throughout the complete value chain.

COMMUNICATE RIGHTS AND ADDRESS GRIEVANCES

The protection of human rights requires first that those impacted know what their rights are. Companies should ensure that policies and processes are clearly explained and understood by employees, host communities, and other relevant stakeholders. Policies should be readily available in various formats, languages, and locations, and should be written in a way that is understandable and meaningful to those to whom they apply. Those covered by the human rights policy should also have clear, well-publicized channels for raising or seeking a remedy in relation to human rights issues. Grievance mechanisms should incorporate an objective, third party communication channel to allow open and transparent communication, and to avoid intimidation or fear of reprisal.

Resources: Business and Human Rights Resource Centre, United Nations Human Rights – Human Rights Translated: A Business Reference Guide

P2: SUPPLY CHAIN

EXPECTATION

Companies will require their suppliers to meet the same environmental and social standards as the company has established for itself. Companies will establish sustainable procurement criteria, catalyze improved supplier performance, and facilitate disclosure of suppliers' sustainability information.

For many companies, the largest opportunity for improving sustainability performance is in its supply chain. On average, 40% to 60% of a manufacturing company's carbon footprint is from its supply chain. For retailers, the figure is closer to 80%, with an equally high supply chain exposure to human rights and social issues.[77] By managing supplier engagement in a way that achieves the highest social and environmental standards, a company can achieve performance goals while creating a ripple effect that raises standards deep within the supply chain.

Sustainable supply chain performance begins with establishing supplier policies and endorsing industry codes or practices containing explicit references to social and environmental standards. These policies, codes and standards can only be realized when they are integrated into the RFP processes, vendor selection criteria, procurement practices, and ongoing supplier engagement. Through these processes, companies and suppliers define and commit to mutual performance goals.

Bringing sustainability improvements to life across the supply chain requires a commitment to long-term supplier relationships accompanied by appropriate levels of engagement and training. Many opportunities for lasting performance improvement can be supported through collaborative initiatives that identify root causes, reinforce best practices, and build capacity. It is rare that social and environmental issues exist in isolation. There is typically an interconnection between environmental issues, social inequalities, working conditions, human rights and safety. A collaborative approach is necessary to effectively address – and to distribute the associated cost of – these systemic challenges.

" It is often overlooked that suppliers are also companies, subject to the same responsibility to respect human rights as any other business. The challenge for buyers is to ensure they are not complicit in violations by their suppliers… A growing number of global buyers are finding it necessary to engage in human rights capacity-building with suppliers in order to sustain the relationship." [78]

John Ruggie, Professor
Harvard Kennedy School
UN Secretary General's Special Representative for Business and Human Rights

Resources: Verite and CREA – Standards for the Knowledge and Skills of Social Auditors, SA 8000

The potential benefits of improved supply chain performance are every bit as compelling as those achieved through direct action on the company's own operations.

The U.S. Environmental Protection Agency, through its Green Suppliers Network program works with manufacturer supply chains to improve processes and minimize waste generation. In the course of 26 technical reviews at participating supplier companies, Green Suppliers Network identified potential savings worth $9 million annually, including $4 million in reduced environmental impacts. The potential savings related to energy conservation, water use, and reductions in solid waste, hazardous waste, and toxic chemical use.[79]

Trends

- A 2008 survey of 2,000 global executives by McKinsey found that nearly half of respondents viewed climate change as a somewhat or very important issue to consider in purchasing and supply chain management. Despite this, fewer than 25% indicated that their companies always or frequently take climate change into consideration in these areas.[80]
- A 2009 survey of major European companies by Ecovadis found that 75% of firms surveyed were incorporating sustainability concerns into their procurement bidding process, and some 90% of procurement directors see sustainable procurement as "critical" or "important."[81]
- According to a 2008 RiskMetrics survey, only 20% of publicly traded global companies have a supplier code of conduct, yet a review of data over three years showed a year-to-year increase of 30% – 50%.[82]
- Investors filed shareholder resolutions on International Labor Organization (ILO) Standards and Vendor Standards with 9 U.S. companies in 2009. The resolutions were triggered by investor concerns about safe and equitable factory conditions and the widespread use of child labor in hazardous conditions on farms. The resolutions asked the companies to adopt, monitor, and report on compliance with ILO standards throughout their supply chains.[83]
- Over the last 12 years, labor rights standards setter Social Accountability International has provided social auditing skills training to over 10,000 workers and managers from 32 countries around the world.[84]

P2.1: POLICIES AND CODES

Companies will set supply chain policies and codes aligned with overall social and environmental standards.

How to get there

CRAFT A SUPPLY CHAIN POLICY

To diffuse high sustainability standards throughout its supply chain a company first has to formulate and publish them. Procurement policies should align with overall corporate environmental and social policies and standards, and should address priority issues relevant to the industry, supplier base, geographic areas of operation, and stakeholder concerns. These policies should be operationalized through a supplier code of conduct, which mirrors the standards applied to the company's direct operations.

Companies that already have supplier codes include *Apple*, *Cisco* and *HP*. The key to having a strong code is to ensure that it addresses all of the components mentioned above, and that they are implemented through the application of global sourcing and operating guidelines. The code should also be integrated into the terms of engagement with every supplier. The value and application of these guidelines is enhanced by the clear definition of terms, alignment with industry best practices, and reference to key international frameworks such as ILO Conventions.

Recognizing the need to integrate lessons learned over time, policies and codes should be regularly reviewed and revised. They should also be harmonized with prevailing best practices and industry standards, and reflect stakeholder concerns.

COMMUNICATE STANDARDS CLEARLY AND APPROPRIATELY

As noted in the discussion of human rights in the context of direct operations, companies have the obligation to ensure that social and environmental standards are clearly explained and understood by workers and contractors. This practice should extend throughout the supply chain. Standards and codes should be readily available and should be communicated in a way that is understandable and meaningful to workers at all levels.

LEVERAGE COMMITMENT AND POSITIVE INFLUENCE

In the context of a global supply chain there can be a misalignment between a company's standards and the level and enforcement of local standards. While companies must uphold local labor and environmental regulations, legal compliance is not enough. The opportunities offered by supply chain globalization are accompanied by expectations that the highest – not the lowest – standard should apply. When a company's standards are higher than local legal standards, the company should publicly recognize

and commit to these higher standards, and advocate with suppliers, industry peers, government and other stakeholders to raise locally enforced standards.

In 2006 *McDonald's* was criticized in a Greenpeace report for using Brazilian soya, the production of which was destroying the Amazonian rainforest.[85] McDonald's responded by reaching out to partners and advisors to help develop an industry-wide response, which included a moratorium on buying soya from deforested areas of the Amazon pending development of a monitoring mechanism to halt agriculture-related deforestation. The Brazilian Association of Vegetable Oil Industries, which includes companies such as *Cargill*, *ADM* and *Bunge*, provided support and cooperation to this effort.

P2.2: ALIGN SOURCING PRACTICES

Companies will address sustainability performance in procurement criteria and contracting.

How to get there

Procurement is a critical tool for driving change. Purchasing managers need to systematically integrate sustainability considerations into day-to-day procurement and contracting practices alongside quality and cost concerns. In every purchasing decision, companies need to meet baseline environmental and human rights standards before factoring in cost and quality concerns. To do this, procurement staff need adequate and ongoing training to understand and evaluate social and environmental criteria. Furthermore, the procurement process must facilitate and incentivize the award of contracts in accordance with sustainability standards.

INCENTIVES AND REWARDS

In addition to rewarding suppliers for innovation, quality and speed of delivery, a company can commit to longer-term contracts with those suppliers that are operating to fair labor standards and meeting environmental performance targets. It can provide incentives to encourage workers across the supply chain to identify the best sustainability practices that can be replicated in other factories. And it can reward suppliers who demonstrate a clear commitment to continuous improvement in systems and performance.

RFP PROCESS

Best practices in procurement can be implemented through a company's "request for proposals" (RFP) process. Procurement decisions are based on the achievement of specified criteria, including the ability of a supplier to deliver on product quality and quantity requirements. The RFP processes should be enhanced to include supplier self-assessments, and the criteria should be expanded to cover the supplier's ability to deliver on social and environmental performance requirements. These criteria should be met before the company applies cost and quality considerations to the final sourcing decision.

SUPPLIER DIVERSITY

In addition to social and environmental performance standards, many companies find that they can enhance supply chain performance through supplier diversity–purchasing from women and minority-owned businesses. A survey by the Hackett Group in 2006 found that in leading companies, supplier diversity drives new sources of revenue. Leading procurement organizations that "focus heavily on supplier diversity" achieve 133% greater return on the cost of procurement operations than average performers. Every $1 million in procurement operations costs translates into an additional $3.6 million to the company's bottom line.[86]

P2.3: ENGAGING SUPPLIERS

Companies will ensure that at least 75% of the company's Tier 1 and Tier 2 suppliers and 50% of Tier 3 suppliers meet the company's standards for sustainability performance.

How to get there

COMMUNICATION IS KEY

This is not simply a question of which suppliers a company chooses to deal with, but also how they deal with them. To achieve improved performance, companies cannot simply enforce standards, but must commit to communication, training and capacity development. Suppliers in turn, must also commit to achieve the standards, to continual improvement, and to dissemination of these standards throughout their own supply chain.

A key first priority is providing training for supplier management teams and their employees on the company's sustainability policies and practices.

In 2003, *HP* published a Social and Environmental Responsibility Supplier Code of Conduct – the first electronics company to do so. In an effort to introduce the code, facilitate feedback, and increase compliance, the company developed capacity-building programs and invested in monitoring by local expert auditing teams. By late 2006 the company had introduced the code to more than 500 of its suppliers – over 90% of its core supplier base. As a result of these investments in training and capacity development, most suppliers completed self-assessments adequately and committed to extend the training and standards to their own suppliers.

The monitoring and verification of compliance with supply chain sustainability standards remains a crucial strand of the communication loop, and of particular importance in countries where enforcement of environmental and human rights standards is weak. Companies should ensure their suppliers have established effective mechanisms for capturing worker feedback, that their suppliers' employees have access to independent, fair and confidential grievance mechanisms for raising human rights and environmental concerns, and that there is protection for whistleblowers. Providing ongoing practical support to suppliers on standards implementation through the appointment of on-site staff can be critical both to the audit and the process of building trust. The company learns about the constraints the supplier is under, and the supplier learns why sustainability issues are of such concern to the company.

" In today's challenging global economic environment, it is imperative for companies to consider the impact of their own decision-making on working conditions in their supply chains."[87]

Lakshmi Bhatia, Director of Global Partnerships
Gap, Inc.

IDENTIFY CAUSAL RELATIONSHIPS

Competitive pressures pose a constant threat to sustainable supply chain management. A last minute request to a supplier may prompt the supplier to use more energy intensive modes of manufacturing or transportation. Contracts that force small, expedited deliveries or that require significant changes in the product may place unhealthy overtime demands on labor, as well as escalate energy use.

Companies may make some progress addressing the symptoms of sustainable performance problems, but to achieve real progress they must recognize and devise a strategic response to root causes. When competitive pressures are the basis of specific supply chain sustainability issues, root cause analysis can help identify systemic exposure to, or the exacerbation of, environmental and social risks.

When confronted with suppliers whose wages are below certain national minimum wage reference points, the Fair Labor Association requires the factory to undertake a root cause analysis to understand why the gap exists. This helps identify remedial steps to bridge the gap, such as increasing productivity or quality. Individual companies such as *Nike* and *HP*, use root cause analysis to uncover and examine the sustainability-productivity link.

In 2004, *Gap* partnered with the Ethical Trading Initiative and Women Working Worldwide (WWW) in order to research how purchasing decisions impacted the working conditions of garment workers in a factory thousands of miles away. As a result, Gap is developing training to improve production planning internally and at factories, and to improve its management of time-stressed production orders.

↓ CASE STUDY

SUPPLY CHAIN COLLABORATIVE INITIATIVES

Many multi-stakeholder initiatives have emerged in recent years to address industry and cross-industry challenges. The progress achieved through these efforts stems from the willingness of diverse actors – typically government, nonprofit organizations, labor groups, workers, academics, and business representatives – to devise collective strategies to remedy and mitigate social and environmental concerns.

The Forest Stewardship Council (FSC) is a multi-stakeholder initiative that brought together loggers, foresters, environmentalists, and sociologists to develop the FSC sustainable forestry standards and certification systems. FSC standards integrate consideration of economics and biodiversity, as well as the social impacts on communities and workers' rights. The FSC standards are now applied in over 82 countries worldwide and about 5% of the world's productive forests are FSC certified. FSC has a chain of custody certification in place for a wide range of paper and forest products and over 15,000 companies are certified along the forest product supply chain.

The Electronics Industry Citizenship Coalition (EICC) was formed to develop an industry code of conduct, setting standards for social and environmental performance in the electronic industry's global supply chain. Business for Social Responsibility serves as secretariat for this coalition, which now includes over 40 members worldwide representing various tiers of the electronic supply chain. The EICC is committed to establishing common assessment tools, improved approaches to auditing, capacity building and training for suppliers and auditors. It has also developed a common reporting framework. Working groups are focused on particular issues, such as the extractive working group which is primarily concerned with the metals supply chain. Recognizing that this material crosses industry lines, this working group has expanded its multi-stakeholder effort to include other sectors, such as automotive companies.

The Extractive Industries Transparency Initiative (EITI) was established to set a global standard for transparency in oil, gas and mining. This coalition includes governments, companies, civil society groups, investors and international organizations at both the membership and board level. Over 40 of the world's largest oil, gas and mining companies support and actively participate in the EITI process through their local operating companies in participating countries, through international-level commitments, and through industry associations.

These and other multi-stakeholder initiatives not only address protracted, large scale problems, but also focus on "positive obligations" of business, government and society, often finding opportunities to address complex challenges in ways that create business value.

ADDRESS PRIORITY ISSUES

Strategies and implementation plans should be weighted according to the issues posing the greatest challenges across the supply chain, recognizing regional vulnerabilities, the scarcity of resources, and other prioritized constraints. Energy efficiency and conservation might be the guiding concern of one operation; in another operation the challenge may be identifying and mitigating supply chain risks to social stability, such as water scarcity. Supply chain planning and procurement processes should also take into consideration how to maximize local economic development opportunities, and mitigate known social and environmental risks.

General Mills' Green Giant division works with growers to reduce water consumption and minimize use of agrochemicals for key crops. One such success was a 50% drop in water use for broccoli farmers, by General Mills helping to convert their operations from furrow to drip irrigation. This resulted in reductions in water use by nearly 1.2 billion gallons a year. Green Giant has also set a goal to reduce insecticide application on sweet corn by 30% over three years and to reduce herbicide application on sweet corn by 5% over five years.[88]

MAKE MONITORING MEANINGFUL

While supply chain audits are necessary, they can be insufficient, and if done poorly, can divert attention away from timely, practical solutions. Some suppliers can receive as many as several hundred audits a year – mostly of a tick-box nature – from a combination of customer companies.

In order to be productive, the monitoring and auditing process must be based on open dialogue, honest analysis, a mutual commitment to continuous improvement, and incentives for performance. Suppliers should be made aware not only of standards and the consequences of non-compliance, but of the potential for capacity development through collaboration with buyers and industry groups, and the potential benefit to their own bottom line that may result from performance improvement.

Monitoring programs rely on effective mechanisms for capturing worker feedback, and must ensure that employees have access to independent, fair and confidential channels for raising human rights and environmental issues. Labor unions and workers groups are a vital part of this process, and can be a critical partner in assessing performance, identifying inefficiencies and achieving results.

P2.3 ENGAGING SUPPLIERS continued

COMMIT TO REMEDIATION BEFORE TERMINATION

In instances of non-compliance, companies should engage in strategic and genuine remediation efforts with the supplier before terminating the relationship. The goal is to improve practices across and within industries, not simply to pick winners. When poor performing suppliers are dropped, the workers may pay the consequences, or else a buyer with lower standards may step in. Good faith remediation efforts – collaborative efforts with concrete goals and targets – should be pursued as the first response to poor performance.

In 2008, *Levi Strauss & Co.* engaged in a project with a supplier factory in Vietnam and a local NGO in an effort to address poor performance and compliance issues. This collaborative effort involved a range of internal stakeholders, investment in training for management and workers, and the creation of a "Workers Initiative Program" to incentivize participation. The project successfully improved compliance with social and environmental standards, but also resulted in measurable increases in efficiency and productivity, a 50% decrease in turnover, and significant reductions in excessive overtime.[89]

INCREASE EFFICIENCY THROUGH COLLABORATION

Collaboration between companies and other partners – within and across sectors – can make supply chain monitoring more effective and efficient, saving on time, staff, and resources. Best practices and monitoring resources can be shared for common purposes, decreasing costs and the time burden for both companies and suppliers, and increasing transparency about process and results. Collaboration also holds out the prospect of addressing specific challenges rooted in competitive dynamics. Worker groups, unions, NGOs, government offices and local community representatives may all be valuable partners in these collaborative efforts. When communities adjacent to supplier facilities are not yet sufficiently organized to collaborate, companies should consider supporting the development of civil society organizations in these communities. These organizations can play an important role as watchdogs and as contributors to raising sustainability standards on an ongoing basis.

P2.4: MEASUREMENT AND DISCLOSURE

Companies will disclose a list of their Tier 1 and 2 suppliers and measure and disclose suppliers' sustainability performance.

How to get there

New data may be needed to enable the ongoing tracking and reporting of performance metrics in the supply chain.

Companies should employ measurement techniques sophisticated enough to quantify the environmental and social impacts across their supply chains in as much detail as their direct operations. The aggregate data should be used to gain an in-depth understanding of the materials their products contain and the conditions under which their products are made. The data paints a picture of the company's supply chain impacts, such as water use in areas of water stress, and Scope 3 GHG emissions.

The recently established Carbon Disclosure Project's Supply Chain Initiative aims to set robust guidelines for carbon emissions disclosure, and to assist companies in fulfilling those guidelines across the entire supply chain. Forty companies are participating in the program by sending the CDP survey to a portion of their suppliers. A report summarizing this effort is released annually and access given to responses from suppliers that have agreed to make their information publicly available.

SUPPLIER DISCLOSURE

Suppliers should be required to set and disclose sustainability goals, and to measure and collect data on their social and environmental performance using standardized indicators and measurement protocols. Data should cover non-compliance incidents, actions taken to remedy those incidents and measures taken to contribute to the long-term prevention or mitigation of specific concerns. Performance against goals should be reported using GRI guidelines and appropriate sector supplements.

A company's supply chain sustainability performance, risks and opportunities should be disclosed to investors and other stakeholders in sufficient detail and in such a way that all suppliers can be identified separately and that each supplier's contribution to overall supply chain performance can be tracked.

The GRI report produced by South Africa's *Impahla Clothing* company demonstrates the level of disclosure possible from supply chain partners. Impahla's main clients include *Adidas, Levi, New Balance* and *PUMA*; the supplier's first GRI sustainability report in 2007 was supported by collaboration with PUMA, the German development agency GTZ and GRI. Impahla noted the internal value of such reports, including data collection and identification of efficiencies needed in management systems and processes.

P3: TRANSPORTATION AND LOGISTICS

EXPECTATION

Companies will systematically minimize their sustainability impact by enhancing the resiliency of their logistics. Companies will prioritize low impact transportation systems and modes, and address business travel and commuting.

In the U.S., transportation accounts for nearly 30% of total GHG emissions, placing that activity second only to electric power generation as a contributor to climate change.[90] Globally, GHG transport-related emissions have been rising more rapidly than any other source–up 120% between 1970 and 2004.[91] In some sectors, transportation can account for as much as 70% of a company's overall carbon footprint.[92]

McKinsey estimates that changes in transportation modes alone could cut supply chain energy use by 4% by 2020 (see figure P3.2 for further information).[93] Logistics is therefore one of the most important areas of opportunity for improving sustainability performance and reducing costs.

Major companies are already achieving dramatic energy savings by greening their logistics programs. *Novo Nordisk* reduced the GHG emissions of its fleet of 2,500 vehicles by 21% in the first six months of 2009 by right-sizing its vehicles. The company is also training its drivers on fuel-smart driving practices, such as minimizing idling. Novo Nordisk's fleet management practices have eliminated over 7,000 metric tons of emissions and saved $2.3 million in fuel purchases.[94]

Outsourcing transportation to a carrier does not absolve a company of responsibility for its sustainability impacts. When logistics are sub-contracted to a third party supplier, the company should ensure that its supplier is minimizing and managing sustainability issues. Many companies such as *Best Buy, HP* and *Stonyfield Farm Inc.,* have joined the U.S. Environmental Protection Agency's SmartWay Transport Partnership. This program aims to cut 33–66 million metric tons of carbon dioxide emissions by 2012 by partnering companies with freight carriers actively pursuing lower carbon strategies.

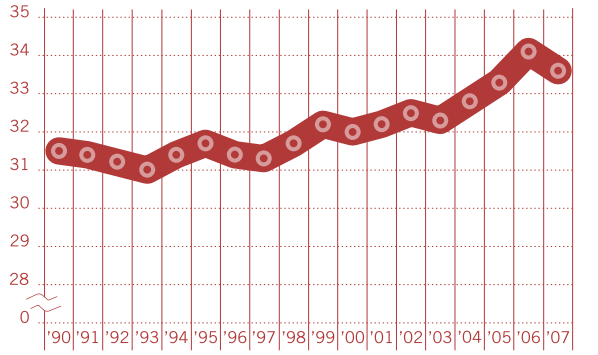
Marine shipping also merits strong consideration. Although ocean-going vessels are among the most efficient modes of freight transport, they generate substantial quantities of GHG emissions. Currently, total emissions from international shipping exceed the total annual GHG emissions from most of the nations listed in the Kyoto protocol as Annex I countries (Kyoto Protocol 1997). Accelerated adoption of cleaner marine fuels and use of existing pollution control technologies would significantly reduce air pollution from this mode of transport.[95]

The themes of this section for reducing transportation impacts are focused on: the architecture of the transportation network, including distances traveled; and specific transportation modes, including the sustainability credentials of the energy sources used.

Resources: Environmental Defense Fund–Corporate Fleet Emissions Survey Report, Union of Concerned Scientists–Clean Vehicles Program

Trends

- Share of U.S. carbon dioxide emissions from fossil fuel consumption by transportation from 1990–2007.[96]



↑ *Percentage Share of U.S. CO2 Emissions from Transport*

- Freight currently represents 50% of U.S. greenhouse gas emissions attributed to the transportation sector, and freight transportation energy use is projected to increase by 75% from 2003–2030.[97]
- A 2009 World Economic Fund report assessed the supply chain decarbonization opportunities within the logistics and transportation industry to be in the order of 1,400 mega-tonnes CO_2e.[98]
- A 2009 survey by the Environmental Defense Fund of 300 U.S. fleet management companies found that:[99]
  - 72.7% reported having a program to improve fleet environmental performance
  - 30.3% reported that fleet management is among the top two or three environmental priorities for the company.

"Companies recognize that transportation has environmental and bottom-line impacts. There is a great opportunity for companies to decarbonize global logistics by analyzing transportation modes, fuel sourcing and nearshoring."

Rick Samans, Managing Director
World Economic Forum

P3.1: TRANSPORTATION MANAGEMENT

Companies will develop transportation criteria that incorporate distance requirements from site to market and establish decentralized and localized distribution networks.

How to get there

ASSESS, ANALYZE, SET GOALS

Given that the greatest impact associated with transportation is air pollution, one of the first steps companies can take to improve transportation sustainability is to quantify air emissions (greenhouse gases, NOx, SOx) produced by the current and planned transportation modes. With this information, companies can begin to identify appropriate opportunities and strategies for emissions reduction and likely cost savings.

LOCALIZE AND INCREASE NETWORK DENSITY

When creating or redesigning logistics networks companies should increasingly focus on creating more localized, denser centers of operation, that minimize distances traveled and provide for future growth. In addition to reducing sustainability impacts, this approach creates a more resilient network that can withstand fuel shortages or sudden changes in demand. It also allows companies to maintain a national or global presence without overt reliance on long-distance transportation of goods. Local manufacturing also allows companies to maintain a presence in communities where they do business, strengthening ties and leading to greater understanding of customers.

LEVERAGE IT

Companies should adopt sophisticated information systems that automate the analysis necessary to optimize vehicle use, route selection and use of space.

Since 2003, *UPS* has eliminated 100 million miles from its delivery routes using information systems. The company's Package Flow Technology reduces fuel consumption and emissions by optimizing the allocation of pick-ups and deliveries each day at each facility, and designing a delivery route that minimizes total distance covered, driving time and idling time.[100]

LOAD FOR EFFICIENCY

Companies should review their approach to vehicle loading to identify opportunities for greater efficiency.

Food services and facilities management firm *Sodexo* is working on the introduction of multi-temperature vehicles that allow ambient and chilled goods to be delivered together rather than in separate vehicles. It is one of the initiatives that the company expects will help it cut some 465 tons of CO_2 emissions annually in the UK.[101]

Combining multiple customer orders and products into fewer vehicles can often yield substantial fuel economies. In 2007, *SC Johnson's* Truckload Utilization Project cut the company's fuel usage by 168,000 gallons, eliminating 1,882 tons of greenhouse gases and saving approximately $1.6 million.[102]

↓ FIGURE P3.1

Supply Chain Decarbonization[103]

SUPPLY CHAIN DECARBONIZATION OPPORTUNITIES	POTENTIAL ABATEMENT MT CO_2E	ASSESSED INDEX OF FEASIBILITY
Clean Vehicle Technologies	175	High
Despeeding the Supply Chain	171	High
Enabling Low Carbon Sourcing: Agriculture	178	Medium
Optimised Networks	124	High
Energy Efficient Buildings	93	High
Packaging Design Initiatives	132	High
Enabling Low Carbon Sourcing: Manufacturing	152	Medium
Training and Communication	117	Medium
Modal Switches	115	Medium
Reverse Logistics / Recycling	84	Medium
Nearshoring	5	Medium
Increased Home Delivery	17	Medium
Reducing Congestion	26	Low

Source: World Economic Forum, January 2009. Supply Chain Decarbonization

COLLABORATE WITH OTHER BUSINESSES

Companies should seek opportunities to share logistics networks within regions and within and beyond their sectors to reduce the number and length of trips required.

Macy's and *Schneider National* have both achieved greenhouse gas reductions by using the Empty Miles Service run by the Voluntary Interindustry Commerce Solutions (VICS) Association, GS1 Canada and GS1. The service matches a company's trailers that are returning empty with another company's potential loads that can be collected and delivered along the return route.

PLAN FOR END OF LIFE

Where does a product go when it is no longer useful to the consumer? Reverse logistics is focused on ensuring that a product at the end of its life is collected by or returned to the producer, sorted, and then recycled into new products, reused or reconditioned. When a customer's product is defective and needs to be repaired, instead of shipping the item long distances, the company could appoint a local agent to sort through returned products and send just those that are defective for repair, locally if possible.[104]

P3.2: TRANSPORTATION MODES

Companies will review logistics to prioritize low-impact transportation modes.

How to get there

PRIORITIZE LOW-CARBON MODES OF TRANSPORT

Companies should evaluate their use of different modes of transportation (e.g. truck, rail, plane or ship) and take advantage of opportunities to move to lower environmental impact alternatives. Often, such decisions also support greater flexibility and efficiencies in supply and distribution networks.

It is not just a case of selecting the right mode of transportation, but how that mode is being used. For road vehicles, for example, companies should consider operational changes such as a no-idling policy to save fuel costs and reduce pollution. A six-cylinder diesel vehicle that idles for one hour a day wastes more than $1,600 worth of fuel over the course of a year when gas costs $2.50/gallon.[105]

Healthcare company *Baxter International* uses inland waterways instead of road transport to move goods between operations centers in Belgium and the Netherlands. Water transport saves 40% on freight costs and uses 80% less fuel than ground transportation.[107]

ADOPT NEW VEHICLE TECHNOLOGIES

Companies need to move towards low-carbon fuels and more fuel-efficient vehicles.

Carbon emissions can be directly reduced by switching to alternative vehicle technologies. Possibilities include flexible fuel vehicles using advanced biofuels, vehicles powered by hydrogen fuel cells, electric vehicles using stored electricity produced from renewable sources, and plug-in hybrids.

According to a hybrid truck trial underway at FedEx, the use of hybrids is expected to achieve fuel savings of 26.5% over 18 months compared to using a fleet of traditional vans.[108]

Energy foods company *Clif Bar* saved $1 million and reduced transportation-related carbon dioxide emissions by 97% through a combination of actions, including moving the distribution center closer to the bakery, packing truckloads more efficiently and switching their trucks to B100 biodiesel fuel.[109]

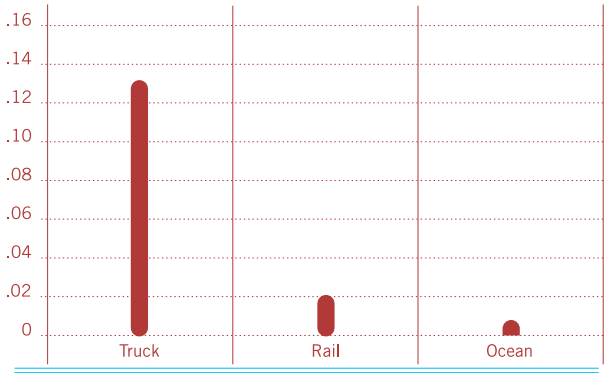
Two of the largest energy firms in the U.S., *FPL Group* and *Duke Energy,* are moving to switch their entire vehicle fleets – more than 10,000 vehicles – to electric and plug-in hybrid vehicles by 2020. These strategies are expected to reduce GHG emissions by more than 125,000 tons.[110] While this is a tiny fraction of these companies' overall emissions, it should help them advance large-scale deployment of plug-in, hybrid electric vehicles (PHEVs).

"Our customers…need accurate information from the industry to calculate their own CO_2 inventories and report them to the public. For that reason we advocate full disclosure (Scope 1, 2, and 3) for the transportation and logistics industry."[111]

D. Scott Davis, Chairman and CEO
UPS

↓ FIGURE P3.2

Carbon Emissions by Transportation Type[106]



↑ *Co2 Emissions by Transportation Type (kg/ton–km)*

SUPPORT SUSTAINABLE PUBLIC POLICY

Companies should support local, regional and national policies that prioritize development of lower-carbon transportation alternatives, such as higher standards for fuel efficiency and broader use of low carbon fuels.

In the U.S., California has passed a Low Carbon Fuel Standard (LCFS), which requires a reduction of greenhouse gas emissions from transportation fuels by 10% by 2020, by mixing lower carbon fuels into their product portfolio, or by buying credits for the sale of lower carbon fuels. Various permutations of the LCFS are under design or consideration in 26 states and four Canadian provinces. In December 2009, eleven Northeast and Mid-Atlantic states signed an agreement to finalize a framework for a regional LCFS by early 2011.

The EU is also moving toward an LCFS through the development of the "fuel quality directive" which is very similar to the California LCFS. Several companies are supporting these policies and are developing their own fuel sourcing policies to ensure that they understand and address this aspect of their supply chain.

P3.3: BUSINESS TRAVEL AND COMMUTING

Companies will decrease greenhouse gas emissions from business travel and employee commuting by 50% from a baseline of 2005.

How to get there

PROVIDE ALTERNATIVES TO BUSINESS TRAVEL

Companies should employ better planning to reduce the frequency and number of trips. When possible, companies should discourage business travel by using teleconferencing technologies, saving costs and reducing stress on employees and the environment. *Cisco's* Carbon to Collaboration initiative uses the company's own virtual office software platform to reduce air travel. The software enables an employee to plug in to the office phone and IT networks at home and work exactly as if they were in the office. Users can hold virtual meetings and collaborate without having to meet at one physical location. The company has identified annual cost savings of $277 million, while the productivity of remote workers has been found to be as good as or better than those in the office.[112]

PRIORITIZE AND INCENTIVIZE SUSTAINABLE TRANSPORTATION

Where business travel is necessary, companies should choose lower impact modes of transport. Trains, for example, have a lower impact than flights for shorter distances and often take a comparable amount of time from door-to-door. Companies can also support the use of hybrid taxis or mass transit for business journeys within metropolitan areas. Companies should examine their annual employee business travel needs and reward departments that use virtualization and low-carbon travel modes to reduce carbon emissions.

OFFSET EMISSIONS

As a last resort, companies can offset business travel emissions by buying carbon offsets. This step often acts as a catalyst for the company to take a hard look at how much employees are traveling and where they can and should cut back. Small changes to travel policies can make a big difference to the company's overall impact.

SUPPORT LOW-CARBON COMMUTING

Just as with business travel, companies can provide employee programs to encourage sustainable commuting practices, or to enable working from home or other convenient locations. These types of programs are fairly common and growing in their creativity and impact.

Siting facilities near to where the majority of employees live, where biking and walking to work are real possibilities, and locating close to public transport hubs, ensures that employees have the widest possible choice of low or no carbon commuting alternatives. Other incentives include offering public transit vouchers, company shuttles, bicycle parking with shower facilities, preferential parking for hybrid cars, and the coordination of carpooling.

At *Google*, if any employee comes to work using carpooling, public transport, the Google shuttle, or by walking or bicycling, then the company's GFleet program gives that employee use of a car during the day for errands or meetings. Those who need a work car thus avoid commuting in a single occupant vehicle.

A "work anywhere" policy introduced by *BT Global Services* quantified the carbon emission reduction from their flexible telecommuting arrangements at 58%, thanks to the elimination of an estimated 1.5 million journeys annually.[113]

There are opportunities to incentivize low-carbon commuting, too. Pay-As-You-Drive (PAYD) car insurance covers the car owner on a mileage or usage basis. Companies could encourage adoption of PAYD insurance by means of a subsidy through the benefits package. It is estimated that such insurance, if broadly held, would give employees a financial incentive sufficient to encourage them to drive about 8% less on average and so to reduce U.S. national carbon emissions by an estimated 2%.[114]

P4: PRODUCTS AND SERVICES

EXPECTATION

Companies will design and deliver products and services that are aligned with sustainability goals by innovating business models, allocating R&D spend, designing for sustainability, communicating the impacts of products and services, reviewing marketing practices and advancing strategic collaborations.

Sustainability provides a business with a clear imperative and framework for reinventing and reinvigorating itself for the 21st century. Companies with business models that are incompatible with this imperative must be open to deep-rooted renewal. The complexity of the challenge requires investment in new products and services that offer solutions to sustainability problems, as well as the redesign of existing product portfolio to eliminate negative impacts.

Innovation itself must be provoked and nurtured in new ways. Product impacts should be understood in terms of their entire life cycle. Engagement with the company's stakeholders will help identify possible opportunities for new business growth in meeting sustainability challenges, and accessing tools such as biomimicry can help develop solutions based on an ecosystem approach. Innovation carries sustainability risks, too, and companies will need to apply the precautionary principle (see page 22) when weighing new business development proposals.

As companies expand their capabilities in sustainable innovation, they should turn at least part of their focus towards emerging markets. The Base of the Pyramid (BOP) refers to the four billion people living on less than $2 a day who face in their daily lives many of the world's most acute sustainability challenges.[115] To sustainable businesses this population represents an opportunity to tap resilient and creative entrepreneurs as well as to meet the needs of a growing pool of value-demanding consumers with solutions that address environmental and social impacts.

Developing sustainability solutions and achieving their mass deployment can be too much for one enterprise. Meeting the sustainability challenge requires companies to establish strategic and tactical collaborations within and across sectors, and through the selective pooling of intellectual property.

Finally, sustainable solutions should be marketed and delivered in a sustainable way – one that promotes responsible use and addresses the consumption patterns that have helped create some of our present problems.

Trends

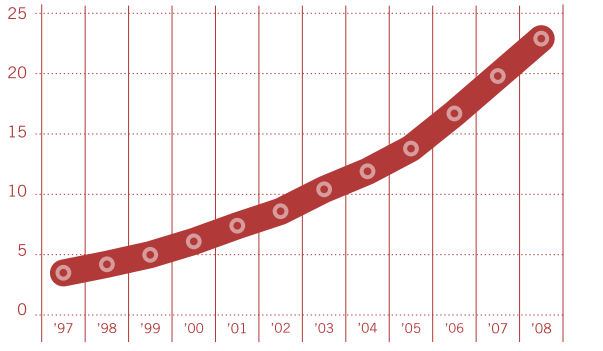
- In 2008, annual global revenues from low-carbon energy production, energy efficiency and other climate-related businesses reached $530 billion. HSBC Global Research is now predicting revenues to surpass $2 trillion by 2020.[116]
- A 2008 IBM global survey of more than 250 C-Suite executives found that 68% of them are already focusing on sustainability activities to create new revenue streams.[117]

Emerging Economies

- There are four billion people at the base of the pyramid with annual incomes of less than $3,000, but together they have purchasing power of $5 trillion per year. The BOP market varies by country but the largest market sector is for food – $2.9 trillion.[118]

Consumer Demand

- A 2009 BBMG poll of 2,000 U.S. consumers found that:
  - 67% agree it's important to buy products with social and environmental benefits.
  - 23% say they have "no way of knowing" if a product is green or actually does what it claims.[119]
- In some markets, such as organic foods, consumers have started backing their sustainable intentions with action. Sales of organic food in the U.S. grew from $11 billion in 2003 to nearly $24 billion in 2008.[120]



↑ *Trends in U.S. Organic Food Sales ($ Billion)*

Investor Action

- In the U.S. there have been a number of shareholder resolutions on use of toxic chemicals, particularly in consumer goods. Since 2006 resolutions relating to toxics have more than doubled with 28 resolutions in 2010.[121]

P4.1: BUSINESS MODEL INNOVATION

Companies will innovate business models to reduce material inputs and prioritize a transition to sustainable products and services.

How to get there

RETHINK YOUR VALUE PROPOSITION

Businesses and stakeholders have begun to discover sustainable business value in re-conceiving the idea of a "product." A key component of this is the transition from offering products to offering utilities or services. Thus, an increasing array of business software applications and data storage are being made available as online utilities – so-called "cloud computing" – instead of through desktop installation with its associated hardware demands.

Car leasing and short-term rental services are not new, but *Zipcar* is taking it a step further. Zipcar offers customers use of car in hourly units – effectively removing the need to own a car for urban use. Zipcar also offers lower pricing for hybrid vehicles, encouraging customers to use this cleaner mode of transport. The company is growing 30% a year and now has over 325,000 members, with especially strong growth around university campuses. Research shows that car sharers cut personal travel-related emissions by as much as 50%.[122]

" At our company we define sustainability as placing a priority on people, technology and the power to bring the digitally-connected world to life. We're working to make sustainability easy by providing the technology and services that can help make a 'smart home' a reality for everyone."

Brian Dunn, CEO
Best Buy Co., Inc.

Resources: Creative Commons, World Economic Forum – Sustainability for Tomorrow's Consumer: The Business Case for Sustainability

" The companies that our analysts have identified as providers of sustainability solutions have performed extremely well as companies and as investments for their shareholders. The companies that are developing the new products and new processes are seeing benefits in the financial markets."

Abby Joseph Cohen, Chief Investment Strategist
Goldman Sachs

P4.2: RESEARCH & DEVELOPMENT AND CAPITAL INVESTMENT

Companies will use sustainability as a primary filter through which all R&D and capital investments are made. 50% of the R&D investment will be focused on developing sustainability solutions.

How to get there

SET SUSTAINABLE PRODUCT GOALS

Companies should set revenue and R&D targets for making existing products sustainable and developing new products and services that contribute solutions to sustainability challenges.

General Electric sold $17 billion in ecomagination products in 2008 out of total revenues of $182.5 billion. The company aims to increase this figure to $25 billion by 2010. GE has also set a target for R&D investment in cleaner technologies: $1.5 billion by 2010, up from $1.4 billion in 2008 and $750 million in 2005.

Procter & Gamble, the consumer products company, has set a goal of developing and marketing "sustainable innovation products" (SIPs) – products with a 10% lower environmental footprint than alternatives – generating $20 billion in cumulative sales by 2012.

By 2015, *DuPont* aims to achieve its Environmentally Smart Market Opportunities goal: a doubling of investment to $640 million in R&D programs with direct, quantifiable environmental benefits for customers and consumers along the value chain.

ALIGN R&D INVESTMENT CRITERIA

Companies should integrate sustainability considerations into the criteria and decision-making process that determine capital allocation product research and development. Environmental and social risks and opportunities should weigh as heavily as commercial criteria in selecting investments.

FILTER CAPITAL INVESTMENTS FOR SUSTAINABILITY

Many business capital investments are long-term in nature, with payback horizons that extend into a future where regulatory and resource constraints and sustainability concerns are likely to be quite different from today. In order to ensure that capital investments bear positive returns in a more sustainability-focused world, companies should test the economics of major investments against a variety of potential future sustainability scenarios. These scenarios can serve as both a positive and a negative screen, by, for example, reducing the projected rate of return for projects with high environmental or social impact, and improving the economics of more sustainable capital investments.

Chevron for instance, is applying internal rate of return (IRR) tests on all large-scale capital projects against a variety of future carbon pricing scenarios, and as a result, has altered investment in specific projects.

INNOVATE TO SOLVE SUSTAINABILITY CHALLENGES

While technology cannot solve all the world's sustainability problems, technological innovations, especially those that deliver greater energy efficiency, are urgently needed on a far-reaching scale. This need extends from the stove top to the desktop, from the homes and offices we occupy, to the cars we drive and the planes we fly.

Innovations might extend the sustainability performance of existing products. By 2015, white goods producer Whirlpool will ensure that all of its electronically controlled appliances can receive and respond to signals from smart grids. Products will then be able to go into low power mode when the grid requests it, or to delay operation until peak demand is over.

Opportunities for sustainability-related innovation extend to services too. *Fannie Mae* is offering Energy Efficient Mortgages for low-and middle-income consumers. The plan allows a higher debt-to-income ratio by increasing the borrower's assessed income by the amount of the anticipated energy savings, and also assumes a higher house value based on the value of the energy efficiency measures.

TARGET THE BASE OF THE PYRAMID (BOP) MARKET

Low-income consumers in developing economies present particular sustainability challenges but also untapped opportunities for innovative solutions. They may have at best limited access to resources essential to life such as reliable water supplies, affordable housing and healthcare, let alone products and services regarded as necessary in developed countries, such as banking and communications technology.

Swiss Re has identified the rising climate-related financial losses and a lack of risk transfer products in the developing world as an opportunity for product innovation. Through the Climate Adaptation Development Programme, Swiss Re is developing a financial risk transfer market for the effects of adverse weather in emerging economies in Africa and the Indian subcontinent. By partnering with non-profits such as Oxfam International and Millennium Promise, Swiss Re is able to play a direct role in providing the financial assurances integral to a stable economy, while serving vulnerable populations excluded from traditional markets.

Companies often have the core competencies necessary to respond to the need to extend access while doing so in a way that helps reverse negative social and environmental impacts and solve current sustainability challenges. Doing so successfully offers companies new avenues for profitable growth.

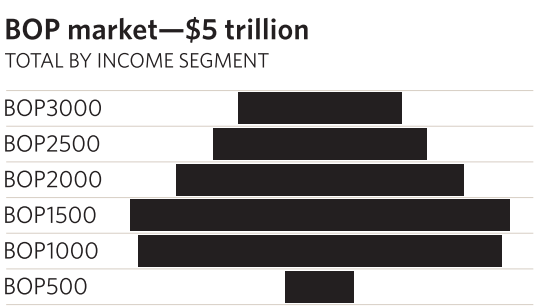
Some 40% of *Unilever's* sales and much of its growth comes from developing countries, and CEO Patrick Cescau regards addressing social and environmental challenges in developing countries as key to the company's continued competitiveness. For example, the company's sales of soaps and shampoos in small, affordable packages, coupled with sponsorship of public health campaigns on clean water and sanitation, are reaching an estimated 44,000 villages and 100 million people in India.[124]

Dow Chemical Co has set a target of achieving at least three breakthrough product innovations to address one of five identified major sustainability challenges: affordable and adequate food supply; decent housing; energy and climate change; sustainable water supplies; and improved personal health and safety.

The *SC Johnson Company* has partnered with youth groups in the Kibera slum of Nairobi, Kenya to build a community-based waste management and cleaning company, providing home-cleaning, insect treatment, and waste disposal services for residents.

↓ FIGURE P4.2

Base of the Pyramid Market Opportunities[123]



P4.3: DESIGN FOR SUSTAINABILITY

Companies will approach all product development and product management decisions with full consideration of the social and environmental impacts of the product throughout its life cycle.

How to get there

ASSESS THE ENTIRE LIFE CYCLE

The foundation of design for sustainability is the life cycle assessment ("LCA") methodology. LCA is a well established analytical tool and is subject to International Organization for Standardization standards. There has been a resurgence of interest in LCAs as their use evolves from a limited scope measurement scorecard to a real-time decision-making tool for use across operations and supply chains. Companies find that accountability for products and services "from cradle to cradle" enhances the business incentive to improve product durability and develop more sustainable solutions. LCAs also open up opportunities for cost savings, efficiencies and marketing to consumers.

Companies should perform an LCA for each portfolio of products or for specific products to ascertain the full scope of their sustainability impacts. This assessment should identify key natural resource and social implications of the choice and sourcing of inputs, the manufacturing process itself, and each product's use and disposal.

Companies should use these findings to identify and prioritize opportunities for improvement, such as newly available materials, new sourcing possibilities and manufacturing efficiencies.

" Life Cycle Assessment provides a holistic yardstick of the sustainability of products and services. Without an LCA, you do not know whether your decisions make overall sustainability improvement, or merely improve one thing by making another thing worse. Using LCA does not mean that we will not make errors, but it does mean that many of the unintended consequences can be quantified ahead of time, giving us a chance at better, more consistent, and more transparent environmental decisions."

Rita Schenck, Executive Director, Institute for Environmental Research & Education
American Center for Life Cycle Assessment

Recent industry and cross-industry examples, such as the Sustainability Consortium spearheaded by *Walmart*, show burgeoning interest, understanding and use of life cycle analysis. Apparel companies *Patagonia, Timberland, Levi's,* and *Anvil Knitwear* have all undertaken and disclosed life cycle analyses for at least one of their products.

Patagonia learned from an LCA that shirts made from regular cotton consume three times more petroleum in their lifetime than shirts made of synthetic fiber because of the fertilizers used to grow the cotton and the extra effort needed to keep the garment clean. Recognizing that the extensive use of these chemicals has significant negative impacts on the water, soil, and health of farm workers, the company subsequently converted its sportswear lines to 100% organic cotton where there is less chemical usage. Patagonia also improved the life cycle of its polyester garments such that garments can be reclaimed and their fibers recycled at the end of their useful life.[125]

As the result of an LCA in product design, *Canon USA* opted to restrict the use of 24 hazardous substances in its new imageRUNNER ADVANCE multifunction office devices and made some parts entirely out of recycled plastic and bioplastic. Canon also made the products smaller and lighter than previous models and uses less packaging. The product's power consumption is 75% lower than previous models and overall carbon dioxide emissions were reduced by 30%.[126]

SUSTAINABLE DESIGN

Companies should design all products and services to reduce environmental and social impacts throughout their life cycle. This means prioritizing the use of non-toxic materials, product durability, biodegradability, energy efficiency, packaging, and the recyclability and reusability of parts through product take-back programs.

Many companies find that designing for the environment mitigates sustainability impacts while also opening up opportunities for cost savings and production efficiencies.

The Emulsion Aggregation (EA) toner technology developed by *Xerox* was a major breakthrough in controlling the size, structure and shape of toner particles, leading to reduced toner use and improved print quality. In environmental terms, each printed page now requires 40–50% less toner and 60–70% less energy. Energy use in toner production itself has been cut by 25–35%.[127]

Foam used in furniture or bedding is made from polyurethane comprising petroleum-derived polyols. *Cargill* developed an alternative of comparable quality–BiOH™ polyols–manufactured from renewable, biological sources such as vegetable oils. Compared to traditional polyols, each million pounds of BiOH™ polyols saves nearly 700,000 pounds of crude oil, using 23% less energy and producing 36% fewer carbon dioxide emissions.[128]

Ford's product sustainability index shows the life cycle of some of its products against key metrics for a vehicle. These metrics include GHG emissions, air emissions, recycled and renewable materials, drive-by noise, and cost to owner over lifetime of vehicle. Ford of Europe is using the product sustainability index for all new products.

The U.S. Environmental Protection Agency's Design for the Environment program (DfE) focuses on helping companies move towards use of safer chemicals in their products. Through its partnership with the automotive finishing industry it estimates it could help auto body shops to reduce releases of over 110 million pounds of toxic pollutants, savings those firms up to $650 million in reduced paint costs.[129]

Recyclebank is a company that focuses on products at end of life. Its business model is built on rewarding consumers financially for recycling and taking other green actions. Customers receive reward points when they recycle and they can then spend these points for services or products with Recyclebank's partner organizations.

A key ongoing challenge is to integrate social and economic criteria alongside environmental factors in the LCA and design process. Social impacts relevant in product and service design include accessibility (such as the broad availability and affordability of patented medicines), design for people with disabilities, user safety and addiction concerns, ease of repair and the local impact of product disposal at end of life.

Companies need to evaluate the relevance of a range of possible factors to their products and services and use appropriate tools to integrate this analysis in design decisions.

Resources: McDonough & Braungart Cradle to Cradle Protocol, Sustainable Packaging Coalition

P4.4: MARKETING PRACTICES

Companies will align their marketing practices and product revenue targets with their sustainability goals, and will market their designed-for-sustainability products and services with at least the same effort as their marketing of other products.

How to get there

MAKE SUSTAINABLE PRODUCTS COUNT

Products designed to meet sustainability criteria or to meet sustainability challenges should be promoted with as much financial investment as other products. Companies should set revenue targets for their sustainable product offerings to ensure their scale and success beyond niche markets.

DO NO HARM

Long-established concerns about the appropriateness of marketing of certain categories of products to particular audiences will continue to grow. This trend has already moved beyond questions of vulnerability – the marketing of violent video games or junk food to children or of credit products to the poor – to more general questions of appropriateness, such as the marketing of alcohol or tobacco to adults.

Companies need to have strong marketing codes that highlight and address sustainability issues in line with sustainability commitments, but they also need to demonstrate that these codes are being implemented through clear systems and accountabilities.

Time Warner has implemented and kept under review a policy regarding its depiction of tobacco in films. Since the launch of its policy in 2005, the number of films the company produces or distributes in the U.S. that contain tobacco depictions has been reduced by 35%. Since January 2008, Time Warner filmed entertainment companies also began including 30-second anti-smoking public service announcements (PSAs) suitable for all audiences in the front of DVDs distributed in North America of first-run films released in theaters that contain tobacco products or imagery.

"Companies increasingly see that their values must be reflected consistently in every decision they make, every marketing campaign they run, and every partnership they form."[130]

Rosabeth Moss Kanter, Professor, Harvard Business School
Author of SUPERCORP: How Vanguard Companies Create Innovation, Profits, Growth, and Social Good

COMMUNICATE CREDIBLY

Marketing and product promotion efforts should be an authentic reflection of the company's sustainability policies. Making false or irrelevant claims of sustainability merely risks running afoul of marketing codes such as the U.S. Federal Trade Commission Green Guides, or of exposure and judgment at internet speed by consumers engaged in the growing use of social media.

While false claims should be avoided, setting out the company's stance on the need for responsible marketing policies are encouraged. For example, *Mars*, the confectionery company, has a global marketing policy that places constraints on its marketing practices towards children. This policy restricts advertising in a range of media – including television, radio, print and online – where children under 12 make up 25% or more of the audience. The company has also committed to ensure that its advertising does not depict children under 12 consuming the company's products and that no child will act as spokesperson for the brand.

Brown-Forman's Responsible Marketing, Advertising and Promotional Guidelines requires that at least 80% of the company's marketing audience to be over the legal drinking age. The company supplements its strict marketing guidelines with support of anti-alcohol abuse efforts through groups including the U.S. Ad Council, International Center for Alcohol Policies, and the European Forum for Responsible Drinking.

In 2008, *Aveda* launched an advertising campaign in print advertising and in-store displays to support the company's tag line: "Beauty is as Beauty Does". The campaign highlighted a new sustainability topic every six to eight weeks. The first topic was wind energy, highlighting the fact that Aveda products are 100% manufactured with wind power. The second highlighted packaging waste, where Aveda uses up to 100% post-consumer recycled (PCR) materials in packaging for its products.

Resources: Federal Trade Commission Green Guides, GoodGuide, Green America

P4.5: STRATEGIC COLLABORATION

Companies will collaborate within and across sectors to innovate and scale sustainable products and services, and contribute to the development of open source solutions.

How to get there

IDENTIFY PARTNERSHIPS AND OPPORTUNITIES

Sometimes a single company just cannot go it alone. Companies should assess the intra- and inter-industry landscape for collaborations that create business value and bring sustainability solutions to scale. NGOs and other groups beyond industry can also be a valuable source of information and guidance. The early success of all such collaborative efforts has led to a variety of different combinations of organizations developing solutions that contribute to sustainability performance.

The U.S. economic stimulus bill has allocated funds for investment in developing a smart grid. This grid brings together software technology, energy efficient and renewable energy and showcases how innovative collaborations take shape. In September 2008, *Google* and *General Electric* announced a collaboration to develop software to support the "smart grid" and to support energy efficiency in the home including the transfer of power to and from electric vehicles and plug-in hybrids. While GE brings utility-scale industrial expertise and manufacturing capacity, Google brings global-scale software expertise and an understanding of associated security issues and data protocols.

Meanwhile, *Ford* has teamed up with a number of utility companies, the Department of Energy and the Electric Power Research Institute (EPRI) to devise the new infrastructure that will connect electric vehicles to the grid. The collaboration recently yielded a vehicle-to-grid communications and control system that will enable electric vehicles to plug-in and intelligently exchange power with the smart grid every day.

↓ CASE STUDY

SCALING SOLUTIONS THROUGH OPEN SOURCING

To address the complexity of sustainability challenges, many industry-leading companies are leveraging new ways to bring their sustainability solutions to scale. By open sourcing knowledge, tools, and technologies, these companies are stimulating collaborative and innovative thinking while simultaneously transforming the traditional notion of intellectual capital.

IBM, the World Business Council for Sustainable Development and other corporate partners took the idea of information sharing to a wider audience with their launch of the Eco-Patent Commons, an open source platform bringing technology patents with environmental benefits into the public domain. Since the launch in 2008, over 100 environmentally preferable patents have been contributed from companies including *Xerox, Dow, Bosch, Nokia,* and *Sony*, among others.

Nike, Best Buy, and the non-profit Creative Commons have developed the GreenXchange – a digital platform that allows companies, academics, and other stakeholders to explore and share sustainability innovations on a global scale. The idea behind GreenXchange is that it will support community-based knowledge transfer by supporting the development of patent pools – communities where patent owners are encouraged to make their patent available for public licensing ideally with no or only a nominal fee and few or no use limitations. The focus of the patent pools is the creation of innovative solutions to sustainability challenges. The platform launched in 2010.

P5: EMPLOYEES

EXPECTATION

Companies will make sustainability considerations a core part of recruitment, compensation, and training, and will encourage sustainable lifestyle choices.

The commitment of employees and other workers will continue to be a critical resource in moving a company towards sustainability – especially if sustainability is going to drive a competitive advantage for the company.

Before their commitment and energy towards meeting the company's broader sustainability goals and policies can be counted upon, however, the company will need to demonstrate that employees are themselves respected. Sustainability begins at home.

In the section on Governance for Sustainability we highlighted the need for companies to adopt human rights policies committing the company to uphold the highest standards in relation to, among other things, employee health and safety, diversity and inclusion, and labor rights.

While most companies have approached these issues, few have met the highest standards. A survey by Calvert Investments found that only 3% of the 636 companies in the Calvert Social Index demonstrated what they classified as "diversity excellence." Furthermore, most companies' performance fell into the bottom half of the achievement categories used by the study.[131]

Beyond treating its people properly, obtaining the engagement of employees means demonstrating to them that sustainability is embraced at the core of the enterprise. Demonstrating such commitment entails embedding sustainability deep into the company culture. That culture begins with each new hiring decision, and extends to training, performance management and the values that bind the company together as a community.

Where companies demonstrate a firm commitment toward sustainability they benefit from improved recruitment and retention rates, employee morale and productivity, and lower healthcare costs. At least one recent study found that companies that effectively engage employees on sustainability issues outperform others by wide margins, demonstrating 2.6 times higher earnings-to-share growth rates.

" We need to invest in green jobs – green technology, energy efficient retrofits of public buildings and the smart power grid."[132]

Richard Trumka, President
AFL-CIO

Trends

- When in a 2008 survey the Aspen Center for Business Education asked of MBA students at top business schools what the primary responsibilities of a company were, they found a shift towards "creating value for the communities in which they operate" and "complying with laws and regulations" ranked higher than shareholder value maximization and satisfying customer needs. Also, more MBA students (26% in 2007 compared to 15% in 2002) are attaching importance to finding work that makes a clear contribution to society.[133]
- The next wave of MBA students looks set to continue this trend. A 2007 survey of 2400 undergraduate students found that:[134]
  - 77% said they would seek socially responsible employment during their careers;
  - 60% said they would seek such work immediately after graduating from college;
  - 84% agreed that businesses should work towards the betterment of society by fostering a healthier environment, eradicating poverty, and addressing other societal issues;
  - Only 19% believe most companies are currently working towards those goals.
- A 2009 global survey of CFOs found that 52% viewed their company's CSR efforts as a way of attracting, motivating, and retaining talented employees.[135]

Resources: Apollo Alliance, Blue Green Alliance, Net Impact – New Leaders, New Perspectives II, National Environmental Education Foundation, Green for All

P5.1: RECRUITMENT AND RETENTION

Companies will incorporate sustainability criteria into recruitment protocols, employee performance processes, compensation and incentives.

How to get there

If sustainability is to be more than a company talking point then sustainability criteria should be embedded in each employee's goals, job responsibilities, and performance incentives – not just in the incentive plans for senior executives.

REWARD SUSTAINABLE JOB PERFORMANCE

Many companies now include sustainability criteria in job descriptions and performance assessments so that employees and managers will be willing to consider projects other than those offering the greatest financial return on investment. In addition, credible corporate sustainability programs help companies stand out from the crowd as employers of choice to attract top talent. This is especially true given the current economic environment – many employers can no longer rely on or afford large compensation and bonus packages to entice new employees.

A number of companies are integrating aspects of sustainability into their human resource recruitment and employee orientation processes, covering concerns such as labor relations, health and safety, environmental protection and ethics. In *Vancity's* well-established orientation program, participants hear from the CEO and board of directors on the company's ethics and workplace policies, and a member of the Sustainability Group delivers a presentation on the community leadership strategy. Energy company *Suncor* also integrates the company's sustainability values into its messaging with prospective employees both during the interview process and in employee orientation.[136]

In 2008 *Intel* began including environmental factors in the calculation of corporate performance on which every employee's annual bonus is based. Three environmental performance goals were included: product energy efficiency, the company's reputation for environmental leadership, and the completion of renewable energy projects and purchases of green energy. In 2009, Intel added reducing the carbon footprint as a performance metric.

The components and structure of this employee compensation should be disclosed in the company's sustainability report by, for example, listing the percentage of overall compensation by environmental and social performance category.

↓CASE STUDY

SUSTAINABILITY CREATES JOBS

Green jobs are predicted to be part of the new foundation for rebuilding the global economy. The shift to cleaner energy sources like solar, wind, and biofuels will produce hundreds of thousands of new jobs.[138] Building a strong clean energy sector is a focus of the U.S. 2009 economic stimulus package, which is estimated to have created or saved around 600,000 jobs. These jobs and the additional jobs that will be created by comprehensive climate and energy legislation, are expected to total nearly 2 million jobs over the next decade.[139]

With the creation of these new jobs, comes a clear need for a different type of skilled labor. The National Renewable Energy Lab has identified a shortage of skills and training as a leading non-technical barrier to renewable energy and energy efficiency growth. Developing a low-carbon economy will not only require significant investment in new technologies and infrastructure, but also investment in worker training and skills development. Green jobs represent an opportunity for workers to transform their current skills or develop new specialized skills to meet the needs of expanding industries that will promulgate energy efficiency, renewable energy and other sustainability solutions.

INSPIRE INNOVATION

Just as companies have continuous improvement systems in place to engage workers in identifying and addressing quality issues, companies should have formal systems in place to incentivize and capture employee ideas and feedback on the sustainability vision and goals, and on innovations that will help the company to achieve them.

In 2008 *Sun Microsystems* (now part of Oracle Corporation) launched its "Every Job is an Eco-Job" campaign. Using a range of communications tools Sun encouraged employees to consider how their jobs could contribute to the company's social and environmental sustainability goals.[137]

P5.2: TRAINING AND SUPPORT

Companies will develop and implement formal training on key sustainability issues for all executives and employees, and facilitate coaching, mentoring and networks for sustainability knowledge sharing.

How to get there

EMPOWER EMPLOYEES

Companies need to empower their employees to think systemically about the company's operations and sustainability.

The company should undertake training needs analysis and set training goals and strategies in the same way that they do for other aspects of an employee's job. Results should be assessed and the program improved based on feedback.

All employees should be trained on the broad sustainability challenges facing the company such as energy use and diversity and inclusion, as well as on the handling of specific issues they encounter in the context of their individual roles.

Johnson & Johnson runs an Environmental Literacy program for employees to increase understanding of global environmental issues. All facilities are expected to implement a five-year literacy plan that includes a different environmental education campaign each year. In 2008, 97% of facilities ran a literacy campaign, the majority of which concerned climate change.[140]

At *Herman Miller* they have implemented a peer-led, -designed and -managed safety program. Routine work practices are the subject of one-to-one peer reviews of safety practices against on-site-specific critical behaviors. The observer provides positive feedback on safe behaviors, and then the observer and observee discuss the root of any problems, and formulate actions for remediation. Employee bonuses are also tied to safety performance. In the pilot study for this approach, the incident rate fell 40%.[141]

Microsoft sponsors more than 40 employee affinity groups–termed Diversity Advisory Councils–that foster a range of activities to advance the inclusion of particular groups in career, social and product areas. Individual Councils meet monthly to share information and resources, determine group member training needs and develop strategies to complement the company-wide diversity program.

Initiated in 2007 as a grassroots effort by a group of 40 committed employees, *eBay's* Green Team now boasts 2,300 employees in 23 countries. The employees organize volunteer projects and green action activities for the employee community, support state and federal environmental legislation, and share knowledge to aid colleagues in going green at work, in transit and at home. The company now provides a dedicated staff and small budget but the initiative remains grassroots in nature.[142]

For some employees specialized skills may be needed, such as LEED or SA8000 certifications. In 2008, property firm *Jones Lang LaSalle* announced that it was launching its Sustainability University to provide education in support of sustainability commitments, including increasing the number of professionals accredited in programs including LEED, BREEAM and Green Globes. By mid-2009, over 500 Jones Lang LaSalle professionals had been accredited. The University also develops and delivers curriculum and best practice training in sustainability services and tools, and in support of specific business sustainability objectives.[143]

P5.3: PROMOTING SUSTAINANBLE LIFESTYLES

Companies will promote sustainable lifestyle choices across their community of employees through education and innovative employee benefit options.

How to get there

PROVIDE TOOLS AND RESOURCES

Companies should devote resources to employee education on sustainability and tools that empower them to take action at work and outside of work. Results from these efforts should be tracked and quantified to identify effective programs and to support continuous learning.

Alcoa's global intranet site offers employees resources relating to sustainability in their work but also sustainability in their home lives, with suggestions ranging from where to buy organic food to places to recycle cell phones. Their "Make an Impact" program offers employees in the U.S. and Australia a GHG footprint reduction kit with a complementary training package for employees and their communities.

Telecommunications company *BT* has a specific goal to engage its workforce in reducing their carbon footprint at work and at home. It runs a global energy saving campaign and has created "carbon clubs" for staff.

INCENTIVIZE SUSTAINABLE CHOICES

Where information alone does not promote action, incentives can fill the gap. Companies should look at innovative ways to encourage people to act in ways that promote sustainability. Companies, for example, might offer socially responsible investment options on 401(k) plans, or pay for services that help improve home energy efficiency.

Realizing that 70% to 75% of employee healthcare costs in the U.S. are attributable to lifestyle or modifiable behavior, *PG&E* has launched "wellness accounts" for its non-union employees. The company credits an employee's account when the employee completes certain activities or engages in healthy behaviors. The account can be used to pay for eligible health care expenses.

Energy food company *Clif Bar* offers employees a package of incentives to embrace sustainability at home and on the commute to work. The program includes financial incentives for the purchase of biodiesel vehicles or a high-mileage hybrid; financing the purchase of a commuter bike; redeemable points earned for the use of alternative transportation; and grants to make eco-friendly home improvements.

In 2007 *Swiss Re* launched its CO You2 Reduce and Gain program for employees. Employees can obtain a subsidy of up to CNF 5,000 (US$4,945) towards up to half the price of CO_2 reducing solutions. Over 5% of eligible employees worldwide have participated in the program, many by buying hybrid cars, annual travel passes for public transport, and solar panels and heat pumps.[144]

glossary of sustainability terms

ASSURANCE: A process whereby an independent third party assesses and provides feedback on the quality of a company's sustainability disclosure and efforts. This includes the communication of the feedback to the public.

C-LEVEL EXECUTIVE: Members of a company's executive leadership team including the chief executive officer, chief financial officer, chief technology officer and chief sustainability officer.

CLOSED-LOOP MANUFACTURING: An approach to manufacturing whereby industrial outputs, waste or products are reused in the same manufacturing process.

CLOUD COMPUTING: Technology for convenient, on-demand network access to a shared pool of configurable computing resources (e.g., networks, servers, storage, applications, and services). Demand for processing power is moved from an individual user's computer into internet-based applications.

CRADLE-TO-CRADLE: A concept where industry models on nature's processes and systems, and seeks to create business practices, products and processes that are efficient and essentially waste free.[145]

ENTERPRISE RISK MANAGEMENT (ERM): A management framework for systematically identifying, assessing, responding to and monitoring risk company-wide.

EXTENDED PRODUCER RESPONSIBILITY: An approach to environmental policy that holds manufacturers and importers of products responsible for the environmental impacts of their products throughout the product life-cycle, including upstream impacts inherent in the selection of materials for the products, impacts from manufacturers' production process itself, and downstream impacts from the use and disposal of the products.[146]

LIFE CYCLE ANALYSIS (LCA): An analytical process for identifying comprehensively the environmental footprint of a product. The process takes into account everything from the extraction of raw materials to the transportation, biodegradability and reusability of components and the finished product.

MATERIALITY ANALYSIS: The process of using stakeholders to identify and prioritize a company's significant sustainability issues and impacts.

NAMED EXECUTIVE OFFICERS: Defined in US SEC rules on executive compensation disclosure, NEOs include the CEO, the principal financial officer and the company's three other most highly compensated executive officers.

OPEN SOURCE: A philosophy of methodology of making a product's source materials–usually intellectual property–accessible to others.

PUBLIC POLICY ENGAGEMENT: Lobbying of legislators and regulators and financial aid to political campaigns, regarding issues directly, or the election campaigns of candidates for political office who hold particular positions.

RENEWABLE ENERGY GENERATION: The generation of electricity from renewable sources without generating greenhouse gases. Renewable sources typically include solar, wind, wave, geothermal and run-of-the river hydro.

RIGHT-SIZING: Ensuring that the size and efficiency of a vehicle or transportation mode is appropriate for distance traveled and its purpose.

SCOPE 3 EMISSIONS: Within the WRI/WBCSD GHG Protocol, Scope 3 emissions are those produced other than by a company's direct operations and energy purchases. They include, for example, employee travel, emissions embedded in products purchased or processed by the company, and emissions produced by transporting or disposing of the company's products.

SMART GROWTH: Smart growth is an environmentally sensitive pattern of development that provides people with additional transit, housing, and employment choices by focusing future growth away from rural areas and closer to existing and planned job centers and public facilities.[147]

STAKEHOLDER: Stakeholders include those people or groups within or outside the company who affect, or are affected by the company's activities.

STAKEHOLDER MAPPING: The process of identifying all of a company's key constituency groups and the way in which they are engaging with the company.

SUPPLY CHAIN: The system of organizations and people whose activities transform raw materials into a finished product or service, delivered to the end consumer.

SUSTAINABILITY MANAGEMENT SYSTEM: A framework for systematically managing and documenting a company's sustainability activities and impacts.

TIER 1, 2, AND 3 SUPPLIERS: A categorization of a company's suppliers based on the proximity of the supplier relationship. Tier 1 suppliers provide good and services directly. Tier 2 suppliers have a relationship with the company through provision of goods and services to Tier 1 suppliers. Tier 3 suppliers provide engineered materials and specialist services.

VALUE CHAIN: A chain of activities within a business unit, each step in the chain contributing value towards the finished product or service, and encompassing both upstream and downstream.

VERIFICATION: The process whereby corporate data and/or systems are checked for accuracy and completeness.

ZERO EMISSIONS: The use of facilities, buildings or equipment without the emission of any waste products that pollute the environment or contribute to climate change.

GOVERNANCE

Deloitte Review: The Responsible and Sustainable Board

Ceres Governance Reports and 14-point framework / Global Framework on Climate Risk Disclosure

CalPERS

CalSTRS

Center for Political Accountability

The Corporate Library

The European Sustainable Investment Forum (Eurosif)–Investment Consultants and Responsible Investments Study

International Corporate Governance Network

International Federation of Accountants–Sustainability Framework/Business Strategy

International Finance Corporation–Environmental and Social Standards

International Labor Organization Conventions

Millstein Center for Corporate Governance and Performance

National Association of Corporate Directors

Principles on Security and Human Rights

Risk Metrics–Governance White Papers

STAKEHOLDER ENGAGEMENT

IBM Global Business Survey–Attaining Sustainable Growth Through Corporate Social Responsibility

HSBC Global Research

Tellus Institute and FRP

World Resources Institute Publication–Development without Conflict

STAKEHOLDER ENGAGEMENT–INVESTORS

Interfaith Center on Corporate Responsibility (ICCR)

Boston College Center for Corporate Citizenship–Handbook on Climate-Related Investing Across Asset Classes

Deutsche Bank Climate Change Advisors

The European Sustainable Investment Forum (Eurosif)–Shipping

HSBC Climate Index

Institutional Investors Group on Climate Change (IIGC)

NASDAQ Global Sustainability 50 Index

Principles for Responsible Investing

Prudential Green Commodities Index

Risk Metrics Group Global Climate 100 Index

Robeco Investment Management and Booz & Co.–Responsible Investing: A Paradigm Shift

Social Investment Forum

S&P/IFCI Carbon Efficient Index

United Nations Environment Program (UNEP) Finance Initiative–Fiduciary Responsibility

DISCLOSURE

AccountAbility–AA1000 Assurance Standard

Boston College Center for Corporate Citizenship–How to Read a Corporate Social Responsibility Report: A User's Guide

Canadian Institute of Chartered Accountants–Building a Better MD&A

Carbon Disclosure Project Supply Chain Survey

Carbon Trust

Ceres and Environmental Defense Fund (EDF)–Climate Risk Disclosure in SEC Filings

The Climate Disclosure Standards Board (CDSB)

Domini Social Investments–Innovations in Social and Environmental Disclosure Outside the United States

Final Mandatory Reporting of Greenhouse Gases Rule

Environmental Product Declaration

Facility Reporting Project

Global Reporting Initiative

The Greenhouse Gas Protocol Initiative–WRI/WBSCD

Human Rights Policies And Management Practices of Fortune Global 500 Firms: Survey by John Ruggie

International Federation of Accountants–International Standard on Assurance Engagements (ISAE 3000)

International Standards Organization

KPMG International Survey of Corporate Responsibility Reporting 2008

National Association of Insurance Commissioners (NAIC)

Social Investment Research Analyst Network (SIRAN)–A Renewed Call to Action

Trends in Climate Risk Disclosure

UN Global Compact and GRI, Corporate Human Rights Reporting: An Analysis of Current Trends

PERFORMANCE–OPERATIONS

Brookings Institute–Shrinking the Carbon Footprint of Metropolitan America

California Sustainability Alliance–Green Leases Toolkit

Center for Industrial Ecology

Center for Resource Solutions–Green-e

Clean Air–Cool Planet

The Gold Standard

Green America–Green Business Network

Greening Corporate America article

Green Order

Harvard Business Review–Why Sustainability is Now the Key Driver of Innovation

Mayors and Climate Protection Best Practices

Registration, Evaluation, Authorisation and Restriction of Chemical Substances (REACH)

Sustainable Energy Finance Initiative–Global Trends in Sustainable Energy Investment, 2009 Report

Triple Bottom Line

UN Global Compact

U.S. EPA Energy Star

PERFORMANCE–CLIMATE CHANGE

Intergovernmental Panel on Climate Change

Climate Action Registry

The Climate Group

Climate Leaders

Green Power Partnership

The Prince of Wales Corporate Leaders Group on Climate Change

The Stern Review

United States Climate Action Partnership

US EPA, Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990–2007

Voluntary Carbon Standard

World Wildlife Fund

PERFORMANCE–BUILDINGS

BRE Environmental Assessment Method (BREEAM)

Building Owners and Managers Association's (BOMA) Guide to Writing a Commercial Real Estate Lease

Chicago Green Building Department

Green Building Initiative

Green Globes

Jones Lang LaSalle Green Office Toolkit

Rocky Mountain Institute's (RMI)–Online Library on Green Buildings

U.S. Green Building Council–LEED

World Business Council for Sustainable Development's (WBSCD) Energy Efficiency in Buildings project

PERFORMANCE–WATER

McKinsey & Company–The Global Corporate Water Footprint

Pacific Institute

UN CEO Water Mandate

UN Water–Coping with Water Scarcity

World Business Council for Sustainable Development Global Water Tool

Water Footprint Initiative

PERFORMANCE–HUMAN RIGHTS

Business and Human Rights Resource Centre

United Nations Human Rights–Human Rights Translated: A Business Reference Guide

Universal Declaration of Human Rights

PERFORMANCE–SUPPLY CHAIN

As You Sow–Unlocking the Power of the Proxy

Automotive Industry Action Group

Bearing Point Management and Technology Consultants–2008 Supply Chain

Better Cotton Initiative

Business for Social Responsibility

Ecovadis–Sustainable Procurement: a Crucial Lever to End the Crisis?

Electronic Industries Citizenship Coalition

Electric Utility Industry Sustainable Supply Chain Alliance

Ethical Trading Initiative

Extractive Industries Transparency Initiative

Forest Stewardship Council

Fair Labor Association

Green Suppliers Network

McKinsey Quarterly–Increasing the Energy Efficiency of Supply Chains

McKinsey Quarterly–Climate Change and Supply Chain Management

Pharmaceutical Supply Chain Initiative

Portal for Responsible Supply Chain Management

Rainforest Alliance

Social Accountability International

SustainAbility – Unchaining Value: Innovative approaches to sustainable supply

Verite and CREA–Standards for the Knowledge and Skills of Social Auditors

PERFORMANCE–TRANSPORTATION AND LOGISTICS

Brookings Institute–Pay-As-You-Drive Auto Insurance: A Simple Way to Reduce Driving-Related Harms and Increase Equity

The California Energy Commission–Low Carbon Fuel Standard

Environmental Defense Fund–Corporate Fleet Emissions Survey Report

EPA SmartWay Transport Partnership

Forest Ethics

International Council on Clean Transportation

Natural Resources Defense Council

Union of Concerned Scientists clean vehicle program

World Economic Forum Report–Supply Chain Decarbonization

PERFORMANCE–PRODUCTS AND SERVICES

The 2009 BBMG Conscious Consumer Report

Biomimicry Institute

Center for a New American Dream

Chicago Waste to Profit Network

Cone 2009 Consumer Environmental Survey

Creative Commons

Federal Trade Commission Guides for the use of Environmental Marketing Claims

GoodGuide

Green Xchange

Institute for Environmental Research and Education

International Conference on Engineering Design, 2009–Development of a Framework for Assessing Sustainability in New Product Development

resources

Investor Environmental Health Network (IEHN)

McDonough Cradle to Cradle Protocol

Scientific Applications International Corporation – Life Cycle Assessment: Principles and Practices

Sustainability Consortium

Sustainable Packaging Coalition

U.S. EPA – Design for the Environment Partnership Highlights

World Business Council for Sustainable Development and IBM – Eco-Patent Commons

World Economic Forum – Sustainability for Tomorrow's Consumer: The Business Case for Sustainability

PERFORMANCE – EMPLOYEES

Apollo Alliance

The Aspen Institute – Where Will They Lead? MBA Student Attitudes About Business & Society, 2008

Blue Green Alliance

Calvert Group – Examining the Cracks in the Ceiling – A Survey of Corporate Diversity Practices in the Calvert Social Index

Green America

Green for All

The Labor Network for Sustainability

National Environmental Education Foundation (NEEF)

Net Impact – New Leaders, New Perspectives II

CERES REPORTS/PUBLICATIONS

Ceres 20-20

Investor Network on Climate Risk (INCR)

Climate Risk Disclosure in SEC Filings: An Analysis of 10K Reporting by Oil and Gas, Insurance, Coal, Transportation and Electric Power Companies

Energy Efficiency and Real Estate: Opportunities for Investors

Investors Analyze Climate Risks and Opportunities: A Survey of Asset Managers' Practices

From Risk to Opportunity 2008: Insurer Responses to Climate Change

Corporate Governance and Climate Change: Consumer and Technology Companies

Murky Waters? Corporate Reporting on Water Risk

endnotes

1. Doerr, John. "GreenBeat 2009: Intro and Opening Keynote" in *GreenBeat 2009: The Conference on the Smart Grid.* November 2009. Retrieved from http://events.venturebeat.com/greenbeat2009//video/..
2. Hammond, Allen, William J Kramer, Julia Tran, et. al. *The Next 4 Billion: Market Size and Business Strategy at the Base of the Pyramid.* World Resources Institute and International Finance Corporations, World Bank Group. March, 2007. Retrieved from http://www.wri.org/publication/the-next-4-billion.
3. The Economist Intelligence Unit. *Doing Good: Business and the sustainability challenge.* EIU.com. 17 April 2008. Retrieved from http://www.eiu.com/site_info.asp?info_name=corporate_sustainability.
4. IPCC 2007, "13.3.3.3–Implications of regime stringency: linking goals, participation and timing–Box 13.7," In *Contribution of Working Group III: Mitigation of Climate Change* [Core writing team, B. Metz, O.R. Davidson, P.R. Bosch, R. Dave, L.A. Meyer (eds)]. Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA. 2007. Retrieved from http://www.ipcc.ch/publications_and_data/ar4/wg3/en/ch13-ens13-3-3-3.html.
5. UN-Water. *Coping With Water Scarcity: Challenge of the Twenty-First Century.* 22 March 2007. Retrieved from http://www.fao.org/nr/water/docs/escarcity.pdf.
6. McGiboney, Michelle. "Twitter's Tweet Smell of Success." Nielsenwire. 18 March 2009. Retrieved from http://blog.nielsen.com/nielsenwire/online_mobile/twitters-tweet-smell-of-success/.
7. Goleman, Daniel. "Winning in an Age of Radical Transparency." Harvard Business Publishing blog. 7 May 2009. Retrieved from http://blogs.harvardbusiness.org/leadinggreen/2009/05/radical-transparency.html.
8. Cone. *2009 Consumer Environmental Survey Fact Sheet.* 18 February 2009. Retrieved from http://www.coneinc.com/stuff/contentmgr/files/0/56cf70324c53123abf75a14084bc0b5e/files/2009_cone_consumer_environmental_survey_release_and_fact_sheet.pdf.
9. Penn, Schoen & Berland Associates, Landor, and Burson-Marstellar. *Corporate Citizenship Study.* June 2009. Retrieved from http://www.burson-marsteller.com/Innovation_and_insights/blogs_and_podcasts/BM_Blog/Documents/Corporate Citizenship Executive Summary.pdf.
10. Walsh, Kate. *KLD's Global Climate 100 Index Marks Third Anniversary.* RiskMetricsGroup ESG Insight. 10 July 2008. Retrieved from http://blog.kld.com/uncategorized/kld%E2%80%99s-global-climate-100-index-marks-third-anniversary/.
11. Social Investment Forum. *2007 Report on Socially Responsible Investing Trends in the United States.* Retrieved from http://www.socialinvest.org/pdf/SRI_Trends_ExecSummary_2007.pdf on 20 January 2010.
12. Robeco and Booz & Company. *Responsible Investing: a Paradigm Shift–From Niche to Mainstream.* 23 October 2008. Retrieved from http://investmentadvisor.com/Issues/2009/September%202009/PublishingImages/Whitepaper_ResponsibleInvesting.pdf.
13. UNEP Finance Initiative Asset Management Working Group. *Fiduciary Responsibility: Legal and practical aspects of integrating environmental, social and governance issues into institutional investment.* July 2009. Retrieved from http://www.unepfi.org/fileadmin/documents/fiduciaryII.pdf.
14. The Corporate Board Member and PricewaterhouseCoopers, LLP. *What Directors Think: The Corporate Board Member and PricewaterhouseCoopers Survey 2008.* 2008. Retrieved from http://www.boardmember.com/Article_Details.aspx?id=2267.
15. Calvert Investments. "The Calvert Social Index." Calvert Invstments, a product of UNIVI. 2010. Retrieved from http://www.calvertgroup.com/sri-index.html.
16. Deutsch, Claudia. "Companies Giving Green an Office." *The New York Times.* 3 July 2007. Retrieved from http://www.nytimes.com/2007/07/03/business/03sustain.html.
17. Whitehead, Jay. "CRO/CSO Data Trend." E-mail to Natasha Scotnicki. 28 July 2009.
18. Eurosif. *Investment Consultants and Responsible Investment Study.* 2009. Received from http://www.eurosif.org/media/files/eurosif_investment_consultants_ri_study.
19. Wagner, Steve, Eric Hespenhide and Kate Pavlovsky. "The responsible and sustainable board." *Deloitte Review* Issue 4, p. 68. January 2009. Retrieved from http://www.deloitte.com/assets/Dcom-UnitedStates/Local%20Assets/Documents/US_deloittereview_ResponsibleSustainableBoard_Jan09.pdf.
20. Fitzpatrick, Kalpana. "CaLPERS boosts corporate governance strategy." Pensions Gym. 23 April 2008. Retrieved from: http://www.pensionsgym.com/pensions-news/archive/more.asp?article=2926.
21. "The Wingspread Statement on the Precautionary Principle." SEHN.com. January 1998. Retrieved from http://www.sehn.org/state.html#w.
22. Stiglitz, Joseph E., Jonathan M. Orszag and Peter R. Orszag. *The Impact of Asbestos Liabilities on Workers in Bankrupt Firms.* Sebago Associates, commissioned by the American Insurance Association. Washington, DC, 2002.
23. Ceres. "Gap, eBay, and Symatec Join Business Coalition Calling for Action on Clean Energy & Climate Change." Ceres.com. Boston, MA, 12 March 2009. Retrieved from http://www.ceres.org/Page.aspx?pid=1060.
24. Slater, Allison. *KPMG International Survey of Corporate Responsibility Reporting 2008.* KPMG.com. October 2008. Retrieved from http://us.kpmg.com/RutUS_prod/Documents/8/Corporate_Sustainability_Report_US_Final.pdf.
25. IBM. "A measured Approach to Going Green: IBM 'Green Sigma' consulting offering to help clients reduce energy and water usage." IBM.com. 18 August 2008. Retrieved at http://www-935.ibm.com/services/us/gbs/bus/pdf/gbe03019-usen-02.pdf.
26. Ceres. "Sustainability Shareholder Resolution Trends 2000–2009." Graph. Boston, MA, 2009.
27. Ceres. "Identifying Stakeholders." Diagram. Boston, MA, 2009.
28. "Managing CR." *2009 Vodafone Corporate Responsibility Report.* N.p., 31 March 2009. Retrieved from http://www.vodafone.com/static/cr_report09/approach/managing-cr.html.
29. Herz, Steven, Antonio La Vina and Jonathan Sohn. *Development Without Conflict: The Business Case for Community Consent.* May 2007. Retrieved from http://www.wri.org/publication/development-without-conflict.
30. Immelt, Jeff. "Chairman's Presentation to the General Electric Shareholders." General Electric Annual Shareholders Meeting, N.p. 22 April 2009. Retrieved from http://www.ge.com/pdf/investors/events/04222009/ge_earnings_transcript_04222009_english.pdf.

endnotes

31. AEP. *AEP 2009 Corporate Sustainability Report.* 2009. 20 January 2010 http://www.aep.com/citizenship/crreport/

32. Ceres. "Bloomberg L.P. Joins the Ceres Network." Ceres.com. 9 April 2009. 20 January 2010 <http://www.ceres.org/Page.aspx?pid=1067>.

33. Ahlering, Jane. "RE: 2009 Ceres–ACCA Sustainability Reporting Awards." E-mail to Kristen Lang. 5 November 2009.

34. Slater, Allison. *KPMG International Survey of Corporate Responsibility Reporting 2008.* KPMG.com. October 2008. Retrieved from http://us.kpmg.com/RutUS_prod/Documents/8/Corporate_Sustainability_Report_US_Final.pdf.

35. Global Reporting Initiative. "Number of companies worldwide reporting on their sustainability performance reaches record high, yet still a minority." 15 July 2009. Retrieved at http://www.globalreporting.org/NewsEventsPress/LatestPressReleases/2009/PressRelease_14_July_2006_1000GRIReports.htm.

36. PricewaterhouseCoopers, LLP and Carbon Disclosure Project. *Supply Chain Report 2009.* CDProject.net. 2009. Retrieved from https://www.cdproject.net/CDPResults/65_329_201_CDP-Supply-Chain-Report_2009.pdf

37. Ruggie, John. *Human Rights Policies and Management Practices of Fortune Global 500 Firms: Results of a Survey.* September 2006. Retrieved from http://www.reports-and-materials.org/Ruggie-survey-Fortune-Global-500.pdf.

38. Global Reporting Initiative, Realizing Rights Initiative, and The Global Compancy. *A Resource Guide to Corporate Human Rights Reporting.* 2009. Retrieved from http://www.globalreporting.org/NR/rdonlyres/4C5DB4C6-5084-4A84-BE51-0D134B3B5A2E/3583/HR_ReportFINAL_Resource_Guide.pdf.

39. Lydenberg, Steve and Katie Grace. *Innovations in Social and Environmental Disclosure Outside the United States.* November 2008. Domini Social Investments and Social Investment Forum. Retrieved from http://www.domini.com/common/pdf/Innovations_in_Disclosure.pdf.

40. Suncor Energy. *Climate Change, We're Listening, We're Responding: 2008 progress report on climate change.* 2008. Retrieved from http://www.suncor.com/pdf/climate-change-report-2008.pdf.

41. Fortum. "Scope 3 Emissions." Fortum.com. Retrieved from http://www.fortum.com/document.asp?path=14022;14024;14026;14043;14116;14118;33833;48099;48105&level=4 on 20 January 2010.

42. Japan Environmental Management Association for Industry. *Carbon Footprint of Products.* Jemai.or.jp. September 2009. Retrieved from http://www.jemai.or.jp/english/carbonfootprint.cfm.

43. ECOBILAN. "Fiches de dêclarations environnementales pour le Batiment." 2008. Retrieved from http://fdes.ecobilan.com/fr/Fiche-de-declaration-environnementale-et-sanitaire-Achats-verts.php on 24 January 2010.

44. Immelt, Jeff. "Renewing American Leadership." Distinguished Leader Series, Black and Gold Forum. United States Military Academy at West Point, New York. 9 December 2009. Retrieved from http://files.gereports.com/wp-content/uploads/2009/12/90304-2-JRI-Speech-Reprint1-557.qxd_8.5x11.pdf.

45. McKinsey & Company. *Unlocking Energy Efficiency in the US Economy.* July 2009. Retrieved from http://www.mckinsey.com/clientservice/electricpowernaturalgas/US_energy_efficiency/.

46. UN Environment Program Sustainable Energy Finance Initiative (SEFI) and New Energy Finance. *Global Trends in Sustainable Energy Investment 2009.* July 2009. Retrieved from http://sefi.unep.org/english/globaltrends2009.html.

47. Renewable Energy World.com. "Installed US Wind Energy Capacity Grows by Record 8,300 MW." Washington D.C. 29 January 2009. Retrieved from http:/www.renewableenergyworld.com/rea/news/article/2009/01/installed-us-wind-energy-capacity-grows-by-record-8300-mw-54619.

48. Sherwood, Larry. *U.S. Solar Market Trends 2008.* Interstate Renewable Energy Council. July 2009. Retrieved from http://www.irecusa.org/fileadmin/user_upload/NationalOutreachDocs/SolarTrendsReports/IREC_Solar_Market_Trends_Report_2008.pdf.

49. World Business Council for Sustainable Development (WBSCD). *Transforming the Market: Energy Efficiency in Buildings.* 26 April 2009. Retrieved from http://www.wbcsd.org/Plugins/DocSearch/details.asp?DocTypeId=25&ObjectId=MzQyMDQ.

50. McGraw Hill Construction and Siemens. *2009 Greening of Corporate America: The Pathway to Sustainability.* 2009. Retrieved from http://construction.com/market_research/FreeReport/GreeningCorpAmerica/GreeningCorporateAmerica.asp.

51. McKinsey & Company. *The Global Corporate Water Footprint: Risks, Opportunities, and Management Options.* 2009. Retrieved from http://www.mckinsey.com/clientservice/ccsi/pdf/Report_Large_Water_Users.pdf.

52. United Nations Global Compact. "CEO Water Mandate." The Foundation for the Global Compact. July 2007. Retrieved from http://www.unglobalcompact.org/Issues/Environment/CEO_Water_Mandate/.

53. U.S. Environmental Protection Agency. "Essential Principles for Reform of Chemicals Management Legislation." EPA.gov. 30 September 2009. Retrieved at http://www.epa.gov/oppt/existingchemicals/pubs/principles.html.

54. United Nations, Global Compact. "CEO Statement: 60th Anniversary of the Universal Declaration for Human Rights." UNGlobalCompact.org. 20 November 2008. Retrieved from http://www.unglobalcompact.org/Issues/human_rights/CEO_Statement_List.html.

55. *Further clarification:* Ceres' position is aligned with scientific targets that call for the U.S. to achieve ghg emission reductions of 80% below 1990 baseline levels by 2050 and at least 25% reduction below 1990 by 2020. This expectation uses 2005 as the baseline, as this is consistent with pending U.S. climate policy legislation.

56. *Further clarification:* Previously Ceres used a target of 20%. In the light of the prevailing climate science and the scale of the problem, we have adopted a more aggressive target.

57. *Further clarification:* Nuclear power is a low-carbon source of electricity but poses a range of risks including waste disposal, safety, security and cost. Companies wishing to employ nuclear energy as a low-carbon resource should ensure that these risks are adequately addressed by the supplier.

58. United States. Department of Energy, Industrial Technologies Program. *Best Practices: Corporate Energy Management Case Study.* Washington, DC, May 2004.

59. Intel. *2008 Intel Corporate Responsibility Report.* Intel.com. 2009. Retrieved from http://www.intel.com/intel/cr/gcr/overview.htm.

60. Staples. "Energy and Climate." Staples.com. Retrieved from http://www.staples.com/sbd/content/about/soul/energyclimate.html on 20 January 2010.

endnotes

61. Kats, Gregory. *Green Building Costs and Financial Benefits.* Published in USA Massachusetts Technology Collaborative. 2003. Retrieved from http://www.noharm.org/lib/downloads/building/Building_Green_Costs_Benefits_Sum.pdf

62. U.S Green Building Council. "Genzyme Project Overview." USGBC.org. Retrieved from http://leedcasestudies.usgbc.org/overview.cfm?ProjectID=274 on 20 January 2010.

63. Martin, Andrew. "In Eco-Friendly Factory, Low-Guilt Potato Chips." NYTimes.com. 15 November 2007. Retrieved from http://www.nytimes.com/2007/11/15/business/15plant.html.

64. Jones Lang LaSalle. "Jones Lang LaSalle Enrolls 100% of its U.S. Property Management Portfolio in ENERGY STAR." JonesLangLaSalle.com. Chicago, October 2009. Retrieved from http://www.us.am.joneslanglasalle.com/UnitedStates/EN-US/Pages/NewsDetail.aspx?ItemID=18014.

65. Scott, Luci. "Chandler company to help McDonald's cut energy use, cost." The Arizona Republic. 1 January 2009. Retrieved from http://www.azcentral.com/community/chandler/articles/2008/12/31/20081231cr-engenuity0102.html?&wired.

66. Sarzynski, Andrea, Marilyn Brown, and Frank Southworth. *Shrinking the Carbon Footprint of Metropolitan America.* The Brookings Institution. 29 May 2008. Retrieved from http://www.brookings.edu/reports/2008/05_carbon_footprint_sarzynski.aspx.

67. The United States Conference of Mayors. *Taking Local Action: Mayors and Climate Protection Best Practices.* June 2009. Retrieved from http://www.usmayors.org/pressreleases/uploads/ClimateBestPractices061209.pdf.

68. Green Buildings, Department of Buildings. "Green Buildings." Retrieved from http://egov.cityofchicago.org/city/webportal/portalEntityHomeAction.do?entityName=Green+Buildings&entityNameEnumValue=19 in January 2010.

69. NALGEP and Smart Growth Leadership Institute. *Smart Growth is Smart Business.* Washington, DC, 2004.

70. Unilever. "Environmental Responsibility: Water." Unilever.com. Retrieved from http://www.unilever.com/sustainability/environment/water/?WT.LHNAV=Water on 20 January 2010.

71. Bunn, Simon. *Greenhouse Gas Reduction as an Additional Benefit of Optimal Pump Scheduling for Water Utilities.* IBM Journal of Research and Development. 6 April 2009. Retrieved from http://www.derceto.com/cms/lib/334.pdf.

72. California Energy Commission. *California's Water-Energy Relationship.* Prepared in support of the 2005 Integrated Energy Policy Report Proceeding. November 2005. Retrieved from http://www.energy.ca.gov/2005publications/CEC-700-2005-011/CEC-700-2005-011-SF.PDF.

73. Williams, Peter. "Written Testimony of IBM to The US Senate Committee on Energy and Natural Resources, In Support of a Hearing on the Energy-Water Nexus." 10 March, 2009. Email to Brooke Barton.

74. "Global EcoMetrics." Retrieved from http://www.interfaceglobal.com/getdoc/7e96b54e-ad49-4eff-9877-38a55df0396d/Global-EcoMetrics.aspx on March 11, 2010.

75. Industrial Symbiosis. "Steam and Heat." Symbiosis.dk. Retrieved from http://www.symbiosis.dk/resources/steam.aspxon 20 January 2010.

76. Chicago Waste to Profit Network. "Chicago Waste to Profit Network." Retrieved from http://www.wastetoprofit.org/home.html in January, 2010.

77. Brickman, Chris and Drew Ungerman. *Climate Change and Supply Chain Management.* McKinsey Quarterly. July 2008. Retrieved from https://www.mckinseyquarterly.com/ghost.aspx?ID=/Climate_change_and_supply-chain_management_2175.

78. UN Webcast. "Summary Report to the Human Rights Council of the UN by the Special Representative of the Secretary General on Transnational Corporations and Human Rights." A/HRC/11/13; 22 April 2009. Retrieved from http://www.un.org/webcast/unhrc/archive.asp?go=011.

79. U.S. Environmental Protection Agency. "Green Suppliers Network." Retrieved from http://www.epa.gov/oppt/ar/2007-2009/working/gsn.htm on January 20, 2010.

80. Brickman, Chris and Drew Ungerman. *Climate Change and Supply Chain Management.* McKinsey Quarterly. July 2008. Retrieved from https://www.mckinseyquarterly.com/ghost.aspx?ID=/Climate_change_and_supply-chain_management_2175.

81. Bruel, Olivier, Olivier Menuet, and Pierre-Francois Thaler. *Sustainable Procurement: a Crucial Lever to End the Crisis?* HEC Paris, SNCF, and Ecovadis. 2009. Retrieved from http://www.hec.edu/News/Homepage/Knowledge-impact/The-HEC-EcoVadis-2009-Barometer-Sustainable-Procurement-a-crucial-lever-to-end-the-crisis.

82. Risk Metrics Group. *Governance White Paper: One in Five Large Firms Set Labor Supplier Standards.* 7 April 2008. Retrieved from http://www.riskmetrics.com/node/135625.

83. As You Sow. *2009 Proxy Preview.* Spring 2009. Retrieved from http://www.asyousow.org/csr/proxyvoting.shtml.

84. Social Accountability International. "SAI Training Programs." Retrieved from: http://www.sa-intl.org/index.cfm?fuseaction=Page.viewPage&pageId=553&parentID=473&nodeID=1 in December, 2009.

85. Greenpeace International. *Eating Up the Amazon.* 6 April 2006. Retrieved from http://www.greenpeace.org/international/press/reports/eating-up-the-amazon.

86. The Hackett Group. "The Hackett Group: Supplier Diversity Does not Drive Increased Costs." 17 August 2006. Retrieved from http://www.thehackettgroup.com/about/alerts/alerts_2006/alert_08172006.jsp.

87. Gap. "Supply Chain: Our Program in Action." Gap, Inc. 2007-2008 Social Responsibility Report. 2009. 20 January 2009 http://www.gapinc.com/GapIncSubSites/csr/Goals/SupplyChain/Program/SC_Purchasing_Practices_Program.shtml

88. General Mills. *2009 General Mills Corporate Social Responsibility Report.* N.p., 2009. Retrieved from http://www.generalmills.com/corporate/commitment/NEW_CSR_2009.pdf.

89. BSR. *Moving the Needle: Protecting the Rights of Garment Factory Workers.* N.p., October 2009. Retrieved from http://www.bsr.org/reports/BSR_LeviStraussFoundation2009.pdf.

90. U.S. Environmental Protection Agency (EPA). *Executive Summary: Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2007.* April 2009. http://www.epa.gov/climatechange/emissions/downloads09/ExecutiveSummary.pdf.

91. Sperling, Daniel. "Biofuels and the LCFS." 12 May 2009. Retrieved from http://biomass.ucdavis.edu/materials/forums%20and%20workshops/f2009/0.2_Dan%20Sperling.pdf.

92. Varmazis, Maria. "'Green' Procurement Goes into the Black." Purchasing.com. 8 May 2008. http://www.purchasing.com/article/220103-_Green_procurement_goes_into_the_black.php.

93. Meyer, Tobias A. *Energy Efficient Supply Chains.* McKinsey Quarterly. August 2009. Retrieved from http://www.mckinseyquarterly.com/Increasing_the_energy_efficiency_of_supply_chains_2414?pagenum=1#interactive.

endnotes

94. Mathers, Jason. "Corporate Fleets Continue to Innovate for Climate Reductions." *Greenbiz.com.* 7 December 2009. Retrieved from http://www.greenbiz.com/blog/2009/12/07/corporate-fleets-continue-innovate-emission-reductions on 20 January 2010.

95. The International Council on Clean Transportation. *Air Pollution and Greenhouse Gas Emissions from Ocean-Going Ships: Impacts, Mitigation Options and Opportunities for Managing Growth.* 2007. Retrieved from http://www.theicct.org/.

96. Davis, Stacy C., Susan W. Diegel, and Robert G. Boundy. *Transportation Energy Data Book, 28th ed.* U.S. Department of Energy. 2009. Retrieved at http://www-cta.ornl.gov/data/index.shtml

97. Frey, H. Christopher. "Identification and Evaluation of Potential Best Practices for Greenhouse Gas Reductions in Freight Transportation." California Air Resources Board Chair's Air Pollution Seminar Series. 9 January 2008. Retrieved from http://www.arb.ca.gov/research/seminars/sem08.htm.

98. World Economic Forum. *Supply chain decarbonization:The role of logistics and transport in reducing supply chain carbon emissions.* January 2009. Retreived from http://www.weforum.org/pdf/ip/SupplyChainDecarbonization.pdf

99. Environmental Defense Fund. *Corporate Fleet Emissions Survey Report.* 2009. Retrieved at http://www.edf.org/documents/10434_fleet-benchmarking-survey.pdf.

100. UPS. *2008 UPS Corporate Sustainability Report.* N.p., 2009. Retrieved from http://www.sustainability.ups.com/community/Static%20Files/sustainability/2008_CSR_PDF_Report.pdf.

101. Sodexo. *Sustainable Food Procurement.* Dublin, 2008. Retrieved from http://uk.sodexo.com/uken/Images/SustainableProcurementbrochure_tcm15-160012.pdf.

102. Blanchard, David. "SC Johnson Finds a 'Greener' Way to Load Trucks." *Industry Week.* 8 February 2008. Retrieved from http://www.industryweek.com/articles/sc_johnson_finds_a_greener_way_to_load_trucks_15608.aspx.

103. World Economic Forum. Supply chain decarbonization:The role of logistics and transport in reducing supply chain carbon emissions. January 2009. Retreived from http://www.weforum.org/pdf/ip/SupplyChainDecarbonization.pdf

104. Bearing Point Management & Technology Consultants. *Insight Survey Report: 2008 Supply Chain Monitor "How mature is the Green Supply Chain?"* 2008. Retrieved from http://www.escp-eap.eu/uploads/media/Supply_Chain_Observatory_2008.pdf.

105. Natural Resources Defense Council. "Green Business: Green Business Guides." Retrieved from: http://www.nrdc.org/enterprise/greeningadvisor/ta-idling.asp in December, 2009.

106. Simchi, Levi. "CO2 Emissions by Transport Mode," In "Supply Chain Graphic of the Week: CO2 Emissions by Transportation Mode." 1 July 2009. Supply Chain Digest. Retrieved from: http://www.scdigest.com/assets/newsviews/09-07-01-1.php?cid=2548&ctype=content.

107. Baxter. "Baxter Facilities Worldwide Observe 'Baxter World Environment Week' with Local Initiatives." Baxter.com. 31 August 2009. Retrieved from http://www.baxter.com/about_baxter/press_room/press_releases/2009/08_31_09-environment_week.html.

108. Iveco. "Iveco-FedEx Express: first results of the Daily hybrid evaluation." Iveco.com. 6 April 2009. Retrieved from http://www.iveco.com/en-us/PressRoom/PressRelease/Pages/FedEx-apr09.aspx.

109. Clif Bar. "Moving Towards Sustainability: Working to Reduce our Ecological Footprint." *Clif Bar Sustainability Newsletter, Issue 4.* Winter, 2006. Retrieved from http://www.clifbar.com/uploads/default/Sustainability_Issue4..winter2006.pdf.

110. Young, Tom. "US Energy Firms Commit to Electric Vehicle Fleets." *BusinessGreen.com.* 28 September 2009. Retrieved from http://www.businessgreen.com/business-green/news/2250177/energy-firms-commit-electric.

111. UPS. "Letter from the Chairman." 2008 UPS Corporate Sustainability Report. 2009. 20 January 2010 http://www.sustainability.ups.com/community/Static%20Files/sustainability/2008_CSR_PDF_Report.pdf.

112. Cisco. "Cisco Study Finds Telecommuting Significantly Increases Employee Productivity, Work-life Flexibility, and Job Satisfaction." Cisco.com. San Jose, California, June 2009. Retrieved from http://newsroom.cisco.com/dlls/2009/prod_062609.html.

113. "Telecommuting Touted for Carbon Reduction." *Environmental Leader.* Environmentalleader.com. 27 July 2009. Retrieved from http://www.environmentalleader.com/2009/07/27/telecommuting-touted-for-carbon-reduction/.

114. Bordoff, Jason and Pascal J Noel. *Pay-As-You-Drive Auto Insurance: A Simple Way to Reduce Driving-Related Harms and Increase Equity.* The Brookings Institution, July 2008. Retreived from http://www.brookings.edu/papers/2008/07_payd_bordoffnoel.aspx.

115. Hammond, Allen, William J Kramer, Julia Tran, et. al. *The Next 4 Billion: Market Size and Business Strategy at the Base of the Pyramid.* World Resources Institute and International Finance Corporations, World Bank Group. March, 2007. Retrieved from http://www.wri.org/publication/the-next-4-billion.

116. EurActive.com. "HSBC: World climate business revenue $2 trin by 2020." EurActiv.com. World Business Council for Sustainable Development. 21 September 2009. Retrieved from http://www.euractiv.com/en/climate-change/hsbc-world-climate-business-revenue-2-trln-2020/article-185596.

117. Pohle, George and Jeff Hittner. *Attaining sustainable growth through corporate social responsibility. IBM Institute for Business Value.* 2008. Retrieved from http://www-935.ibm.com/services/us/gbs/bus/pdf/gbe03019-usen-02.pdf.

118. Hammond, Allen, William J Kramer, Julia Tran, et. al. *The Next 4 Billion: Market Size and Business Strategy at the Base of the Pyramid.* World Resources Institute and International Finance Corporations, World Bank Group. March, 2007. Retrieved from http://www.wri.org/publication/the-next-4-billion. P. 9.

119. BBMG. *BBMG Conscious Consumer Report: Redefining value in a new economy.* 2009, Retreived from http://www.bbmg.com/enewsletter/bbmg_be_0409.html.

120. The Organic Trade Association. *2009 Organic Industry Survey, Executive Summary.* May, 2009. Retrieved from http://www.ota.com/pics/documents/01a_OTAExecutiveSummary.pdf.

121. Investor Environmental Health Network. "Shareholder Resolutions." http://iehn.org/resolutions.shareholder.php. Last accessed January 22, 2010.

122. Keegan, Paul. "Zipcar- The best new idea in business." *Fortune.* 27 August 2009. Retrieved from http://money.cnn.com/2009/08/26/news/companies/zipcar_car_rentals.fortune/.

endnotes

123. Hammond, Allen, William J Kramer, Julia Tran, et. al. The Next 4 Billion: Market Size and Business Strategy at the Base of the Pyramid. World Resources Institute and International Finance Corporations, World Bank Group. March, 2007. Retrieved from http://www.wri.org/publication/the-next-4-billion.

124. Unilever. "India: Lifebuoy promotes handwashing with soap to improve health." Retrieved from http://www.unilever.com/sustainability/casestudies/health-nutrition-hygiene/indialifebuoypromoteshandwashingwithsoaptoimprovehealth.aspx on 20 January 2010.

125. Autodesk. "Improving Environmental Performance Through Life Cycle Assessment and Digital Prototyping."Autodesk.com. Retrieved from http://usa.autodesk.com/company/sustainable-design/articles/improving-environmental-performance-through-life-cycle-assessment-and-digital-prototyping on 20 January 2009.

126. GreenerDesign Staff. "Canon Unveils First Products Developed With Life Cycle Thinking." *Greenbiz.com.* 23 September 2009. Retrieved from http://www.greenbiz.com/news/2009/09/23/canon-unveils-first-products-developed-life-cycle-thinking.

127. Xerox. "Xerox's Emulsion Aggregation Toner–An Environmentally Friendly Technology." August 1, 2006. Retrieved from http://www.fujixerox.com.au/environment/design_environment.jsp.

128. U.S. Environmental Protection Agency: Green Chemistry. *Summary of 2007 Award Entries and Recipients.* Presidential Green Chemistry Awards. Washington, DC, 2007. Retrieved from http://www.epa.gov/opptintr/greenchemistry/pubs/pgcc/winners/dgca07.html.

129. U.S. Environmental Protection Agency. *Design for the Environment Partnership Highlights.* March 2006. Retrieved from http://www.epa.gov/dfe/pubs/index.htm.

130. Kanter, Rosabeth Moss. "*SUPERCORP: How Vanguard Companies Create Innovation, Profits, Growth, and Social Good.*" 2010.

131. Calvert Investments. *Examing the Cracks in the Ceiling: A Survey of Corporate Diversity Practices in the Calvert Social Index.* September 2008. Retrieved from http://www.calvertgroup.com/NRC/Literature/Documents/CorporateDiversity2008.pdf

132. Trumka, Richard L. "Spotlight on the Jobs Crisis." Economic Policy Institute, Washington, DC. 17 November 2009. 20 January 2010 http://www.aflcio.org/mediacenter/prsptm/sp11172009.cfm.

133. The Aspen Institute Business and Society Program. *Where Will They Lead?* 2008. MBA Student Attitudes About Business and Society. April 2008. Retrieved from http://www.aspencbe.org/documents/ExecutiveSummaryMBAStudentAttitudesReport2008.pdf.

134. Net Impact. *New Leaders, New Perspectives II: A Net Impact Survey of Undergraduate Student Opinions on the Relationship Between Business and Social/Environmental Issues.* September 2007. Retrieved from http://www.netimpact.org/associations/4342/files/Undergrad_Perspectives_Report_final.pdf.

135. McKinsey & Company. *McKinsey Global Survey Results. Valuing corporate social responsibility.* McKinsey Quarterly. 2008. Retrieved from commdev.org/files/2393_file_McKQ_Valuing_Corporate_Social_Responsibility.pdf January 24, 2010.

136. Suncor Energy. "Excellence in Reporting." 2008. Retrieved from http://www.suncor.com/en/responsible/1879.aspx

137. *Further clarification:* Sun Microsystems Inc. is now owned by Oracle Corporation. The acquisition was completed on January 27, 2010.

138. Recovery.gov. "Track the Money." Retrieved from http://www.recovery.gov/Pages/home.aspx in December, 2009.

139. Garret-Peltier, Heidi, James Heintz, and Robert Pollin. *The Economic Benefits of Investing in Clean Energy: How the economic stimulus program and new legislation can boost U.S. economic growth and employment.* Amherst, Massachusetts, June 2009. Retrieved from http://www.americanprogress.org issues/2009/06/pdf/peri_report.pdf.

140. Johnson & Johnson. *2008 Sustainability Report.* New Brunswick, NJ, 2008.

141. Herman Miller, Inc.. *Our Journey Toward a Better World Around You: A Report From Herman Miller, Inc. 2009.* Zeeland, Michigan, 2009.

142. eBay. "About Us- eBay Green Team." eBay.com. Retrieved from http://www.ebaygreenteam.com/about-us on 20 January 2010.

143. Jones Lang LaSalle. "Inside Environment: Employee Training." JonesLangLaSalle.com. Retrieved from http://www.joneslanglasalle.com/csr/environment/Pages/EmployeeTraining.aspx on 20 January 2010.

144. Swiss Re. "Swiss Re Staff Actively Contribute to Reducing CO2 Emissions." SwissRe.com. 21 January 2008. Retrieved from http://www.swissre.com/pws/media%20centre/news/news%20releases%202008/coyou2_release_january_2008_1_year.html.

145. McDonough, William and Michael Braungart. *Cradle to Cradle*. North Point Press, 2002.

146. Organization for Economic Co-operation and Development. "Fact Sheet: Extended Producer Responsibility." Environment Directorate. Retrieved from http://www.oecd.org/document/53/0,3343,en_2649_34395_37284725_1_1_1_1,00.htm in November 2009.

147. San Diego Association of Governments (SANDAG). "Smart Growth Definition, Principles, and Designations." 2003. Retrieved from http://www.lisc.org/san_diego/assets/asset_upload_file873_6802.pdf.

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