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TABLE OF CONTENTS

SUSTAINABILITY TODAY	3
AMEC’S COMMITMENT TO SUSTAINABILITY	6
BIOENGINEERING GROUP: DEFINING SUSTAINABILITY—AND APPLYING IT	10
UPDATE: CDM SUSTAINABILITY PERFORMANCE IMPROVEMENT	12
UPDATE: DAVID EVANS AND ASSOCIATES, INC.	14
ENTRIX SUSTAINABILITY ROADMAP: A STRATEGIC APPROACH TO FULL INTEGRATION OF SUSTAINABILITY	15
THE ERM FOUNDATION’S LOW CARBON ENTERPRISE FUND: SEEDING ENTERPRISE AND INNOVATION IN THE DEVELOPING WORLD	19
SUSTAINABILITY AND CORPORATE SOCIAL RESPONSIBILITY AT GHD	22
IMPLEMENTING A GLOBAL SUSTAINABILITY INITIATIVE – BEST PRACTICES FOR CONSULTING FIRMS FROM GOLDR ASSOCIATES CORPORATION	25
SUSTAINABILITY AT HALCROW	28
SUSTAINABILITY AT HNTB: A WAY OF LIFE	32
H.W. LOCHNER	34
SUSTAINABLE INNOVATION AT JFNEW	37
PARSONS BRINCKERHOFF: BUILDING ON OUR FOUNDER’S COMMITMENT TO SUSTAINABILITY	40
SCS ENGINEERS SUSTAINABILITY PROGRAM	42
SKM SUSTAINABILITY PROGRESS REPORT	44
WESTON SOLUTIONS, INC: A HISTORY OF MAKING A DIFFERENCE	46
WILLDAN ENERGY SOLUTIONS IS COMMITTED TO SUSTAINABILITY	50
ZOFNASS PROGRAM FOR INFRASTRUCTURE SUSTAINABILITY AT THE HARVARD GRADUATE SCHOOL OF DESIGN	52
FINAL COMMENTS: THE ESSENTIAL TRANSITION TO SUSTAINABLE DESIGN	53

SUSTAINABILITY TODAY

By Patricia Chin-Sweeney, EFCCG

Developing Effective Integrated CSR Strategies

“Corporate Social Responsibility can, and should, be much more than a cost, a constraint, or a charitable deed. With the proper strategy, it can be a valuable source of opportunity, innovation and competitive advantage.”

*Michael Porter
Harvard Business School*

In the last issue of this newsletter, I mentioned Michael Porter’s article emphasizing the alignment of corporate social responsibility with core business strategy. Does this integrated approach begin to make more sense in challenging economic times such as these? The traditional perspective on CSR implies separate budgets: the financial budget and then, one set aside for “doing good.” This approach seems financially and operationally inefficient, and it pigeonholes “doing good” as if it were an afterthought stitched on to your company’s core product. If getting approval for CSR programs is becoming a challenge, perhaps consider how you can simultaneously achieve marketing, communications, maybe even HR goals, while also protecting the environment or improving the local community.

In 2007, McKinsey & Company released a report on The State of Corporate Philanthropy. That year, U.S. corporations spent more than \$30 billion¹ on corporate social responsibility (CSR) programs and corporate philanthropy. Year after year, the vast majority of this investment is spent on community development and environmental projects that have limited relevance to the company’s core business model. According to McKinsey, only 23% of companies align their CSR program investments with their business needs. Far fewer companies have CSR programs that are actually effective in regards to their impact on either the community or the corporation.

Roughly one fifth of the respondents say their corporate philanthropy programs are very or extremely effective at meeting social goals and stakeholder expectations. What differentiates this one-fifth from the others? Their programs are more likely to address social and political trends relevant to the business and to be influenced by community and business needs. Executives at these companies expect their programs to become more global and say that efforts are already more likely to involve collaboration with other companies. Finally, these companies are more likely than others to say they are achieving business goals set for their philanthropy programs in addition to social goals.

Here are some additional considerations in assessing your program:

- When is the last time you reviewed and updated your business’ core principles? If these principles were developed decades ago, are they still in line with current trends and considerate of the global market in which you operate?
- Are you engaging your employees and stakeholders in the development process? Staff buy-in is particularly key to any successful internal initiative.
- If you do not quantify your environmental and/or social program improvements, how do you know whether you are doing anything effective at all? (Sure, you can still gauge improvements in employee morale, but why stop with just that return?)
- To what standards do you hold your company’s social and environmental policies and practices? Is it comparable to your other business metrics? Are policies mandatory or advisory? What does

¹ “The State of Corporate Philanthropy: A McKinsey Global Survey”; The McKinsey Quarterly, January 2007

the level of integration within your operations say about the true culture and priorities of your company?

- How do you structurally align your organization with incentives that yield your ultimate goals?

What the data shows...

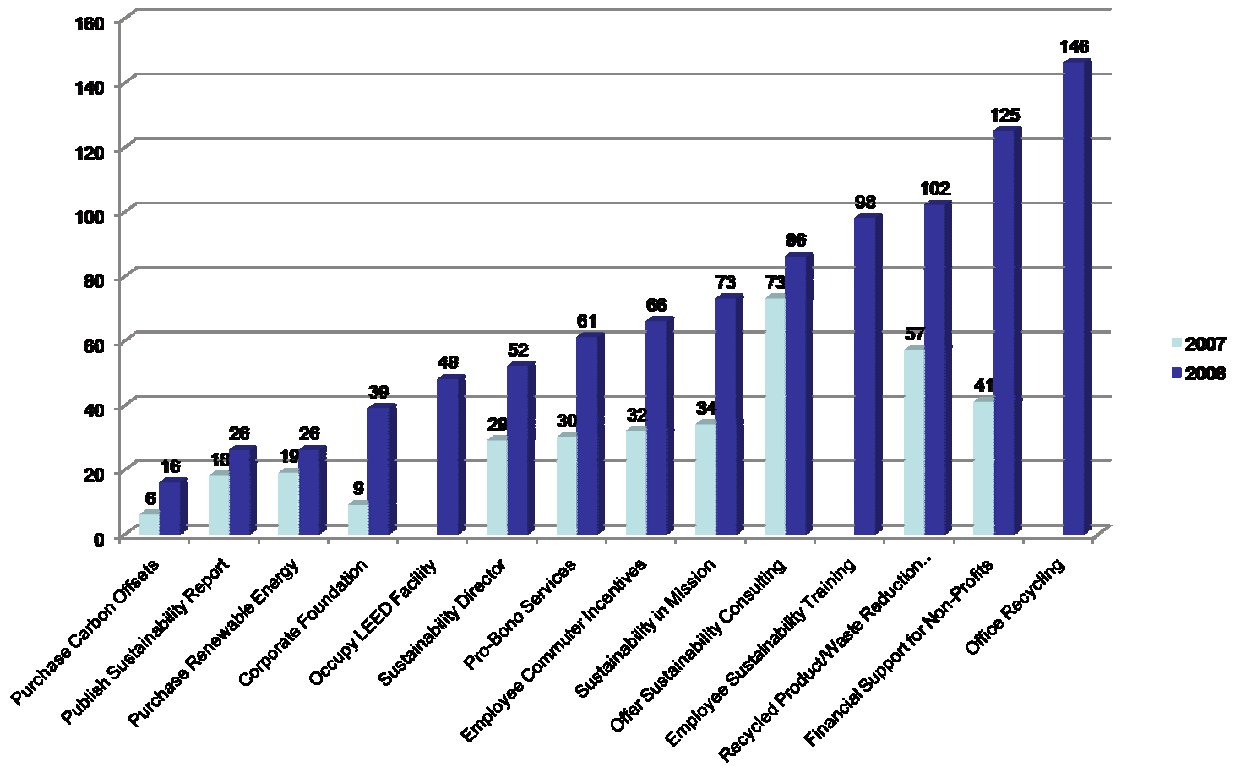
Data from EFCG’s CEO Conference last October indicates substantial year-over-year improvements in CSR activities. Congratulations to the industry for increasingly making CSR a standard practice. The sheer increase in respondents to the Sustainability section of the survey, from 86 to 159 respondents, speaks to the growing interest in CSR.

While not every firm completed the Sustainability questions, for the most part, we see CSR programs as a standard among the larger, global firms. Smaller firms and those specialized in non-environmental areas seem to be the slowest to adopt such policies. The chart below indicates year over year changes in CSR-related activities among Conference participants.

Sustainability Practices: 2008 vs. 2007

2008: 159 Respondents

2007: 86 Respondents



Note: Occupy LEED Facilities; Employee Sustainability Training; and Office Recycling were not included as separate categories on the survey last year, therefore, only 2008 data were included.

Not surprisingly, the basic practices of office recycling and charitable giving continue to be most common and among the first initiatives implemented. On the other hand, low response rates for carbon offsets, sustainability reporting, and renewable energy purchases, continue to lag in firm adoption. Perhaps this is because renewable energy and carbon-offset purchases are still fairly controversial and new with only limited third party auditing standards to date.

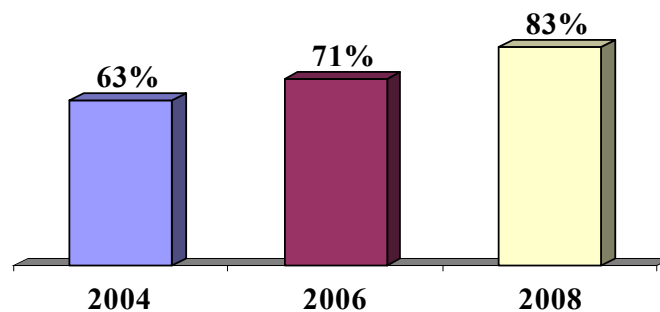
How does the engineering/consulting industry compare to other industries?

While the CSR sector is a very early stage industry, and accurate statistics for market size and corporate budget allocations are not currently available, RDI has consulted with a number of industry experts to develop a firm understanding of the current and future CSR market.

A THINK Resources 2008 report “Giving in Numbers”, estimated that in 2007, the 155 Fortune 500 companies they sampled spent over \$5 billion on CSR initiatives dedicated to community investment, and an additional \$4.6 billion on community and economic development programs. Boston College’s Center for Corporate Citizenship (BCCC), a widely recognized expert in CSR industry research, surveyed CEO’s at 330 top companies, and found that in 2008, 65% had designated CSR departments. 71% of these companies spent over \$1.1 billion on new initiatives that integrated CSR and business strategy. IBM’s 2008 Global CEO Study, which surveyed 1,130 CEO and managers from top companies around the world, indicated that CEOs plan to increase CSR spending by 25% over the next 3 years in order to meet demands of “an emerging generation of socially minded customers and investors”. Of the 9 change drivers listed in IBM’s report, only CSR related issues consistently increased in importance to CEO’s over the past 6 years.

Global focus on environmental issues is opening the door to a much more comprehensive and integrated approach to corporate responsibility. Many CEO’s indicated at the 2008 EFCG CEO Conference that they are highly focused on CSR, but are struggling to put it into practice.

CEO Prioritization of CSR Related Issues



Percentage of CEO's selecting CSR Issues as top change driver – Data from 2008 EFCG CEO Survey

Further, while the current focus is on the benefits of CSR to corporate brand and image, this has begun to trend toward the overall benefits of CSR, which also incorporate improved profits and operating efficiency. As the practice of CSR continues to mature, the focus on superficial improvements and dollars spent will transition to overall improvements that are quantifiable in terms of social return on investment.

AMEC'S COMMITMENT TO SUSTAINABILITY

By Brad Christensen

AMEC, the international engineering and project management company, established its Sustainability Program in 2001 and for the last five years in succession has been listed as a top five performing company in its sector in the prestigious Dow Jones World Sustainability Index. The Dow Jones sustainability review is based on a thorough analysis of corporate economic, environmental and social performance, assessing issues such as corporate governance, risk management, safety, ethics, climate change, supply chain standards and labor practices.

AMEC consistently improves its sustainability performance through efficient and effective internal programs and incorporates these principles into the way we work externally. We contribute to our clients' sustainability through direct services such as low-carbon energy solutions, sustainability risk analysis and local community involvement, which support the economic, environmental and social performance of their operations.

Early on, AMEC decided that if sustainability were to be taken seriously it had to be integrated into our existing management systems. Therefore, a top-down approach was chosen. Leadership for AMEC's sustainability begins with its Board of Directors. Samir Brikho serves as AMEC's director with lead responsibility for sustainability. The CEO has appointed a member of AMEC's senior management team, Ron Lee, our Human Resources Director, as having responsibility for setting the direction of AMEC's sustainability program. Sustainability is integrated into AMEC's central functions and does not exist as a stand alone business function. A central support team works together to drive the program forward throughout the business and the environments where we operate. In addition, AMEC has a Sustainability Program Manager, Linzie Forrester, to drive the global sustainability values and activities.

Values and Guiding Principles

We have analyzed our business processes and operations, using risk management tools, to establish AMEC's key sustainability aspects. Understanding these key aspects has helped the business to develop our core values:

- Believing in people, teamwork and diversity
- Delivering in a safe and sustainable way
- Acting with integrity and respect
- Aspiring to excellence; passionate about success

AMEC's *Management & Policy Framework* describes the key roles and responsibilities of our senior management and sets out those aspects of directing and managing our affairs where a consistent approach is required across AMEC. This includes mandatory policy designed to cascade a consistent approach to AMEC's Guiding Principles such as safety, health and environmental management framework, employment standards, community investment policies and procurement.

Sustainability Strategy - AMEC Agenda 21

In 2003 AMEC introduced the Agenda 21; its global sustainability strategy. This was in response to the need to plan and coordinate global and local strategic goals and objectives. It is aimed at improving the sustainability performance of the company and responds to the challenge laid down in Chapter 30 of the United Nation's Agenda 21: "Business and industry, including transnational corporations and their representative organizations should be full participants in the implementation and evaluation of activities related to Agenda 21."

This strategy requires our business to put in place a continual sustainability improvement plan targeting improvement against our Guiding Principles and encompassing local / global sustainability issues. We

acknowledge the importance of our activities and our ability to contribute to global sustainable development. We subscribe to the concept of – Think Globally, Act Locally, Change Personally in our workplace, community, marketplace and the environment.

Reporting progress

In 2001 AMEC produced its first sustainability report and the company has published information on performance annually since. Sharing our experience has been a key feature of our approach and the report is developed through engagement with key users and stakeholders.

AMEC measures its performance against a number of social, environmental and economic indicators including:

- Lost time incidents
- Incidents of ill health
- Male to female ratio
- Number of environmental incidents
- Percentage of ISO 14001 compliant management systems
- Number of ethics reports through the company hotline
- Total charitable investment through the charities committee

We are serious about having an integrated sustainable approach and believe that we need to tell our stakeholders about our non-financial performance. Therefore in 2005 we took an important decision to integrate our sustainability report into the Annual Report and Accounts and to provide an in-depth performance report on our website.

Benchmarking performance

Business in the community: We have for a number of years used the Business in the Community Environment Index and Corporate Responsibility index to benchmark our performance against our peers. This is useful to track whether we are leading our peers and identify areas of our program for development.

In 2008 AMEC was awarded an overall Silver standard in the Corporate Responsibility Index, a Gold standard in the Environment Index, Platinum in the Workplace index and a Bronze in Community Index. This result is based on a comprehensive third party analysis of our business and examines how AMEC determines key sustainability objectives and how these issues are managed through the business.

In 2009 AMEC is going on a “Low Carb” diet and has launched an Office Sustainability Action Matrix.

“Low-Carbon” Strategy

AMEC has committed to reducing CO₂ emissions by 60 per cent by 2050 based on our 2008 benchmark, and has set down a series of time-framed milestones. We have already made a start by capping our fleet emissions and looking at how we procure offices. But there is so much more AMEC will be challenging employees to do this year to help meet this demanding and challenging task. AMEC will implement a carbon foot-printing tool, commissioning of which should be complete by mid-2009. The tool will be designed to capture and convert basic data to target where we can reduce emissions. To facilitate change to meet our 2013 milestone target, and delivering cost savings for AMEC, we also have developed a number of tools for our business including:

- Climate change - five minute on-line awareness briefing
- “One journey less” initiative
- “Low-Carb” Diet workbook for offices
- Limited print run of the “Low-Carb” Diet books

Office Sustainability Action Matrix

An Office Sustainability Action Matrix has been developed to engage people in practical actions that facilitate good sustainable business behavior aligned with our values and principles. This matrix is being piloted in the company's Earth & Environmental Division and shortly will be in every office. With the collective input and enthusiasm of individual offices, this tool has the ability to cut tons from our carbon dioxide emissions; save thousands in travel, energy and resources costs; and contribute to a safer, happier work environment.

The Matrix seeks actions in specific sustainability areas. Specifically offices are asked to implement practical actions such as getting involved in a charity event, reducing the number of printers in your office, and taking one business journey less in the year. Each office can choose its own sustainability actions and there are lots of suggested ideas that come with the matrix.

Let's take a look at what some of the offices are doing.

Oakland's Green Team. The AMEC Geomatrix office in Oakland, Calif., has formed an employee-based Green Team which has launched a comprehensive program. Elements include the following, as well as much more:

- Recycling of many products, from paper and bottles to batteries and even sneakers.
- Composting coffee grounds, using compostable cutlery instead of plastic, and donating used office furniture.
- Mass transit is subsidized and bicycle lockers and showers are available at the office.
- Monthly community charitable/volunteer work. Volunteers, for example, worked one month at the Alameda Food Bank and then the next month at the San Francisco Zoo to help with replanting.
- Filtered water is provided at meetings instead of bottled water.
- Janitorial contractor is required to use green cleaning products.
- Reduced packaging for catered sandwiches.

The Oakland office is not resting on its laurels. This year plans are under way for an environmentally preferable purchasing program, the purchasing of cloth towels to replace paper towels, the addition of aerators to water faucets in order to conserve water, use of window film to reduce glare and air conditioning energy use, as well as much more.

"We have staff working in the sustainability area, both for businesses and in remediation and are assisting the greening of our building in LEED for existing buildings," remarked Senior Scientist Julia Bussey, who is spearheading the Oakland effort.

Portland's Commitment. AMEC's Earth & Environmental office in Portland, Ore. has set some impressive targets in each of the Sustainability Matrix's four quadrants – Workplace, Environment, Community and Marketplace.

For example, for the environment, all paper waste is to be recycled and food waste is run through an office composter that processes it into "SuperDirt." The office also will be completing a low-carbon plan and reducing the office's overall energy consumption. For the workplace, 90% of staff will receive CPR and First Aid training, as well as monthly safety training. Also one social event will be held quarterly.

For the community, the Portland office is leading the annual CanStruction event in which giant structures are created out of cans of food to benefit the Oregon Food Bank. The office also hosts a Blood Mobile twice a year and, during National Engineers Month in February, seven AMEC engineers and scientists led classroom activities at eight area elementary, middle and high schools. For the marketplace, all staff will

undertake Ethical Code of Conduct training. Staff also is urged to PDF, e-file and print double-sided to reduce paper and storage costs and to help the environment.

“We strive to encourage our staff’s innovation, enthusiasm and diversity toward promoting an adaptive office culture that provides environmentally sound and prosperous solutions to our clients, our community and our co-workers,” says Marketing Coordinator Kelly Perkins. “For an environmental consulting firm such as ours, involvement with initiatives that promote community, environment, workplace and the marketplace is always rewarding and usually fun.”

Oakland and Portland are merely two examples, as virtually every one of AMEC’s more than 250 offices is involved in the sustainability movement. For example, the Mississauga, Ontario office recently joined the ranks of several AMEC offices to install an automated external defibrillator (AED) for use in case of heart attack. The Tempe and Mesa, Ariz. offices spend Christmas Eve helping the Salvation Army prepare meals for the homeless and volunteer for many other events, including a penny drive to support Hospice of the Valley, which assists needy patients with terminal illnesses.

Sustainability is a differentiator

Being able to clearly identify sustainability related services, which AMEC offers to clients, will be the focus of a sustainability services forum the company will hold this year. The forum will keep an eye on what customers ask about the services we offer and will make sure we respond to their needs in innovative ways. A second part of this area is making sure AMEC consistently communicates its approach to sustainability and makes the most of its world class approach.

As a significant provider of environmental, project management, management consulting and engineering services, AMEC has the opportunity to incorporate its sustainability resources and experience into client deliverables. AMEC employs world-class scientists and discipline specialists who can and do improve the environmental, social and economic performance of projects. AMEC’s service lines cover a wide range of aspects, activities and technologies that can directly impact a client’s progress toward sustainability goals. Such projects may range from the development of alternative fuel production, wind power generation and carbon capture efforts to environmental services aimed at reducing impacts or achieving LEED (Leadership in Energy and Environmental Design) certification at client facilities.

BIOENGINEERING GROUP: DEFINING SUSTAINABILITY—AND APPLYING IT

By Wendy Goldsmith, CEO and Founder, Bioengineering Group

Sustainability has become something of a buzzword, bandied about often and seldom defined. Through my lens of training in geology, ecology, and soils, sustainability is defined well in terms of large-scale ecosystem process. The core element of sustainability: a productive, diverse and interdependent system of landforms and life forms that endures, with resiliency. One of the tenets of sustainability is efficiency, and to achieve efficiency, natural systems rely upon built-in recycling mechanisms, in particular, nutrient cycling. Much of the US was covered by productive forest for millennia before farming and land development altered that pattern. It turns out that forested ecosystems can't function sustainably over time unless water is retained on site. Unsustainable terrestrial landscapes experience runoff, which leads to erosion, which leads to an export of minerals and nutrients, as well as physical instability. In order to have thriving and efficient landscapes, water must be kept on site, only leaving through evaporation and transpiration via plant tissue, or through infiltration that also recharges deep and shallow groundwater. In this way organic matter accumulates in the soil, and nutrients are cyclically processed, regenerating and building vegetation and animal biomass over time. The only input is sunlight. Typically runoff only occurs once every couple of years during a rain on frozen ground condition. On a daily/weekly basis all rainfall interacts through vegetation, and through the biologically rich and active root filled soil layers where much biochemical alchemy takes place, capable of buffering and correcting many water quality problems. These types of systems are also very effective at performing assimilation and breakdown of anthropogenic pollutants, not just handling nutrients.

OK—what does all this have to do with the fields of engineering and construction? For most of the history of the fields, virtually nothing! That is why we now face a set of unintended and unforeseen consequences ranging from global climate change to local urban heat island effects that alter rainfall and trigger asthma. In fact it is only recently that we have come to learn how to think about these problems meaningfully in the first place. Back in the 1950s, a group of senior researchers at USGS devised a simple monitoring project to record the condition of smaller, normally ungauged streams in Maryland. Indeed, based on stories I heard told, it sounded like a nifty way to get outside the Beltway back near home, and enjoy some fieldwork with friends on Friday afternoons. On occasion beer was consumed! Much to their amazement, after a decade of this ritual, the scientists began to notice that there was an unmistakable trend: the streams were flooding more. The intensity and frequency of large flow events was changing. At first this appeared to be violating the basic tenets of geology which require that the system always works in the same way, according to the principle of continuity. So if the stream behavior was changing, it must be due to another changed variable. But what could that be? In the past major climate change caused hydrologic regime changes that geologists studied. More recently it was understood that forest clearing and intensive farming could cause major hydrologic impairment. People understood that effect. But what was new and different in the DC suburbs in the 1950s? It turns out that the scale and pace of new construction, especially tied to the interstate highway system and the residential sprawl patterns it facilitated, was making a quantitative difference in how rainfall interacted with the landscape. This team of researchers which included Luna Leopold, Chief Hydrologist of USGS and son of the conservation icon, Aldo Leopold, was shocked to imagine that seemingly innocuous new development patterns were altering our watersheds.

The magnitude of the hydrologic impacts Leopold and his colleagues were observing is not surprising in hindsight, however. Out of WW2 came a new breed of machines capable of performing earthmoving at a pace never previously envisioned, and the pace has only escalated in recent decades. The agricultural tractors of the 30s were adapted to the tanks of the 40s, and returned from war as the bulldozers of the 50s. More families had more cars, and this allowed people to live away from where they worked, to build larger homes and a network of driveways, parking lots, and highways to link it all. The ramifications were serious, and response was swift, with flood management regulations promulgated around the nation. These rules addressed the issue of detaining peak flows in order to prevent major increases to rare floods, such as the 100-year recurrence interval type flood. These rules did not address other hydrologic impacts tied to daily and weekly flow alterations. It took until the 1980s for EPA to understand how much urban stormwater runoff impacts water quality, rinsing down storm drains, and eventually into our streams and lakes the detritus of urban living: oil and grease drippings, worn paint particles containing toxic metals, anti corrosive materials like chrome and zinc grit, and a host of solvents and pesticides used in maintenance. Every time we need to repaint, why is that? Because the weathering of our construction materials scatters it all over the urban landscape. Traditional stormwater gutter and pipe systems mainline the moderately to highly toxic materials directly to receiving waterways. EPA is still working to define how to handle this diffuse and ubiquitous form of pollution. And the solution to this pollution is nothing other than sound planning and design in the first place. As a bonus, this type approach also returns healthy base flows to our streams and replenishes aquifers, fostering fisheries and public water supply. In order to achieve these objectives, we must provide the space and the time on sites to mimic the natural pattern of rainwater handling. This is the missing link of the green building movement which thus far focuses on energy efficiency (a noble and essential pursuit) but falls short of addressing large scale hydrology and water/air quality issues through sustainable design of sites and infrastructure (with potentially for large community as well as global benefits).

All projects have a budget, and design professionals can help identify how to spend it wisely...which can achieved sustainability through promoting preservation or restoration of naturally based patterns of water function. On residential, institutional and even large box retail sites it is possible to manage stormwater through Low Impact Development methods. The most promising wastewater solutions involve decentralized treatment with high-energy efficiency and excellent nutrient removal plus options to reuse water for irrigation and other purposes. Urban stormwater handling systems based on green infrastructure methods can satisfy double purposes storing and treating runoff, while preserving and maintaining public open space, while consuming less money and energy compared to conventional “gray infrastructure.” In the past decade, the sustainable design movement has been dominated by the field of architecture. We in engineering, landscape architecture, and construction can become increasingly responsible for incorporating sustainable patterns of hydrology into the built environment, finding a place even in the densest urban settings. Are we ready to define ourselves and the future of our fields this way?

Wendi Goldsmith is CEO and founder of Bioengineering Group (www.bioengineering.com), serves as Director of the Center for Urban Watershed Renewal (www.CUWR.org), and was recently appointed member of the National Women’s Business Council (www.NWBC.gov).

UPDATE: CDM SUSTAINABILITY PERFORMANCE

IMPROVEMENT

*By Tom Pedersen, Senior Vice President, Director of Sustainability
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Introduction

During these times of economic crisis, more than ever before, sustainability challenges and opportunities have become of paramount importance to our clients, employees and communities. Continual sustainability performance improvement for CDM is an outcome of working to achieve our vision to “be a global consulting, engineering, construction, and operations firm committed to exceptional client service to improve the environment and infrastructure.” Rather than a separate program, sustainability represents a logical continuation and enhancement of the way CDM has done business for more than 60 years. Sustainability performance improvement is included in every facet of our organization and articulated in the goals, objectives, targets and initiatives of our “Strategy: Building our Global Future.”

During 2008 we continued to see the benefits of our interdisciplinary and inclusive approach to continual sustainability performance improvement with tangible results across environmental, social and economic dimensions for our operations and client projects. Leveraging the interdependent linkages of eco-system, built environment, social networks, technologies, and economies has enabled us to deliver sustainable solutions to the engineering, infrastructure and operational challenges and opportunities facing our clients and to help improve the quality of life for our employees and the communities in which we live and work. Progress in 2008 was achieved throughout our sustainability performance improvement management system (SPIMS) and key highlights are summarized below for our organizational framework and communication elements.

Organizational Framework

Chairman and Chief Executive Officer Richard D. Fox champions sustainability performance improvement at CDM and has built sustainability into our “Strategy: Building our Global Future” that drives us to “walk the talk” when it comes to sustainability in all our endeavors. President and Chief Operating Officer John D. Manning, leads our day-to-day sustainability performance improvement activities in all CDM operations worldwide. Tom Pedersen, Director of Sustainability, has primary responsibility for development and implementation of SPIMS in our technical and internal operations and he also serves as Sustainability Market Leader. He leads the Sustainability Delivery Team that includes a representative from each of our technical disciplines. Kenneth T. Page, Corporate Health and Safety Manager and Operations Sustainability Leader has primary responsibility for all sustainability operations across all offices working with our corporate sustainability implementation team which includes representatives from each operations department. Office Leaders serve as local sustainability champions, among other responsibilities, in each CDM office worldwide and with the help of office sustainability teams drive local sustainability improvement in our facilities and communities.

Communications

Proactively communicating sustainability ideas, initiatives, and progress using multiple channels has helped us to engage an increasing number of CDMers in sustainability performance improvement activities in our internal operations, communities and client projects. Among the communication tools which have proved to be especially effective to improve sustainability performance:

- **CDM Website:** Sustainability performance improvement is communicated to our clients and interested parties via our website – cdm.com which includes information on our client sustainability projects and podcasts on a wide range of topics including the very popular Cities of the Future podcasts. Web-based issues of CDM News are also available on our website and each issue includes information on our global citizenship activities.

- **CDM Sustainability Performance Report:** Our first sustainability performance report was published in 2008 as a Web-based publication structured around four key areas: our clients and projects, our employees, our communities, and our internal operations. The report provides quantifiable metrics and measures for our activities and features case studies that illustrate our sustainable solutions for clients.
- **Sustainability and CDM:** This employee Web-base portal serves as an internal resource for employees, providing information on office operations, sustainability resources, tips and topics, a database for reporting and tracking community involvement, and a sustainability blog.
- **Internal communications:** Improvement activities are communicated to all CDM staff using a variety of communication vehicles, including CDM's biweekly electronic newsletter Inside/Online, through internal firm-wide dispatchers e-mails, and via intranet CDMweb announcements.
- **Technical Discipline Portal:** CDM technical disciplines create, capture, catalogue and communicate knowledge through a variety of means including SharePoint portals. The Sustainability Delivery Team fosters intra- and inter-discipline knowledge development and sharing through of sustainability blog and our sustainability wiki – Sustainapedia.
- **Sustainability training:** Launched and online, self-paced sustainability primer offered to all employees through CDM University, our internal accredited university. In addition discipline specific webinars related to sustainability are offered on a regular basis through our learning management system (LMS).

Client Services and Projects – In 2008, public, federal, industry and international sector clients continued to look for innovative sustainable solutions to operational and infrastructure challenges in a diverse array of areas including: green infrastructure, energy management, Life Cycle Assessment (LCA), green house gas inventories and reduction, green building and LEED® design, water conservation, waste reduction, resource optimization, green procurement, sustainability metrics, and corporate social responsibility (CSR) reporting. Clients are looking to achieve sustainability progress in these and other areas and increasingly within the context of a sustainability strategy or sustainability plan. Cities of the Future concepts continue to provide the vision for integrating water, transportation and energy infrastructure in ways that will improve the quality of life and sustainability of communities around the world while helping to address global issues of climate change and resource utilization. Although the current economic crisis poses significant concerns for 2009, the economic stimulus package coupled with a renewed focus on green technologies, energy and the environment continues leading more organizations to recognize that continual sustainability performance is a business imperative.

UPDATE: DAVID EVANS AND ASSOCIATES, INC.

By Paul Horton, Director of Sustainability

Though there has long been an ethic at David Evans and Associates (DEA) that we need to be stewards of the built and natural environment, many people inside the firm were unclear what that meant at a practical level. Partly because of this, we haven't fully integrated sustainability into our corporate culture. In response to this, and also to a growing awareness of increasing client demand for more sustainable infrastructure, the company adopted a new five-year strategic direction statement that puts "leadership in sustainable resources management and carbon reduction solutions" at the tip of the spear. Now, sustainability is directly linked to both quality and profitability, and it is fully integrated into our system of measuring progress and meting out financial bonuses to employees.

The 2009 key result for the firm's internal practices is 10% carbon reduction firm-wide. As a first step, DEA underwent its first carbon footprint analysis. The process has resulted in a reasonably good baseline of the company's carbon (and overall environmental) impact. Though imperfect, the footprint analysis will allow the company to more strategically identify and prioritize opportunities for carbon reduction in 2009 and 2010. It also gives DEA the ability to more easily track progress over time. We developed a sophisticated spreadsheet with the help of a sustainability consultant to assist office sustainability coordinators in creating sustainability plans and track energy and fuel usage.

The current economic crisis has placed increasing emphasis on the need to operate lean, and to focus on near-term business development. In some ways that's been a hardship, as we've had to temporarily curtail some of our firm-wide sustainability education. In other ways it's an opportunity to invest in technologies that will not only lower carbon emissions but also provide other benefits. For instance, as of March 2009 all of our seven regional offices will be equipped with videoconferencing equipment that will substantially reduce business-related air travel while saving the company thousands of dollars annually.

DEA formed a task force in late 2008 to consider options for implementing alternative work schedules firm wide, an initiative that will further reduce carbon emissions, and enhance employee quality of life. By the time this article is published, corporate leadership will have in hand recommendations about how to implement such a program.

The desire to "do the right thing" has been a leading factor in DEA's decision to become a more sustainable enterprise. However, DEA also views sustainability as a key business differentiator and value creator. In recent years, we have seen an increase in clients that are asking for more sophisticated sustainable solutions. Some clients are also including questions about our internal sustainability practices in RFPs.

As such, in spite of the economic crisis, the company is forging ahead with plans to better understand the environmental impacts of its activities, and to take action to lessen them. In this way, DEA will remain a credible leader. At the same time, we will continue to invest in building our capabilities as a sustainable solutions provider. For example, in 2009 the company will invest in a handful of opportunities to explore integrated sustainable planning and design on a project with clients who are ready to innovate. Responding to emerging state-level climate regulations, DEA has formed an internal task force to develop a CO2 reduction business strategy focusing on go-to-market opportunities. We will also continue to participate in collaborative efforts to improve the state of the science, such as the multi-agency task force that is developing a LEED-like rating system for transportation that DEA co-initiated along with the Portland Department of Transportation and several other partners.

Overall, these steps will help DEA become better aligned with our core purpose statement and, we hope, put us firmly on the path of becoming a leader in sustainable resource management and carbon reduction solutions by 2013.

ENTRIX SUSTAINABILITY ROADMAP: A STRATEGIC APPROACH TO FULL INTEGRATION OF SUSTAINABILITY

By Todd M. Williams, PE, PG – CEO and President & Laura Musikanski, JD, MBA, CEM – Director of Sustainability and Senior Consultant

ENTRIX defines sustainability as a management principle of our business services whereby environmental, social, and economic factors are given equal consideration for solving clients' increasing environmental and natural resource challenges.

ENTRIX has integrated sustainable business solutions into our internal operations and our client services. As a firm serving private and public sector clients from over 40 locations in the United States, South America, and Canada, ENTRIX is in a unique position to leverage sustainable business solutions by helping clients consider the environmental, social, and economic factors affecting their operations. ENTRIX also recognizes that while our most valuable leveraging point is the sustainable business services that we provide, integration of sustainability into our internal business operations was necessary, in part, to validate those solutions. ENTRIX's sustainability efforts are founded on the notion that successful sustainability will not be realized until the costs and benefits of integrating sustainable solutions into an organization's business processes and operations yields as much or greater profits than not integrating such solutions. In plain words, sustainability must make business sense.

The first step in identifying the right business solution for ENTRIX was to define sustainability in a Sustainability Mission Statement. From there, we identified the market demands that affect sustaining our own business, as well as our clients'. Next, we defined sustainability as a company and broadly communicated the definition to provide clarity to our staff and clients, which provided a common understanding for our path forward. This initiative began as a hybrid grassroots effort, stewarded by a central point of contact acting on behalf of, and under the direction of, ENTRIX's senior management team. Within 2 months, sufficient information was gathered for management to forge a definition and a Sustainability Mission Statement, identify potential service areas to better provide sustainable business solutions to markets, and define markets for those services. ENTRIX purposefully included a triple-bottom-line approach to identify sustainable business solutions for people, planet, and profits, and linked our business, the management of environmental and natural resources challenges, to this definition.

ENTRIX's Sustainability Mission Statement: *ENTRIX is committed to conserving and restoring natural resources and the environment. We practice stewardship through the conduct of our business, the development of our staff, and the services we provide to our clients.*

ENTRIX focuses primarily on providing sustainable business solutions in four key service areas: Water Resource Management, Natural Resource Management, Environmental Compliance and Permitting, and Environmental and Natural Resource Liability Management. Within these service lines, we have identified numerous technical services that provide sustainable environmental, social, and economic solutions in the marketplace:

Natural Resource Management

- Sustainable Natural Systems Restoration and Engineering
- Carbon Sequestration and Management
- Habitat Conservation and Ecosystem Vulnerability Services
- Ecological and Natural Resource Sustainability Assessment

NEPA and State Compliance & Permitting

- Greenhouse Gas Management and Renewable Energy
- Alternative Energy Siting and Licensing
- Applied Climatology and Atmospheric Sciences Management
- Comprehensive Energy and Natural Resource Planning

Water Resource Management

- Surface Water and Groundwater Supply Planning and Management
- Storm water Management for Climate Change
- Strategic Planning for Sustainable Solutions
- Water Footprint Analysis

Environmental & Natural Resource Liability Management

- Business Solutions and Risk Management
- Natural Resource Asset Valuation and Management
- Total Land Concepts
- Brownfield Sustainable Development
- Strategic Planning for Sustainable Solutions
- Product Stewardship and Life Cycle Analysis

Business Operations: ENTRIX's Journey to Sustainability

ENTRIX defined our company's terms of sustainability, put in place our Sustainability Mission Statement, and then formed our sustainable business solutions team. From there, the integration of sustainability into our operations began.

ENTRIX recognizes that actions taken in our daily operations make a difference in terms of our impact on the environment and our communities, the effect on our staff, and the message we send to suppliers and clients—including the costs of our operations. ENTRIX also recognizes that our sustainability depends, in part, upon how our clients perceive our company and whether our staff “walk the talk.” More importantly, ENTRIX knows that walking the talk further demonstrates ENTRIX's integrity and commitment.

Working with the senior management team, ENTRIX crafted a Sustainability Roadmap. The Sustainability Roadmap built upon elements of the Global Reporting Initiative's framework and laid out principles for environmental, social, and economic performance drawn from the leading sustainability principles that inform and affect our clients. It incorporated an iterative process so that the lessons learned, best practices, and innovations from staff and from the industry could be incorporated into the Sustainability Roadmap as we progressed. This Sustainability Roadmap further laid out action plans with goals, indicators, and timelines, and also formed the basis for monitoring and measuring performance while seeking ways to continually improve it against triple-bottom-line performance metrics.

One of the first action items on our Sustainability Roadmap was the formation of company “Green Teams.” This action generated a grassroots effort and opened the process to all staff. We called this effort our “Journey to Sustainability.” Staff at every level joined regional Green Teams and appointed captains to lead initiatives. These Green Team captains worked a few hours every month to lead meetings and conduct monthly calls with other captains to share best practices, discuss ideas and challenges, explore solutions, and report back to the company.

Working with a Director of Sustainability, the captains wrote a monthly newsletter covering issues, goals, policies, and programs undertaken on our Journey to Sustainability. Because our staff comprises highly specialized scientists, engineers, and economists, ENTRIX is certain to support the information provided from our respected disciplines. The newsletters have multiple purposes: serve as a means for communication, educate staff to provide better services to clients, and provide a source of inspiration to meet our company goals. ENTRIX also uses this newsletter to encourage staff to “take sustainability home” with them. Our staff also has access to our Journey to Sustainability website, which provides a place for discussion and sharing of resources.

ENTRIX internal sustainability accomplishments are many. For example, our corporate Director of Sustainability worked with the senior management team to convert all business cards and stationary to

100 percent post-consumer waste and FSC-recycled paper. ENTRIX brought in a centralized procurement system to ensure consistency in conservation of resources as well as procurement practices aligned with our Sustainability Mission Statement. Efforts to reduce travel—thereby reducing greenhouse gases—by videoconferencing have also begun. Further goals include reducing paper consumption; utilizing smarter “greener” commutes; recycling paper, glass, plastic, and coffee grounds; and reducing energy consumption where possible. Green Teams also identified proactive sustainable practices and policies. With the help of senior management, ENTRIX implemented the following sustainable practice policies in 2009: banning of Styrofoam products from office kitchens and reducing both e-waste and hazardous waste.

Where uniform company goals were set, Green Teams initiated practices to achieve them in their respective offices. Some offices also set personal goals where unique opportunities were present. For example, in one office, all electronic equipment was put on breaker boards and employees were trained to turn off the breaker when going home. Furthermore, copy machines were set to power down at night, and overhead light timers were added to reduce power consumption. In another office, over the holidays, soda-can deposit refunds were pooled and donated to a local charity. At an office that moved to a new location, their Green Team captain—using personal time—took all e-waste and hazardous waste to appropriate facilities. Finally, other Green Teams led additional charitable drives, participated in recycling programs, replaced plastic kitchen with washable stainless steel utensils, and posted rideshare boards in lunchrooms. These and more efforts are being worked into the ENTRIX Sustainability Roadmap.

Our Green Team on the East Coast developed a triple-bottom-line accounting tool for making decisions and measuring the return on investment for sustainability-driven actions. This tool includes financial, social, and ecological gains and losses in dollar and staff-time amounts for decisions such as downgrading dumpster sizes, recycling printer toners locally, and installing a filtration system in lieu of purchasing bottled water. This documentation allows senior management to see the direct effect of actions on profits. Another Green Team on the West Coast began to form its own sustainability roadmap that fits its client base and geographic regions. This sustainability roadmap includes goals for business operations and for service area growth. All these efforts demonstrate the link between internal business operations and ENTRIX services and position us to leverage our ability to further internal sustainability goals.

Client Services

Whereas much of the environmental consulting industry largely grew in response to and may be driven by addressing regulatory compliance issues, today our clients are facing challenges and opportunities that reach beyond regulatory compliance. ENTRIX has identified environmental, stakeholder, shareholder, investor, and consumer issues that range from global to regional and local scales. Emerging issues include climate change, natural resource depletion, and population growth that require both technical and business-focused solutions.

ENTRIX sustainable business solutions are designed to assist our clients in addressing the challenges they face in sustaining their businesses and operations. For each service area, ENTRIX has identified one or two stewards that are responsible for developing the proper tools needed to respond to the market demands as well as build the teams to better service clients’ needs. Moreover, our sustainability stewards also find that an important part of our Sustainability Roadmap is providing educational opportunities for both clients and staff about sustainability. For example, ENTRIX conducts monthly client webinars that focus on areas such as natural hazards, global climate change, carbon sequestration, natural resource asset valuation, liability management and strategic planning for sustainability. These webinars provide information, resources, and examples of sustainability in action. ENTRIX also hosts internal “brown-bag” webinars which often focus on one project to help bring staff together and to present specific approaches to provide clients with sustainable business solutions.

ENTRIX has also devised a tool that measures sustainability impacts of a project, process, or decision. It is based on objective, multi criteria decision analysis tools that we use to provide sustainable business

solutions for the management of environmental, social, or financial liabilities and assets. The ENTRIX Sustainability Management and Assessment Review Tool (ENTRIX SMART) compares decision alternatives against a standard set of performance metrics based upon the Global Reporting Initiative. It also provides a common ground and an entry point for our staff and clients to identify environmental, social, and economic goals and metrics to measure the progress an alternative has made towards meeting those goals. Also in development is a system for identifying what sustainable development means in the natural environment, which will further define and clarify sustainability for our clients.

Recently, public demand for sustainable energy solutions that can pass the triple-bottom-line test has increased dramatically. For example, the demand for assistance in the permitting processes for wind, solar, or alternative energy projects across the U.S. has nearly doubled. ENTRIX is responding with innovative ways to better manage the permitting process with agency representatives, and helping to forecast geographic areas where clients should focus before applying for permits. Our natural resource economists have also seen an increase in demand from tribal clients for a wide variety of sustainable solutions including the valuation of biofuel crop alternatives as well as carbon credits from afforestation.

Our Natural Systems Restoration and Engineering services provide clients with habitat restoration, flood protection, and river management to protect infrastructure (e.g., roads, bridges, and other structures) and human communities. This sustainable business service area has grown in two ways: in the clients ENTRIX serves and in the services ENTRIX provides. Just recently our design for Natural Systems Engineering won the SGA Environmental Excellence award for the Woodard Creek Large Woody Debris Project. This project involves a sustainable mitigation system using engineered logjams to restore a river affected by a pipeline crossing while protecting and enhancing the safety and operations of the pipeline. ENTRIX has experienced a significant increase in demand from our private sector clients seeking the “win-win-win” options that provide the cost reductions, natural habitat enhancements, and enhanced corporate reputation. They look to restoration of the environment as a way to manage the risks natural hazards present to their assets.

For the U.S. Environmental Protection Agency’s Green Remediation initiative, ENTRIX is working with clients to increase their understanding and is helping them realize the possible benefits of the approach. While the ENTRIX Environmental and Natural Resource Liability Management (ENRLM) practice has been using sustainable green remediation techniques across the country for years, the numbers of clients with contaminated sites have begun to seek sustainable remediation techniques to gain the triple-bottom-line benefits. ENTRIX provides these opportunities through applying environmental restoration and natural resource asset creation, stakeholder and regulatory negotiations, applying Net Environmental Benefit Analysis (NEBA) and other management techniques which are part of our Total Land Concepts (TLC) service. ENTRIX uses quantitative decision analysis tools to help clients address green remediation, which assists stakeholders to make better, more well-informed, and sustainable decisions. This process also facilitates clients in making clear, transparent decisions where many goals and alternatives are present. Where the U.S. Environmental Protection Agency’s Green Remediation primer sets out principles and provides multiple best practices, ENTRIX helps clients identify the economic benefit for alternatives and the best combination of actions that can add—even extend— economic value beyond compliance in a CERCLA and other liability management frameworks.

Conclusion

In October 2007, ENTRIX began the strategic approach of integrating sustainability into our internal business operations and client services. Internally, the return on investment has been significant both in terms of teamwork and business operations optimization. Externally, the return on investment has been significant for our clients through the identification of unrecognized asset values, enhanced liability management strategies, improved corporate/social responsibility and public relations strategies, enhanced and expedited permitting processes, and enhanced water planning/management strategies. In a little over a year, we have progressed considerably but recognize our sustainability efforts have only just begun. After all, sustainability is a process and we are on a journey.

ENTRIX. Down to Earth. Down to Business.™

THE ERM FOUNDATION'S LOW CARBON ENTERPRISE FUND: SEEDING ENTERPRISE AND INNOVATION IN THE DEVELOPING WORLD

By Emma Caddy, Director, Low Carbon Enterprise Fund, ERM Foundation

About Environmental Resources Management (ERM)

ERM is the world's leading provider of environmental, health and safety, risk and social consulting services. We deliver innovative solutions for business and government clients, assisting them in managing their environmental and related risks. We have 145 offices in 41 countries and employ over 3,500 staff. www.erm.com

The **ERM Foundation** is a not-for-profit organization established by ERM over 10 years ago to support environmental and social projects around the world and to provide sustainable solutions for challenges such as climate change.

Why is the Foundation important to ERM?

- We are an environment business: our people help our clients every day to reduce impact and clean up damage.
- We attract people who have a real concern for the environment.
- Our people worldwide have said they want the opportunity to contribute to environmental causes outside their project work.
- The Foundation provides a vehicle for sharing our greatest asset – our knowledge and commitment to environmental sustainability –with non-traditional clients who could not otherwise benefit from our support.
- The Foundation also fosters collaboration between staff on the basis of shared values and interests, and potentially, creates new social networks to strengthen the ERM community and culture.

What activities does the ERM Foundation support?

- Fund raising and financial support for environmental causes.
- Volunteering and provision of expertise for environmental causes.
- Pro-bono work (paid time) for low carbon activities.
- Investment in low carbon enterprises in the developing world.

The ERM Foundation provides an opportunity for ERM staff to work together with colleagues and contribute personally to the environment and sustainable development. In our offices round the world, we have many examples of our staff's commitment to the ERM Foundation. These activities include volunteer efforts such as coastal cleanups, helping with environmental education, undertaking a wide range of fundraising activities and providing donations and advice for local or global environmental and sustainable development projects.

ERM, the company, provides up to US\$200,000 each year to match contributions raised by our own staff. This money is then allocated to projects that have been identified by our offices around the world.

Low Carbon Enterprise Fund

The ERM Foundation's primary global initiative is the Low Carbon Enterprise Fund (LCEF) which was set up to raise funds to provide loans and equity to invest in enterprises that promote low carbon technology and carbon reduction activities, primarily in the developing world.

All administrative and management costs associated with running the fund are covered by the ERM Group as part of its Low Carbon initiative, including the provision of pro bono work to enable consultants to examine, advise, support and assist small low carbon businesses and schemes.

The Fund is headed by a Board and Advisory Committee comprised of technical and financial experts, who oversee and approve the investment portfolio. The majority of individual investments fall in the range of US\$100K – US\$250K. All repayments are reinvested in a revolving ‘triple bottom line fund’ to create a permanent pool of capital for successive investments. Quarterly e-updates to contributors on benefits accrued and new investments under consideration are provided by the Fund’s Director.

What are the goals of the Low Carbon Enterprise Fund?

- To make a proactive, sustainable contribution to addressing the growing threat of climate change in the developing world.
- To give entrepreneurs in disadvantaged regions access to the finance they need to build their businesses.

How does the Low Carbon Enterprise Fund function?

- There is a permanent fund of capital to support small low carbon enterprises in the developing world.
- It provides loans and equity stakes to small innovative enterprises.
- It enhances the viability of its investments by leveraging world-class pro-bono technical support from Environmental Resources Management (ERM) consultants.
- It ensures that entrepreneurs remain accountable, both through the application of commercial disciplines and through monitoring oversight by ERM’s global consultants and partners.

Why is it needed?

Carbon emissions are growing rapidly in the developing world. Adopting low carbon technologies and alternative energy sources, reducing deforestation and rehabilitating degraded habitats are critical strategies for reversing these trends.

Small businesses run by local entrepreneurs play a key role in encouraging the adoption of alternative technologies and practices by local communities. The businesses funded will function as catalysts, disseminating local awareness and adoption of commercially-viable, carbon-friendly, and culturally-appropriate

How are funds raised?

The ERM Foundation has initially raised a ‘pilot fund’ of US\$600,000, mainly through the generous donations of ERM partners. Around US\$600,000 of additional funding has been raised externally with organizations looking for a sustainable alternative to offsetting.

Although contributions to this Fund do not constitute an offset purchase, we believe that in the evolving space and debate around the effectiveness of some offset programs, investing in the Fund provides a progressive and transparent mechanism for reducing the overall global carbon footprint. We offer to calculate external investors’ carbon footprint pro-bono if they wish to contribute the offset equivalent to this Fund.

How is the Fund pipeline populated?

ERM conducted a survey in 2007 that identified over 100 eligible projects requiring finance. These have been screened by the Fund to create a shortlist. We are continuing to populate the pipeline through a variety of strategies including:

- Sourcing projects via ERM's extensive staff and client network.
- Securing project recommendations from organizations specialized in identifying environmental entrepreneurs in emerging countries such as Ashoka – a worldwide network of entrepreneurs and the World Resources Institute.

How are the Fund's activities and investments supported?

We believe capacity building is essential to the Fund's success. As such, ERM is donating an annual monetary offset equivalent to US\$200K to meet the Fund's administrative costs, and support pro-bono work by ERM staff.

In addition to providing pro bono to the companies we invest in, we also provide technical services distinct from investments, either to small businesses or NGOs. By providing our professional services to 'non-traditional clients' (small businesses or NGOs) for free, we are helping them strengthen their business propositions such as assisting in early stage venture design for a biogas facility in Nigeria; improving their operations by introducing environmental, health and safety standards; and strengthening profit margins by assisting in procurement strategies, supply chain efficiency, and advising on options for carbon finance.

The Fund in Action

In the 15 months from January 2008 to March 2009, the Fund will have supported small businesses in Nepal, Nigeria, China, Mexico, Peru, India, Kenya, Guyana, Ecuador and Madagascar, and NGOs in Tanzania, South Africa, Mongolia, China Malaysia, Indonesia, Brazil, Belize, Nigeria and India, with direct participation and technical support provided by around 100 ERM consultants worldwide.

Examples of specific projects include:

- Solar lamps for remote villages, Nepal
- Solar Systems for Rural Households, Brazil
- Low carbon building bricks, Tanzania
- The Low Carbon Enterprise Fund Competition
- Converting agricultural waste into biomass fuel pellets, China
- Producing biogas from human and animal waste, Nigeria

SUSTAINABILITY AND CORPORATE SOCIAL RESPONSIBILITY AT GHD

By Bill Grace, Corporate Manager, Sustainability, GHD

GHD is an international professional services company. Established in 1928, GHD is ranked as one of the world's leading engineering, architecture and consultancy firms. With more than 6000 people in a network of 100-plus offices throughout Australia, New Zealand, Asia, the Middle East, North America², South America and Europe, GHD serves clients in sectors as wide-ranging as infrastructure, mining, industry, defence, property, buildings and the environment.

It is because GHD operates in such diverse and complex communities that it has expanded its corporate responsibilities. There is urgency in society and in business to respond to issues such as climate change, loss of biodiversity, poverty, and population growth by making the most efficient use of natural and human capital. Coupled with client and employee demand, these strong drivers have led GHD to embed sustainability and corporate social responsibility (CSR) programs into its projects and operations.

GHD sustainability program

The seeds of GHD's sustainability program were sown in 2007, when a working group comprising directors, lead technical specialists and business managers recommended an in-principle sustainability program to the board. But first a definition of 'sustainability' had to be agreed before the program could be framed.

GHD defines sustainability as improving human wellbeing without compromising the local or global environment over the long term. In an organisational context this means integrating social, economic and environmental issues into GHD's core business and operations so it can deliver value to clients and the broader community.

GHD's sustainability regime was reinforced in September 2007 at the company's own international technical forum, **Our Planet**, headlined by former US Vice President Al Gore. The forum examined sustainability in Australia in a global context and brought together government, technical experts and business – a cooperative approach that Al Gore also advocates:

“We must understand the connections between the climate crisis and the afflictions of poverty, hunger, HIV-Aids and other pandemics. As these problems are linked, so too must be their solutions. We must begin by making the common rescue of the global environment the central organizing principle of the world community.” – Al Gore.

Sustainability program components

The program has been broken down into corporate-driven internal components and client-driven external components:

Internal – corporate-driven:

- Sustainability awareness training for all our people, backed up with discipline-specific training.
- An environmental management system (EMS) for internal operations (energy, travel, water, waste), which is moving us towards carbon neutrality.
- Promoting the realisation of our people's potential through ongoing training, mentoring and opportunities for career progression.
- Providing a healthy and safe workplace.
- Making contributions to the communities in which we operate.
- Introduction of a formal mechanism for submission, investigation and eventual funding/and or uptake of innovation proposals.

² GHD has operated in the USA market since 2004. In February 2009, GHD announced consolidation of its civil engineering water and wastewater business by joining with Rosewater Engineering (Seattle), the Arizona Engineering Company (Arizona), CSA Engineering (Arizona) and Stearns & Whelar (east coast).

External – client-driven:

- Consulting to clients on managing their own sustainability and corporate social responsibility programs.
- Project impact assessment (PIA) where key project impacts are identified (with a focus on climate change, biodiversity and community impacts) and key improvement strategies recommended.
- Involvement in peak global business organisations for sustainability such as the World Business Council for Sustainable Development.

Gauging Success

GHD measures the success of its program in the company by:

- Auditing formal metrics against targets through our EMS.
- Obtaining feedback from our people and clients through engagement and surveys.
- Measuring the take-up and success of our Project Impact Assessment in GHD projects.
- Identifying best practice case studies of sustainability in our projects.

Externally, GHD looks at strategy, opportunity, efficiency and compliance in its client's sustainability work. These areas reflect client business drivers and the process provides a clear decision-making framework. Some examples of client successes include:

- *Strategy: GHD embeds sustainability into a client's business strategy*
Triple Bottom Line (TBL) – GHD designed a TBL toolkit to enable Orange County Sanitation Division to quantify and compare economic, social, environmental and governance impacts for infrastructure projects.
- *Opportunity: GHD looks for opportunities for growth in projects, products and services*
Transport – Virgin Blue in Australia offers carbon neutral flights based on a greenhouse gas lifecycle assessment and emissions monitoring plan developed by GHD.
- *Efficiency: GHD looks for efficient use of resources to reduce environmental and social impacts while saving costs and improving productivity*
Waste – GHD assisted the South Australian Brewing Company in its cost expenditure program through minimising waste in its brewing and packaging operations.
- *Compliance: Effective sustainability management involves compliance with policies, regulations, standards, codes of practice, permit and licence conditions*
Environmental management – various forestry plantations are inspected annually and reported on by GHD.

Sustainability program management

Management is via a Sustainability Advisory Group comprising senior management from a number of key business areas. The group's role is to identify and address global and local sustainability issues in a business opportunity sense. Having high level management involvement means GHD can be strategic and influential as it strives to enhance the capacity and capabilities of staff to provide sustainability solutions to clients.

The group also handles the nuts and bolts of GHD's business operations such as reviewing and reporting on environment management systems, resource management and purchasing policies. It routinely collects data on electricity use, greenhouse gas emissions, paper use and waste as part of the company's push for carbon neutrality. And it looks to the future, investigating innovative opportunities to advance sustainability in services and moving towards a Global Reporting Initiative model of corporate reporting.

GHD corporate social responsibility (CSR)

Corporate social responsibility has been part of the company's operations since its inception. But a more formal CSR program was implemented in 2001 when the company established the GHD Foundation. The Foundation provides pro-bono skills and funds for projects in disadvantaged communities across the world. Each year one tangible project is selected with the aim of enhancing local ways of life. For example, the Foundation is contributing to the Northern Samar Structure Planning Project in the Philippines. The Northern Samar Coalition Against Poverty (NSCAP) is led by the provincial government of Northern Samar and

includes several private and not-for-profit organisations that seek to improve economic conditions and alleviate poverty in the province. GHD is assisting NSCAP to develop a master plan to help guide the selection and implementation of infrastructure projects.

GHD also supports staff involvement in not-for-profit organisations via the GHD in the Community program, which began in 2005. GHD allocates funds to projects undertaken by not-for-profit organisations in which GHD people are involved. Grants are donated to selected projects. Recent initiatives include:

- In conjunction with the World Wildlife Fund, GHD has ‘adopted’ 41 polar bears to examine the behavioral patterns of bears and research the effects of climate change on the animals and their habitat.
- Visiting the Rumah Impian Orphanage in Petaling Jaya in Malaysia to host a lunch with the children. The facility cares for 16 children whose parents are unable to support them.
- Funding the True Blue Dreaming Outback Youth Mentoring Program that fosters a network of young Aboriginal people, promotes equality of opportunity between rural, remote and metropolitan Australia, as well as a greater respect for indigenous culture.

In addition, GHD makes contributions to charitable societies and not-for-profit organizations that assist some of the world’s most vulnerable people. The activities of these organizations improve general health, living standards and infrastructure, assist regions that have been devastated by disaster, and promote humanitarian values.

Finally, GHD runs an Alumni Program comprising a network of former employees who continue to be part of the broad GHD community.

Promoting sustainability/CSR program success

GHD promotes the success of its sustainability and CSR programs internally (employees) and externally (clients), and recognises there is strong overlap. There is strong emphasis on relaying ‘success stories’ to both internal and external audiences – providing information about the results of formal metrics against agreed targets, and case study/best practice examples and news items.

Lessons learnt

Overall client and employee response has been supportive to GHD’s sustainability and CSR programs. Both programs are now located in every office at a corporate level, and in the case of the sustainability program, each of the company’s major Operating Centres has a sustainability and environment committee to drive the program. From a client perspective, GHD has broken down project sustainability management into four key areas – strategy, opportunity, efficiency and compliance – that clients say reflects their business needs and provides clear reasons to act.

The major lessons learned through program introduction and implementation is that there is a need to develop clear sustainability objectives for business and to direct management activities and programs towards these objectives (ensuring organisational structures and procedures to align). Leadership from the top and staff development and buy-in is also critical.

The end result is that by operating in an atmosphere of responsible corporate citizenship, GHD has inspired its people, fostered more effective relationships with clients, and contributed positively to the communities where the company operates.

For more information about GHD and its sustainability services and goals, visit www.ghd.com.au
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IMPLEMENTING A GLOBAL SUSTAINABILITY INITIATIVE – BEST PRACTICES FOR CONSULTING FIRMS FROM GOLDER ASSOCIATES CORPORATION

*By Jim Renner, Global Sustainability Leader, Senior Geologist, Jim_Renner@golder.com
By Lea Chambers, Associate, Marketing and Communications, Lea_Chambers@golder.com
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Introduction

As an employee owned firm approaching its 50th Anniversary in 2010, Golder Associates is a global group of ground engineering and environmental services consulting companies that from our humble beginnings has fully embraced the concept of sustainability. With a mission of “engineering earth’s development, preserving earth’s integrity”, the principles of sustainability have always guided how we serve our clients, how we contribute to our communities, and how we manage our business. Our employees demand it, our clients expect it, and it’s simply the right thing to do.

Despite our long history of supporting the principles of sustainability, however, the company did not “formally” embrace sustainability until 2008, when the Global Management Team and Board of Directors endorsed a global Sustainability Initiative and incorporated important sustainability targets into the company’s business plan and global “Balanced Scorecard” targets.

As part of Golder Associate's global Sustainability Initiative the following Strategic Objectives were set:

1. Become a recognised leader in sustainable development
2. Integrate sustainable development principles into our business systems

Two measures for these objectives were included in the global Balanced Scorecard:

1. 50 new sustainable development projects delivered by Golder employees for clients
2. Implement measures to reduce CO2 emissions by 10% per employee by 2010

The establishment of these targets was a combination of “bottom up” interest from employees and the recognition of the benefits of doing so by the company’s Board of Directors and Global Management Team.

A member of the Global Management Team was appointed to champion this effort and ensure the achievement of the targets. A global Sustainability Team Leader was appointed to implement the program, provide day-to-day leadership to the various team members, and monitor progress towards key milestones.

What’s Being Done to Implement the Initiative

In order to support the achievement of the overall targets, several activities have been undertaken, which include but are not limited to:

- Establishment and regular meeting of a global “Sustainability Leadership Team”, comprised of regionally based practitioners acting as “champions” to inspire and engage staff globally through regular consultation and communication
- An extensive “Practitioners’ Training Program” whereby established practitioners share their technical knowledge with colleagues for the purpose of having more practitioners available to serve clients
- An annual global “Sustainability Awards Program” to recognize offices and practitioners who are acting and succeeding at embedding sustainability practices in their work and their operations

- Establishment of “Sustainability Clubs / Committees” in all offices to help further the “greening of the company” at the local level
- Development of “Green Meeting Guide”, “Green Travel Guide” and other useful tools to support local activities and overall objectives
- Development of an internally developed global “Carbon Management Tool” to help offices track their usage of paper, etc. in order to effectively monitor carbon emissions
- Tracking and monitoring of sustainability related services that our consultants were successful in selling to clients

To support the achievement of the Initiative’s goals and targets, a Communication Plan was written and is being implemented by the Sustainability Leadership Team with support from a Communications professional.

Some examples of how the Initiative is being promoted internally and externally are (but not limited to):

- Bi-weekly global internal News Announcements about achievements, ideas, and new projects
- Promotion of the global Sustainability Intranet site, where employees can upload information that they want to share with other employees (e.g. presentations, project experience, etc.)
- Extensive news “coverage” on the company’s Intranet about the annual Sustainability Awards (submissions, winners, etc.)
- Production and development of a Sustainability Video featuring clips of senior leaders speaking about why they think the Sustainability Initiative is important
- Presentations by Golder practitioners at external industry conferences about our approach to sustainability and our services
- Articles in industry publications about the Sustainability Initiative as well as the various services being provided to our clients

The response to the Sustainability Initiative of our clients and our employees is being measured in 2009 and 2011 through a global online survey. At the time of writing, we do not yet have the results of the 2009 survey. However, sample questions for employees include:

1. How committed is Golder to the following principles of sustainability?
 - a. **Social:** Enhancing quality of life of employees and communities
 - b. **Environmental:** Minimizing impacts; providing sustainable solutions
 - c. **Economic:** Long-term financial stability of Golder
2. How well do you think Golder has explained the three principles of sustainability to our employees?
3. How much value do you think our sustainability services provide to our clients?

The results of the survey (both a baseline and update in 2011) will help the Sustainability Leadership Team understand how successful we have been with respect to how the Initiative is being implemented and communicated.

Recommendations for Implementing a Global Sustainability Initiative

In implementing your Sustainability Initiative, it is essential to remember the following:

1. Your Sustainability Initiative should have clearly defined goals that are “SMART” ones that have the support of management at all levels of the company.

2. Avoid “green washing”. Be prepared to measure your carbon footprint and other aspects of your environmental performance using clearly defined scientific principles, rather than just saying you will reduce it.
3. Keep the topic of sustainability front and centre in as many communication mediums as you can. Vary your communications between presentations, news items, videos and podcasts.
4. Take the time necessary to engage as many employees as you can in the planning and execution of your initiative. People like to feel included and valued in terms of their opinions.
5. Be quick to recognize success and the achievement of key milestones.
6. Recognize that implementation does not happen overnight and that some operational processes and systems important for implementing sustainability goals will require significant time and effort to modify and improve.

Implementing a global Sustainability Initiative is a worthwhile endeavor for any consulting company operating in today’s global economy. Despite the global economic downturn, integrating sustainability practices into operations and services to clients can provide higher levels of employee engagement and retention and new revenue opportunities with existing clients.

SUSTAINABILITY AT HALCROW

By Les Buck, Group Board Director and Andrew Kluth, Group Sustainability Director

When was the Halcrow sustainability/CSR program established?

Our formal corporate responsibility (CR)/ sustainable development (SD) program was established in early 2007, although a number of underlying policies and related programs, including those relating to ethics and the environment, had been in place well before then. While “sustainability” had not been a word on everyone’s lips in Halcrow, our engineering projects had routinely and systematically included considerations of material and cost efficiency, waste reduction and environmental integration for many years prior. Under the sponsorship of a Group Board member, we appointed a senior director and team of senior managers to lead a review of the need for a more structured approach across the Group. A set of proposals was put to the Board in the second half of 2007. This was then debated and refined at a Group seminar in September 2007, engaging our top 100 or so senior managers from around the world.

How was it established?

The formal program was a top-down initiative, driven by a number of evolving internal and external issues, but it also sought to harness and coordinate the bottom-up contributions of many staff already active within their own fields. This program also involved active contributions from the Forum for the Future, an internationally recognized sustainability think tank, and the then Cambridge Programme for Industry, which networks senior business leaders to catalyze thinking on sustainable development. Following the reviews and internal debate, a Group sustainability director, Andrew Kluth, was appointed in June 2008 to lead the development and implementation of the sustainability program.

Why was it established?

Halcrow is an employee-owned organization and has been operating for over 140 years. In the early part of this century, we updated and revitalized our purpose, values and cultural vision, and affirmed that our purpose is “sustaining and improving the quality of people’s lives”. The structure of the CR/SD strategy that has evolved has been driven by a process of challenging what this purpose means to us in many aspects of the way we work, how we deliver services to our clients, what they should expect of us and therefore how we should be implementing it, taking into account regional and cultural sensitivities in a global context.

What are the major components of the program?

We split our program into two closely interlinked elements. CR is about –

- How we do things right in respect of social, ethical and environmental issues and integration. This puts the focus for CR on ethics, governance, policies and process.

SD is -

- What we do for ourselves and others in delivering better, more responsive, more integrated performance on social, economic and environmental issues.

Policies for both CR and SD were agreed by the Board in the latter part of 2008. These led to the formation of a combined CR/SD strategy and an initial 3 year business plan for implementation of the strategy. The strategy, which was agreed by the Board in February 2009, includes nine elements –

- Stakeholder engagement
- Issues
- Objectives
- Performance
- Communication
- Governance
- People
- Leadership
- Clients and markets

These are explicitly stated in our SD and CR policies so that there is continuity between these, the strategy and how we implement the program. The premise for establishing these nine elements was to show that our program is based on listening to people from the outset, showing clarity throughout our strategy as to how all the parts fit together, then effectively closing the loop by demonstrating that the results are focused on supporting our clients and markets.

We also believe that organizations that are recognized for their CR/SD activities do two things well –

- Deliver effective, robust, verifiable and superior programs; and
- Talk about their work regularly to a wide range of listeners inside and outside their sectors of operation, and in a transparent and open manner.

We aim to strike a balance between the doing and the telling: an effective program must have both aspects.

Who manages the program?

The program is managed by the Group sustainability team, comprising the Group sustainability director, Andrew Kluth and Group sustainability manager, Nick Murry. The director reports into a Board director with specific responsibility for sustainable development, Les Buck, and also works with another Board director, Neil Holt, focusing on corporate responsibility aspects. Neil is also supported by the Group manager for corporate responsibility, Jenny Russell. We are keeping the central team deliberately small, seeking major involvement through a Sustainable Development Task Force (SDTF) with membership drawn from all five of our business groups and key interested functions. The aim is to ensure engagement across the business and to find ways to embed good practice within the business from the outset.

How is the success of the program gauged?

We have proposed a set of key performance indicators (KPIs) covering our major environmental, health, safety, wellbeing, employee satisfaction, client satisfaction and people engagement measures. These KPIs apply to our global operations. In some cases, detailed baselines and targets already exist for these; in others, we are collecting baseline data, developing benchmarks and beginning to set stretch targets. Qualitative assessment and reporting is also being used to complement this quantitative approach.

Our key aims for our strategy are to –

- (1) Collate and consolidate existing CR/SD activities across the Group;
- (2) Benchmark what we have in place against sector and overall good practice;
- (3) Identify and highlight issues that must be addressed where this has not already been done;
- (4) Identify key objectives, targets and KPIs, then deliver to them;
- (5) Work with all parts of the Group on an integrated basis to improve our performance;
- (6) Communicate the good things we do and the areas where we can improve to all parts of the Group on a regular basis, both for internal and external purposes;
- (7) Use CR/SD as a legitimate differentiator so that we may show not only through effective leadership but also embedded behaviors and practices that we are adding value to others as we live our own values; and
- (8) Demonstrate tangible value (both short- and long-term) to Halcrow resulting from our CR/SD policies and processes.

We are aligning our accredited management systems, particularly our ISO14001 environmental management system, to focus on the management of the relevant core KPIs of our sustainable development program.

To ensure that our data collection is consistent, robust, timely and accurate, we are implementing a CR/SD data management, analysis and reporting tool. The set up of this is taking place in 2009 in selected regions to establish this system and will then be rolled out subsequently on a global basis.

How is the program promoted?

Internally

We have a Sustainability Gateway on our intranet which holds key policies, strategies, links to internal skill groups and resources. We have produced a briefing slide pack on our sustainable development policy

which is available on the intranet, and we are putting in place a schedule of briefings from the Board downwards on the program. Members of the SDTF are key points of contact within their business groups and are reporting back on a regular basis on specific activities within their areas of responsibility.

The full CR/SD strategy has been published on the Gateway and comments from across the business sought. In addition, we will be developing a range of briefing materials and communications channels for people to offer views and suggestions, and to receive feedback on how the program is evolving and making an impact.

In an organization of 8500 people worldwide, it is proving a real challenge to identify, assemble and make widely available a detailed compendium of best practice project examples of our SD experience. These are quite numerous and diverse, but tend to stay hidden and known about mainly by the staff and clients who worked on these projects, unless regular encouragement is given to share this information.

Externally

We have produced a corporate CR report for a number of years, but from 2009 onwards we will produce a combined CR/SD annual report. In addition, we are beginning to include CR/SD information in client communications, such as business development materials, bid submissions and marketing information. We are developing briefing materials for both internal and external use which summaries why we are developing the program and how clients might expect to benefit. This includes affirming how our program supports the delivery of our purpose, as we believe that this is a significant differentiator for us.

We openly promote our values, and in particular our ethical policies and supporting programs, working closely with governments and trade/professional bodies, with the objective of helping to raise overall global standards in the engineering and construction sector.

We provide briefs and presentations to clients who indicate a desire to know about our program in more detail. Our SD policy includes an undertaking to discuss with each client options for a more sustainable solution, if and when we spot such opportunities. The client is then able to make an informed choice on how to proceed. Our SD policy also recognizes that there will be times when, having met any contracted obligations, it may be inappropriate for us to continue with future stages of certain projects.

How have our clients responded?

We have had very positive feedback from our clients in relation to our strongly held and promoted values (CR), but it is still too early to gauge client responses fully in respect of our more recently formalized approach to SD. However, the development of this program was driven in part by feedback from regular client surveys which indicated that they consider that we are reliable, deliver on our commitments and understand their needs and culture. These have also shown that sustainability is key to many of our clients and that, while Halcrow is recognized for its delivery in this area, we cannot be complacent.

How have our employees responded?

People are attracted to Halcrow because of our purpose and culture. The response generally at this relatively early stage has been positive. There is a great deal of activity going on at a local community level and one of our aims is to ensure that this continues to be supported and facilitated. Following the Boxing Day tsunami in 2003, we created, in response to employee desires, the Halcrow Foundation, which receives 1% of our profits for use in community projects.

At what stage is our program?

The CR and SD policies and the strategy apply universally across the Group. We have begun closer engagement with regional and business group leadership to implement the strategy, working directly with them as well as through the SDTF membership. The formal program is at an early stage and the practical elements are being rolled out progressively, although in many locations activities already under way are in advance of what we are implementing generally. In these cases, we are seeking to understand progress and learn lessons to facilitate the implementation of the Group program.

Recommendations to others trying to create an effective program

Although a more formal approach to sustainability is still relatively new at Halcrow, we have already learned some lessons which it may help others to know about. Implementing a CR/SD program is a collaborative exercise. It needs to be part of what people do, not an addition to their work. Involve people both inside and outside the business to help inform the strategy and program of development. Don't expect too much too soon, but encourage local initiatives whenever possible. Progress is much more likely if people feel they are being supported to do what they would like whenever possible rather than having ideas imposed upon them. Make sure that feedback systems are in place so others can see the results of the efforts being made.

Les Buck
Andrew Kluth

6 March 2009

SUSTAINABILITY AT HNTB: A WAY OF LIFE

By Dave Wenzel, HNTB, Vice President and Pre Design and Planning Leader

At HNTB, sustainability is more than a buzzword. It's an inherent part of what we do in every discipline in the firm: architecture, engineering and planning. We understand the benefits of planning and designing responsibly, both the environmental and economic benefits, and we embrace a basic tenet: Where traditional approaches can lead to congestion, sprawl, pollution and resource overconsumption, sustainable development offers real, lasting solutions that will strengthen our future ... and the future of our clients.

Internal Relations: Connecting with Colleagues

HNTB strives to make sustainability a top priority within our walls. Our dynamic and first draft Sustainable Design Best Practices Manual provides – in painstaking detail, right down to the specific coarse aggregate bed depth that should be used for constructed wetlands – a blueprint for engineers, architects and planners to use in the design process. It covers topics as diverse as solar energy applications, ecology embankment and evapotranspiration systems. The manual serves as a roadmap, a chance to share with colleagues throughout the country the sustainability lessons we've learned in a diverse array of projects over the course of many years.

We keep ourselves and our HNTB colleagues connected to developments in the green movement, as well our own sustainability efforts, through periodic postings on our internal firm Intranet site. We create posters – “Why Green Streets?” the latest one asks – and circulate them throughout the company.

The ideological and financial commitment to sustainability at HNTB starts at the top, as evidenced by the HNTB Eco-Summit held in April 2008 in Chicago. There, HNTB practitioners from offices throughout the country met for a two-day workshop to discuss sustainability. The Eco-Summit was a way to bring those individuals together and make our commitment to sustainability more uniform and more effective. With our vast geographic reach and multidisciplinary staff, HNTB is well positioned to help lead the sustainability movement in infrastructure.

External Relations: Connecting with Clients

At HNTB, we are client focused. We reach out to clients in numerous ways, including the publications that we produce. A specific publication, *Think*, has brought forth the critical balance of finding solutions that save money while preserving resources in its issue titled “Responsible Infrastructure.”

As part of our ongoing sustainability efforts, we routinely assess our clients' environmental needs and react accordingly. Recent research into a cache of Requests for Proposals revealed that nearly 50% of them were referencing desired sustainable solutions. More and more clients and potential clients are requesting, for example, that planners, engineers and architects who are part of their design teams be LEED-accredited. This proved what we've believed for years: that sustainability does not have a limited shelf life. We responded, putting an increased emphasis on LEED accreditation and, in less than a year's time, we doubled the number of our professionals with accreditation.

We've also developed “green design teams,” which serve specific clients and their individual environmental needs. We attach these teams to our marquee projects and look at all sustainability aspects: construction material, drainage issues, disruptions to the environment and even colors that are more or less reflective of the sunlight.

We extend our sustainability efforts even further externally, beyond our clients. HNTB is a member of groups such as the U.S. Green Building Council and the Green Highways Partnership. This past year we sponsored the Sustainability Keynote Sessions at the American Public Transit Association (APTA) and American Society of Landscape Architects (ASLA) national conferences.

Sustainability in Action

Some of our sustainability efforts are simple and subtle. Don't use paper for internal publications unless it meets strict environmental standards. Recycle wherever and whenever possible. But we know our biggest statements come with our biggest projects.

Kansas City

HNTB designed a 135,000-square-foot convention center renovation and expansion that in February 2008 attained LEED Silver certification by the U.S. Green Building Council, one of the first convention center projects in the country to earn such a distinction. The first daylit ballroom in the country, the facility takes advantage of natural light to create visual effects and reduce energy costs. In-slab radiant heating is used in the entry lobby areas to reduce energy requirements in cold weather. Materials used in construction of the building had high-recycled content, particularly for steel and concrete. And, more than 96 percent of the construction waste generated – including over 11,000 tons of demolished asphalt, concrete, reinforcing steel, wood, gypsum board, and other materials – was recycled and kept out of landfills.

Illinois

Bringing local and national resources together with the staff of the Illinois Tollway, we brainstormed the creation of 80 miles of lanes that promise to be environmentally friendly. The lanes will be dedicated to buses, ride-sharing commuters and energy efficient single occupancy vehicles and are designed to reduce congestion for Illinois drivers in a way that promotes sustainability. The initiative, which promises to encourage mass transit solutions and reduce fuel consumption, was a collaborative effort that included HNTB professionals from Chicago, Atlanta, Indianapolis, Orlando, Irvine, Detroit and elsewhere.

Seattle

After landing the South Park Bridge design project in King County, we immediately made sustainability a top priority. The project, which involves design and construction of a new bascule bridge located just west of the existing bridge, will be a delicate balance of groundbreaking technology in an area of historical significance. We liken our green design team to a SWAT team, meaning it will swarm the planning stages from all possible angles and explore everything from drainage issues to bicycle lanes.

Sustaining a quality environment for current and future generations requires a collective effort to balance the needs of living in a modern society with preserving and protecting our land for the greater good. Our mission is to create value for our clients and the communities we serve by making sure the projects we deliver are not only attractive, functional and economical but sustainable in a way that provides long-term benefits for environmental health and quality of life.

The Road Ahead

It's exciting to think about where we might be a year from now, or five years, or 10. One thing we know is that sustainability will continue to be a top priority. With the stark realities of global climate change and costly international energy resources, the challenge of balancing growth and sustaining natural systems in communities nationwide is only going to intensify.

Ultimately, we want to be one of the top firms recognized by clients and peers as the one with the best understanding of complex, intricate design challenges. We are recognized as leaders in environmental planning and design and routinely called upon in national conferences. We want to attract and keep bright, young talent, who more and more want to go to work for firms that are responsibly designing as opposed to just designing.

At the end of the day, we all have a part to play in ensuring that our infrastructure meets the needs not only of today, but the future as well.

Dave Wenzel leads HNTB Infrastructure's sustainability initiative.

H.W. LOCHNER

By Gary Demich, P.E., National Director of Sustainability

H.W. Lochner, Inc.
20 North Wacker Drive, Suite 1200
Chicago, IL 60606

Harold W. Lochner, Jr. wasn't planning to join his father's consulting firm when he graduated from college. "Hal" told his dad the Peace Corps beckoned, offering him the opportunity to help make the world a better place. H. W. Lochner, Sr. offered the thought that if Hal's long term goal was to make the world a better place what he could do with his own hands was limited, but that running an infrastructure planning and design firm would provide him the opportunity to multiply his impact many times over. Thus, the seeds of Lochner corporate social responsibility were planted, and during his 38 years at Chicago-based H.W. Lochner, Inc., Hal Lochner, CEO, has been instilling in his employees that when you work for Lochner, *making the world a better place* is how you approach every aspect of your job.

More recently Hal and his executive team noticed that the vertical construction industry was starting to focus more attention on energy conservation and material reuse and recycling for everything from homes to high-rises, and conducting business more sustainably than it had been in the past. Recognizing that the Earth will eventually run out of non-renewable resources, they also realized, in general, that the transportation infrastructure industry was not changing its focus toward being more sustainable. Guidance documents equivalent to vertical construction's LEED did not exist. In 2007, the company decided that the long-term sustainability of the planet would become an official company initiative.

Corporate officers knew from experience that adding part-time duties to one or more of their existing job descriptions to champion and implement a new company-wide sustainability initiative would not provide the focus needed for success. Lochner committed company resources toward *making the world a better place* by hiring a Director of Sustainability in April 2008, with the assignment of integrating sustainability into all aspects of Lochner's day-to-day business. The charge was to find ways to meet environmental, economic and societal goals while conserving natural resources, reusing or recycling existing materials, and meeting clients' transportation infrastructure needs, while at the same time keeping it cost-effective for those clients. Company leaders were not interested in sounding "green." They wanted it to be part of Lochner's company-wide approach to creating solutions by increasing internal awareness and leading by example.

The new Director immediately held sustainability awareness meetings with more than 20 Lochner offices across the United States. The internal situation in regards to sustainability varied significantly from location to location. Some offices had recycling bins for office paper while others did not. Some kitchens were stocked with Styrofoam plates and cups, some paper, while others had washable plates and cups. The absence of an official recycling program proved to generally be a function of whether or not that particular office complex landlord arranged for collective recycling, or whether or not it was even available in that city.

Lochner's sustainability initiative started at the top and enjoys the full support of the CEO and his executive team. And while top-down edicts, even those having the best of intentions, sometimes meet with resistance during implementation, the opposite can be said with sustainability; employee enthusiasm is high. In a number of locations, the local refuse collection system offered recycling for residential neighborhoods, but not in downtown areas, Lochner employees were already taking it upon themselves to bring recyclables home for collection, to be sure those items stayed out of the landfills. Whether it's for the small internal things like eliminating office purchases of Styrofoam products and setting default printing to double-sided, or external things like overseeing the construction of porous pavements for a major client, people see being more sustainable as the right thing to do and a logical extension of Hal Lochner's "better place" mantra, and they are strongly supportive. Giving official emphasis to sustainability may be relatively new, but buying into the concept did not require a significant cultural shift for Lochner's people.

Lochner's internal approach is voluntary, in that specific item-by-item mandates with deadlines have not been dictated. There is guidance and encouragement for everything from eliminating Styrofoam and the purchase of individual-sized bottled water to printing on both sides of paper that has high post-consumer-content percentages of recycled materials, or replacing fleet vehicles with hybrids and seeking LEED-certified buildings for new office space. This voluntary approach allows individual judgment to overrule well-intentioned but not necessarily best-choice blanket requirements. For example, when it was determined that no LEED-certified space was available within walking distance of the light rail line expansion, the voluntary approach to compliance allowed the Lochner Office Manager to weigh the carbon impacts of being in a new building that will meet all the area's latest energy codes *and* provide an option for his 75-and-growing employees to leave their cars at home, instead of a LEED-certified building without that nearby transit option. Having the new office located close to light rail was the better choice for reducing Lochner's impact on the planet.

Service firms like Lochner that desire to be more specific about their internal savings should be aware that about 40% of their carbon footprint has to do with their office space and office equipment, and up to 50% has to do with how they travel to and from home and/or clients' offices. Firms can make the biggest difference by encouraging people to stop driving to work alone. To do this, Lochner is expanding its transit subsidy program.

For firms that lease space in larger office complexes, a typical situation for Lochner, measuring resource savings against mandated targets can be problematic. These larger buildings are designed for expanding and contracting the amount of leased space depending on the current tenants' needs, and therefore make no attempt to identify utility costs on a tenant-by-tenant basis. Most leases simply include utility costs in the negotiated fee. This means that electricity, natural gas, water, sewer, recycling and refuse charges are combined with all the other tenants. While that hasn't stopped Lochner from implementing means to reduce the use of non-renewable resources, the results of those actions are typically theoretical rather than measured and generally show up as savings to the landlord's bottom line rather than the tenant's. When utility charges are included in the negotiated fee for leased space, *making the world a better place* may have to be considered of value to the firm if you are considering investing in energy-saving office improvements where utility bills are combined.

Lochner's internal implementation also includes at least one page in every quarterly "Life at Lochner" employee newsletter, sharing sustainability-related items that offices and individuals around the firm have accomplished or are working on, offering tips about sustainability at home and sustainability at the office, and identifying ways to incorporate sustainable elements into our clients' projects. This page has been well received as evidenced by emails generated back to the authors.

Lochner's external approach to achieving more sustainable transportation infrastructure is also a voluntary one, recognizing that it won't happen unless clients buy in. The degree to which that is taking place varies widely. A few clients have started requiring sustainability-related elements in their projects. That is exciting news for us! For example, Lochner is the lead design firm for a new \$700 million project where the owner wants to minimize stormwater runoff, long-term energy requirements, and impact to highly sensitive eco-systems in the area; maximize the amount of reused and recycled materials on the project, generate some of the project's power needs on the project site, and keep all construction and demolition debris out of the waste stream. That is a client who understands that we're all living on a spaceship that has limited resources and we've got to make the best use of everything we have. At the other end of the pendulum swing we have a number of clients who have yet to make changes in the way things have always been done, and one of Lochner's goals is to help them see that becoming more sustainable is not only a better way to build infrastructure, but it can be accomplished with little or no impact to the bottom line.

Lochner has yet to find a client that fundamentally believes becoming more sustainable is wrong. Many know it's the right thing to do, and are often not sure how to go about changing their project designs, specified materials and/or construction techniques to make it happen. Already an award-winning firm for

Context Sensitive Designs, Lochner now also offers sustainability-related help in the way of transportation planning, environmental analyses, engineering design and construction oversight.

Lochner believes designing and building sustainable transportation infrastructure that minimizes the related impacts to Earth's dwindling supply of non-renewable resources will eventually become mandatory. Making our industry green sooner, before our planet's resources are used up, is a part of the responsibility we all have toward future generations. We are proud to be a part of making the world a better place in this new and important way.

SUSTAINABLE INNOVATION AT JFNEW

By Sam Miller, Vice President of Strategy and Marketing

“The future is not what it used to be.” These words were penned by poet Paul Valery in 1936, and they are even more insightful today than during the great depression. We all recognize the transition our world is currently undergoing. From a world of abundance to one of scarcity. From a world of undervalued externalized costs to one of sustainable economics. From a world of debt-leveraged economic growth to one of renewed economic sensibility. Yet, the opportunities we are presented with today as consultants, engineers and scientists create for JFNew a sense of optimism that we are on the verge of an economic revitalization that has never been experienced.

For JFNew, the path to sustainability is paved (previously, of course) by innovation. JFNew is mobilizing our resources to define and develop solutions to emerging needs that will create new markets and redefine our business model. As a company, we are proactively seeking new solutions that will soften our own corporate footprint and that of the clients and communities we serve. Sustainability is being integrated into our culture and strategy at all levels, and, through our Innovation Leadership Team, we are driving our business towards blue ocean opportunities that are just in their infancy. Although the science, technology and infrastructure are not yet in place, a new economic model is emerging and we expect the pace of change will be dramatic.

Through this lens, JFNew’s management is creating a strategic map that will position the firm as a leader in the next wave of economic growth—one based on principles of sustainable capitalism. Our formal efforts began in 2007 with the inclusion of sustainability and innovation metrics and goals in the company’s strategic plan. The process continues today with a commitment to investing in continuous improvement and emerging needs-based innovation.

Our approach is embodied in our *Statement of Sustainability*:

To provide the highest quality ecological services while advancing our leadership in corporate social responsibility by:

- 1. Identifying, minimizing and reporting our environmental footprint*
- 2. Leveraging JFNew’s mission and culture to create innovative environmental solutions that serve emerging market needs*
- 3. Influencing sustainable choices by educating and inspiring our employees, clients, suppliers and communities*

Identifying, Minimizing and Reporting Our Environmental Footprint—JFNew’s ultimate goal is to reinvent our business model into one that measurably generates an increasingly positive environmental and social impact while minimizing our footprint. In 2007, the JFNew sustainability team identified nine Key Performance Indicators (KPIs) and created a baseline sustainability report. Our 2008 Mid-Year Progress Report identified areas of improvement and, more importantly, areas requiring additional attention. Data collection for 2008 is nearly complete and our first Corporate Sustainability Report will be published in 2009.

JFNew’s progress to date includes the following:

- Paper usage footprint saw dramatic improvement. Marketing collateral paper consumption was reduced by more than 15% and sustainable paper sources were specified for more than 80% of the paper consumed for these projects.
- A firm-wide electricity conservation effort yielded a net electrical reduction of 8%, despite a larger occupancy footprint.

- JFNew increased its corporate contribution to environmental causes by joining *1% For The Planet*. More details on this commitment are provided below.
- In 2009, JFNew will publish its first annual Corporate Sustainability Report, which will comply with Global Reporting Initiative (GRI) guidelines. Upon completion, this report will be made available to the public.

Leveraging JFNew’s Mission and Culture to Create Innovative Environmental Solutions that Serve Emerging Market Needs

In 2008, JFNew formed an Innovation Leadership Team comprised of management, technical and ecological staff. The team focuses on identifying emerging opportunities and seeks breakthrough innovation above and beyond modest incremental improvements. Our process defines three types of innovation projects:

- New Market Innovations
- Unmet Needs (Existing Market) Innovations
- Continuous Improvement Innovations

Through commitment and discipline at all levels of the company, we have made significant progress. In our first year we created an innovation pipeline of R&D projects aimed at improving the survival and establishment of native landscaping and restoration projects. Too often, traditional design practices and incomplete knowledge have a negative effect on the success of native landscaping projects. JFNew is creating new design and specification protocols for these types of projects to ensure that they survive and thrive. The intended result will be an increase in client and owner satisfaction with native projects and, therefore, a higher acceptance and demand for these more sustainable options. Pilot programs are underway and we are aiming for full release by the end of the year. Several other concepts have the potential to increase the economic value of ecosystem services provided by restoration, green infrastructure and low impact development projects.

In the area of continuous improvement, JFNew created our “Ingenuity Award” to be presented to the employee or group of employees who implements the best idea with regards to waste elimination, cost reduction, safety or employee productivity. The nominations are judged on the ecological and economic value of the project, which reinforces our aim to become leaders in sustainable capitalism. Projects that reduce waste or improve employee satisfaction add to our triple bottom line and create competitive advantage for our firm. Our Ingenuity Award is an opportunity for our team members to be recognized for creative problem solving and helps support our effort to create a culture of innovation.

Influencing Sustainable Choices by Educating and Inspiring Our Employees, Clients, Suppliers and Communities

JFNew has been at the forefront of sustainable design and environmental stewardship since our founding in 1989. We take seriously the podium from which we speak about sustainable business practices and the influence we can affect. For this third element of our sustainability initiative, we point to two specific programs: *1% For The Planet* and our Employee Stewardship Program.

JFNew recently became a member of *1% For The Planet*, which is a growing global movement of companies that donate 1% of their sales to a network of environmental organizations worldwide. Beginning January 1, 2009, JFNew committed to donate 1% of our native plant nursery sales to environmental non-profits that are recognized by the *1% For The Planet* program. *1% For The Planet* is a Waitsfield, Vermont-based non-profit that exists to build and support an alliance of businesses financially committed to creating a healthy planet. The group was founded in 2001 by Yvon Chouinard (founder of Patagonia) and Craig Matthews (owner of Blue Ribbon Flies) and has grown to include more than 1,000 corporate members and more than 1,700 environmental non-profits. JFNew has a long history of environmental philanthropy through the Jimmy F. New Foundation, a 501 (c)(3) created in 2002 in honor of the company’s founder. In fact, JFNew matches all employee contributions dollar for dollar.

The company's recent membership in *1% For The Planet* raises our own level of giving and creates awareness of the importance of corporate stewardship.

Our Employee Stewardship Program, although still under development, is one that offers large potential to extend the reach of our corporate sustainability initiatives. JFNew has a unique culture, and most of our team members work here in pursuit of an environmental passion. This collective passion is a resource that can change behavior and perceptions within our circle of influence. It is, therefore, our objective to provide tools, resources and opportunities to our team to demonstrate the value and feasibility of sustainable lifestyles. In early 2009 JFNew will publish the first edition of a Best Practices Guide and a formal Employee Stewardship Program will be in place by the end of 2009 to recognize and reward those team members that best embody the spirit of the JFNew sustainability initiative.

Measurement and Metrics

Measuring our progress is a critical element of our sustainability program. As previously described, our list of KPIs was defined early in the process. The KPIs are:

1. Energy Use by Type (total and per \$ of revenue)—Electricity, Natural Gas, Vehicle Fuel
2. Energy from Renewable Sources as a % of Total Energy
3. Greenhouse Gas Emissions (total and per \$ of revenue)
4. Paper Usage - Tons (Total and per \$ of revenue)
5. Recycled Paper Usage as a % of Total Paper
6. Solid Waste Sent to Landfill - Cubic Yards
7. Profit Contribution from Sustainability Initiatives
8. Corporate Contributions to Environmental Organizations
9. Percent Enrollment in Employee Stewardship Program

While JFNew is committed to track and report on our KPIs, we wanted to go further by including the beneficial impact of our ecological restoration work in our scorecard. The one common denominator was carbon, which is emitted as a result of our operations and sequestered by the native plants we provide. A metric was created to account for the *net* carbon impact of our firm and it is now one of our three overall corporate objectives. The metric is called the Net Carbon Multiplier and it is the ratio of GHG sequestered: GHG emitted. JFNew's multiplier was estimated for 2008 and we have set escalating one- and three-year objectives at the very top of our strategic plan. Our performance on the metric will be publicly disclosed in our Corporate Sustainability Report.

Where We Go from Here

Our program is based on the direct linkage of sustainability and innovation. JFNew will continue to commit resources to find uncommon solutions that lower our footprint and enhance the ecological and economic value we deliver to our clients. JFNew will commit the time and energy of our senior management to challenge the team to be restless and curious, with a keen focus on problems without adequate solutions. We will hold course with a well-defined innovation process that enables us to celebrate failure as well as reward success. A sustainable economy beckons; the future is not what it used to be.

PARSONS BRINCKERHOFF: BUILDING ON OUR FOUNDER'S COMMITMENT TO SUSTAINABILITY

*By Susannah Kerr Adler, AIA, Manager, Architecture and Buildings Technical Excellence Center
and Tom Malcolm, Manager, Corporate Communications.*

Parsons Brinckerhoff (PB) is engaged in many projects to meet the modern world's infrastructure needs while respecting our planet's resources. The firm's work encompasses environmentally friendly transit systems...renewable power...energy-smart buildings...water/wastewater management...environmental stewardship for highways...environmental remediation...planning for smart growth...and more.

The firm's work on behalf of its clients is grounded in the belief that the development infrastructure must address social, economic and environmental concerns—the triple bottom line of sustainability. That commitment is not new. In fact, nearly 100 years ago, the firm's founder, William Barclay Parsons, articulated a definition of sustainability that is still relevant today. "Engineering requires two abilities – first, the technical skill and second, the mind and the knowledge to conceive that which is useful and will be for the convenience of mankind in the long run."

PB's commitment to sustainability is embodied in a corporate policy statement and a company-wide initiative that fosters state-of-the-art training, communication and knowledge-sharing, and relevant staff accreditation.

The firm addresses corporate social responsibility in a number of ways. A firm-wide Community Involvement Challenge encourages employees to volunteer time or make donations to community organizations. Employee donations to selected charities are matched by the company, and the firm's charitable foundation supports a variety of philanthropic activities.

The firm encourages the establishment of Green Teams—groups of employees who volunteer their time help to raise the profile of environmental issues while encouraging positive interaction between colleagues. Some popular initiatives implemented around the world include:

- Using recycled paper and printing and photocopying double-sided.
- Installing automatic power shut-down on electrical equipment, including motion-sensor light switches in meeting rooms.
- Recycling paper, plastic, glass, batteries and electronics.
- Participating in events such as Earth Day, Earth Hour, Ride to Work Day and local neighborhood volunteer and clean-up days.
- Auctioning unwanted office equipment to staff or donating to local schools or charities.
- Drinking Fair Trade organically grown coffee in mugs instead of throw-away cups.
- Sponsoring brown-bag lunch presentations on topics related to sustainability.

PB actively promotes sustainability within the infrastructure services industry. The firm is a signatory to the charter on sustainable development of the International Association of Public Transport (UITP). As a full charter signatory, PB is committed to "the development of the public transport sector remains sustainable in terms of its social, economic and environmental impact." PB is also a member of the U.S. Green Building Council (USGBC) and the American Wind Energy Association (AWEA). Two dozen of the firm's offices are certified to the ISO 14001, the international standard for environmental management, and other PB offices are developing plans for certification. Nearly 100 employees have been certified by the USGBC as LEED (Leadership in Energy and Environmental Design) accredited professionals, and other staff are accredited by BREEAM (Building Research Establishment Environmental Assessment Method) in the U.K. and Green Star in Australia.

Other activities intended to promote a commitment to the principles of sustainability include:

- Training programs for staff around the world in technical methodologies that emphasize sustainability.
- A Sustainable Development Practice Area Network, a group of 600 employees worldwide who share information related to sustainability via the firm's Intranet.
- A fellowship program specifically dedicated to research on issues pertaining to sustainability. In addition, the firm's Research & Innovation program encourages research on issues pertaining to sustainability.

PB's internal activities with respect to sustainability are intended to support the "green" thinking our planners, engineers, architects, and construction management professionals apply on real-world projects that save energy, recycle materials, protect and restore the environment, and promote healthy communities. Our work on behalf of clients hearkens to Parsons' belief that it is "not the design that governs, but its adaptability to the economic and social needs of the time."

SCS ENGINEERS SUSTAINABILITY PROGRAM

By Michelle Leonard, Vice President

SCS adopted an environmental sustainability policy in February 2006. The policy establishes goals and guidelines for implementing sustainable practices in our business operations. The policy states:

SCS supports environmental sustainability practices through the conduct of our business. We believe in environmental leadership, stewardship, and responsibility, and we also believe that business success and environmental responsibility work well together.

In our commitment to this policy, we will:

- Develop our knowledge of sustainable practices through continuing education to create the best, most feasible and practical solutions.*
- Encourage the use of sustainable practices at SCS offices.*
- Conserve natural resources by reducing waste, reusing materials where practical, participating in recycling programs, and purchasing recycled products and goods.*
- Practice responsible energy use through conservation and efficiency.*
- Provide services and expertise to help others develop or improve sustainable practices.*
- Encourage the participation of SCS staff in community sustainability programs through local office partnerships and activities.*
- Seek to improve the sustainability of our operations by communicating with other SCS employees and assessing our progress towards implementation.*

A variety of sustainability programs have been proposed and implemented throughout the SCS offices. Where possible, some offices have quantified their progress, such as tons of paper recycled per year or number of items recycled during the reporting period. On an annual basis, each office provides a summary of accomplishments, challenges and opportunities.

The economic challenges facing the country and our company have not negatively impacted the sustainability program at SCS. We recognize that many of the benefits of a green economy can be realized through the implementation of our sustainability goals and objectives, and we will continue to seek improvements to our program.

Clients continue to seek out services for greenhouse gas emissions inventories, reductions, and verifications and we have not seen a decline in this type of work. Similarly, many clients are also pursuing LEED certification for new and existing buildings. It is widely recognized that green buildings save energy, resources and money. SCS is responding to our clients needs by supporting LEED accreditation (LEED-AP) for a number of staff across the country.

SCS has also adopted a Sustainability/GHG Strategic Initiative as part of our 2009-2013 Strategic Plan. This initiative was developed based on continuing client demand for these types of services.

A number of opportunities have been identified and targeted for improvement:

- Use of electronic mail or bulletin boards could be improved.

- Double sided copying is not the automatic default and some printers do not have this function
- Method for measuring sustainability efforts and impacts company-wide.
- Bicycling, carpooling and mass transit programs are problematic because of safety considerations for those wishing to bike to work (traffic) and lack of adequate bus schedules for mass transit. Carpooling is encouraged but office and field schedules make this problematic as well.
- Managing our HVAC energy use is a significant challenge, including limited opportunity to manage heating and cooling of individual areas to meet the needs of all our staff, and lack of dedicated electric meters for individual office areas.

SKM SUSTAINABILITY PROGRESS REPORT

By Nick Fleming

I'm pleased to provide the following progress report on sustainability activity at Sinclair Knight Merz (SKM) during the past 12 months.

It has been an exciting phase for our firm. More than ever before, 2008 saw SKM make a bold commitment to embed the principles in sustainability in everything it does. I'm delighted to be overseeing much of this activity in my new role as the company's Chief Sustainability Officer, a role that was established in June 2008.

Early in 2008 SKM agreed a common purpose: 'To deliver a positive and enduring impact on the world.' Our clear aim is to ensure that sustainability is central to everything we do. And as one of the world's leading engineering, sciences and project delivery firms, we believe the greatest impact we can make is in the delivery of sustainability principles through major projects around the world. In all of these projects we are aiming for outcomes that consider the economic, social and environmental impacts of our work. And we are prepared to 'walk the talk' alongside our clients and our people.

Following on from our CEO's commitment in late 2007 to cut SKM's carbon emissions by 30 per cent per capita over the next three years, much of our internal focus during the past 12 months has been around establishing our greenhouse gas emissions footprint and putting in place a protocol for measurement, targets and enhanced reporting requirements.

Some of our other achievements during this period include:

- The establishment and consolidation of a functional Sustainability team, headed by the new Chief Sustainability Officer role
- Technology enhancements such as video-conferencing and automatic PC Shut-down to reduce travel and energy consumption
- Relocation of our Brisbane office to a 5 star-rated "Green Building"
- Demonstrating corporate leadership on climate change through signing the Bali and Poznan Communiqués
- Introduction of client manager sustainability training to aid communication regarding sustainability with clients and client teams
- Establishment of Sustainability Practitioners to aid with the integration of sustainability into our projects. There are now 22 Sustainability Practitioners across all our business units and in most of our regional offices – including Chile, New Zealand and the UK
- A sustainability champion identified in each of our four business units to help deliver our sustainability strategies
- A range of thought leadership activities with clients and opinion pieces published in key journals and publications (Engineering Australia, BRW, Fast Thinking magazine) in relation to key developments and issues regarding sustainability
- Incorporation of sustainability messages and learning objectives into our Learning and Development programs
- Publication of additional sustainability resource material for staff on our intranet

Global Financial Crisis

The global financial crisis has rapidly developed into a recession beyond anybody's expectation and experience. While SKM remains in a strong position, in such a challenging business environment we, like many organizations, need to monitor and manage our operations cautiously, and be flexible.

This does not mean that our commitment to sustainability diminishes. In many respects the tightening market conditions encourages us to look even more closely at the use of energy and looking for efficiencies. Driving those efficiencies is of course in line with our broader sustainability aims. We are seeing similar challenges for our clients.

Cost pressures are intense, and there is tension within all businesses around funding and investment. On the one hand there is pressure to focus on the short term, typically more aligned with a 'business as usual' approach, which may provide access to short-term cash. But at the same time we are seeing keen and increasing interest from our clients to be "fit for the future". In particular, there is a lot of interest in the new emerging energy areas.

As we look to the future with our clients, we see a world constrained by the ability to emit carbon and other pollutants. It will be constrained by the access to resources – for example, there is likely to be nine billion people by 2050 compared to around 6 billion now. So clients are realizing that the ability to think about what the operating environment is going to look like in the decades to come is becoming critical. For SKM this is exciting and challenging at the same time. We are being asked to challenge conventional ways of thinking and question not only the efficiency of a project and materials used or the impact generated, but fundamentally, whether it's the most useful solution to a client's broader business requirements.

Next Steps Within SKM

We will continue to focus heavily on embedding sustainability practices into our business and projects. Some internal areas of focus for the next 12 months include:

Reducing emissions: Our goal of reducing emissions by 30 per cent per capita by 2011 will continue to be a key focus. We have worked hard over the previous 12 months to establish and improve many of the systems we use to track our ongoing emissions, and we will continue to seek ways of capturing more accurate data. We know achieving our targets will require a combination of behaviour change and some significant infrastructure and operational changes. To reduce our buildings impact we are looking at a range of options including purchasing green power, explore targeted base building and tenancy adjustments, and relocating to 'green' buildings where feasible. For air travel we will expand our use of video-conferencing and remote working programmes, modify travel behaviour through regular reporting and altered approval mechanisms.

Client relationships: One important cog in the process is to focus our efforts into assisting relationship clients who are committed to sustainability. As such we are developing a robust go/ no go process for projects in relationship to sustainability.

Education: An SKM wide program of engagement and education known as rEvolutions is being implemented to ensure that sustainability is integral to our total service delivery. The aim is to reach at least 70 per cent of staff by the end of 2009.

Authenticity: Reputation means a lot. Building our credibility means communicating our approach and capabilities to achieve high regard and profile with clients, staff and the industries and communities within which we work. We will continue to focus heavily on producing relevant, engaging thought leadership material.

Investing in the future: SKM is refining its program of community investment through our Corporate Social Responsibility sub-committee.

For more information contact Nick Fleming at +61 3 9248 3379

WESTON SOLUTIONS, INC: A HISTORY OF MAKING A DIFFERENCE

It is difficult to say when the sustainability program at Weston Solutions, Inc. (WESTON®) was established: sustainability has truly been part of our culture since we were founded in 1957. However, over the past several years, we have made significant strides in formalizing how we incorporate the idea of making a difference in the world.

Because of the nature of our work, doing the right thing for the environment and our communities comes naturally to WESTON's 1,800 employees.

We think of Making a Difference in two broad categories: Integrating sustainability in our offices and as part of our operations, and charitable giving/community partnering.

WESTON's founder, Roy F. Weston, was a thought leader in the concept of sustainability in the 1990s, long before it became fashionable.

A Clear Vision: Seeing 2010

In 2006, as part of WESTON's strategic planning process, employees shared with senior managers what they valued in our employee-owned company. The key themes of *making a difference* and *walking the talk* with regard to sustainability emerged, along with a drive for the company to accelerate its efforts in this area. As a result of this grassroots feedback, WESTON included Making a Difference as one of the main components of our strategic planning process, collectively called Vision 2010.

As part of the Vision 2010 process, Making a Difference was formalized as one of WESTON's core values, defined as follows:

Focused on improving the quality of life, we operate in an economically, socially, and environmentally sustainable manner. As a partner in our communities, we help create broader value in our world and take responsibility for the impact of our activities.

Formalizing Responsibility for Sustainability in 2008

Another result of the Vision 2010 process was the 2008 appointment of a Sustainability Director and Sustainability Champion. The Sustainability Director coordinates WESTON's sustainability efforts both internally and externally. The Sustainability Champion works to integrate sustainability throughout the company. Last year, WESTON also developed formal goals for integrating sustainability.

Sustainability in Our Operations

Employee response has been positive, dovetailing the company's emphasis to make a difference to their own desires to do so.

Along the more traditional connotations of sustainability, almost every office is engaged in sustainability, with active discussion, goal-setting, and implementation of sustainability measures, such as recycling, reducing energy use, and green procurement. The program goal is to tap existing practices, knowledge, and commitment, and develop centralized tools for measuring and tracking progress and our impact on the environment.

The initial goal of the program was to enhance WESTON's management systems to incorporate sustainability at all levels, organized around four areas:

- Sustainable Office Operations
- Sustainable Projects

- Engaging our Employees
- Making a Difference

Management System

WESTON enhanced its management system to integrate sustainability into all aspects of how we conduct business, based on a broad level of input across the company to ensure that it addressed the needs of the users and reflected the values of the organization. Our offices and divisions have set goals and will review their progress in making their projects and offices more sustainable, as well as engaging their employees and reaching out to their local communities.

Sustainable Office Operations

In connection with Earth Day 2008, WESTON celebrated the employees in offices who “Go the Extra Mile” to green their office and project operations by sharing their innovative efforts as best practices we can all learn from and strive to emulate. Serving as just two examples of the innovation of our employees are descriptions of why our Chicago and Denver offices are both Extra Mile winners:

- *Chicago, IL – Sustainable Innovation:* The Chicago office showed great innovation by building a worm farm to process organic waste in the kitchen. In addition to the vermiculture project, the office provides support and incentives to employees who use public transportation, purchased an Energy Star dishwasher—and dishes—to minimize solid waste, and uses 100% recycled paper.
- *Denver, CO – Breaking Down Barriers:* The Denver office had previously contracted independently for limited recycling services because its building did not offer recycling. In 2008, the Denver team successfully lobbied its landlord to institute single-stream recycling throughout the entire building, with recycling containers now in every office.

In addition to office operations, WESTON is committed to sustainable procurement. That commitment is evidenced by a shift in corporate travel and meeting planning. Meetings with common attendees are carefully planned back-to-back to minimize WESTON’s carbon footprint. In addition to expanding the use of conference calls and Web-based meetings to decrease travel, WESTON has acquired video conferencing equipment in eight offices to facilitate video conferencing in lieu of travel.

Sustainable Projects

WESTON is also executing our projects in a more sustainable manner, as exemplified by the Glastonbury, CT, office, which received the Going the Extra Mile award for its operation of an extraction and treatment system for soil and groundwater contamination for a client who shares our commitment to sustainability. The office voluntarily purchased renewable energy certificates to offset 25% of the project energy use for 2 years. WESTON and the client teamed to incorporate further sustainability measures: An access road to the site was necessary, but to limit grading and site disturbance, the 1-mile road follows open clearings and natural terrain. Work on the site was sequenced to allow habitat restoration during the growing season. For the extraction and treatment system, the project team also utilized extremely efficient motors with variable-speed drives to minimize energy use.

Engaging our Employees

WESTON has long realized that our employees are our greatest resource, and to fulfill our sustainability goals, we need to tap into their energy and ideas. Developing and rolling out revised management systems helped identify existing sustainability leaders and best practices throughout the organization. Recognizing and celebrating employees and their best practices serves the role of encouraging employees to do more, and inspiring others to find ways to integrate sustainability.

Employees have been engaged in a variety of innovations—from creating paperless systems for expense reports in their own offices, to investing local money in energy- efficiency measures, resulting in quick payback time and long-term savings. One group of employees is working to get an existing building LEED certified, while another group set out a challenge to decrease the travel and commuting footprint of fellow employees.

As a company, we keep all three legs of the sustainability stool in balance: people, planet, and profit. While some may see this as a non-traditional aspect of sustainability, for WESTON, a key component of the “people” are our own employees. We have also engaged our employees in a behavior-based safety program, so that employees live and understand safety at work, and take it home with them at the end of each day.

Making a Difference

A significant portion of our employees’ drive and enthusiasm centers on the idea of charitable giving and partnering with the communities where we live and work to make a difference on a local-, national-, and even world-wide level. These activities are detailed in the following section.

Charitable Giving and Community Partnering

A program of corporate support for giving dates back to before 2001, then called “WESTON Truly Cares.”

When the tsunami hit South Asia in December 2004, WESTON employee-owners responded with an outpouring of support by donating over \$30,000 to the relief efforts.

A few years later, WESTON employees donated \$150,000 to the Red Cross for Hurricane Katrina relief—the largest single giving campaign in the company’s history. In addition to monetary donations, WESTON employees collected items to send to shelters and donated their time to provide specialized services in the aftermath of Hurricane Katrina.

Since 2007, senior management further demonstrates support for corporate social responsibility by including a Making a Difference event at the annual leadership meeting. Truly a win-win, these events help connect the company to the local community where the meeting is held, the community benefits from the project, and the resulting opportunity for team-building and to do something that resonates emotionally reinforces the connection these senior-level employees have with each other and to the company.

With the front-and-center role that Making a Difference now plays in the company, employees feel increasingly empowered to reach out and make a difference. Support has poured out from WESTON offices all over the globe, both in the form of financial contributions (from individual offices and individual employees) and as time and support for employees to plan and engage in projects in their local communities.

Leaders Making a Difference
WESTON’s 2008 Chicago-based Leadership Meeting was more than just an exercise in energizing our managers to reach our corporate goals. It was an opportunity for more than 100 employees, including the CEO, to work side-by-side at the Cornerstone Community Outreach Center, a shelter that houses and/or feeds more than 350 homeless people each day

The entrepreneurial spirit and passion of our employees is being demonstrated with each new Making a Difference event. More than 70 events taking place from our offices around the world were documented in 2008, and the number of events continues to increase, ranging from trail days at local parks to volunteering at homeless shelters to renovating (and making more sustainable) houses of the poor in the communities where our employees live and work.

Getting the Word Out

The many facets of the program are promoted internally via a dedicated intranet page, a blog, a social networking site, the internal newsletter, and a periodic publication called *The Sustainability Update*, which is used to inform both internal and external audiences about progress in our sustainability programs.

WESTON's Web site (www.westonsolutions.com) also promotes our sustainability initiatives in the "About Us" section, which includes, for example, WESTON's commitment to sustainable procurement.

Recommendations for Others

Go where the heart is. WESTON's success in this formal phase of Making a Difference is directly tied to the concept's origin: The grassroots-level demand to be sustainable, to make a difference, and to do more of it sooner rather than later. Rather than being a top-down mandate, sustainability initiatives and charitable/community projects are happening so fast—and with such enthusiasm—that the corporate role is to provide a mechanism to celebrate successes, document achievements, and share resources. Although supported and led by example at the top, the driver for the program is at the bottom, and the momentum just keeps increasing.

WILLDAN ENERGY SOLUTIONS IS COMMITTED TO SUSTAINABILITY

By Connie Malone: Energy Analyst

By Samantha Felix: Marketing

“Achieving sustainable development is perhaps one of the most difficult and one of the most pressing goals we face. It requires on the part of all of us, commitment, action, partnerships and, sometimes, sacrifices of our traditional life patterns and personal interests”.
~ *Mostafa Tolba, Chairman of the Commission on Sustainable Development*

While Willdan Energy Solutions creates sustainable communities and fosters sustainability as a business enterprise, we “walk the talk” and practice it in our daily lives. We embrace a framework that aggressively confronts the challenges of attaining true global sustainability. The four main points of the paradigm are commitment, action, partnership, and sacrifice. We have committed ourselves to taking a leadership role in promoting sustainability both internally and externally. We take decisive action towards realizing our goals and sticking to our commitments. We partner with our customers and local communities to promote and implement sustainable behaviors and actions. And we are willing to make the sacrifices of time and money to ensure that we are sticking to our commitments and helping to create a greener world for future generations.

Commitment

The first step in the prevention of global warming and radical climate change is a committed effort to addressing all elements of resource conservation. WES is an industry leader in promoting this commitment. Sustainability is always a part of how we think about company operations and employee work patterns. We are firmly committed to the development of a sustainable global community and planet by enhancing transportation options, investing in local communities and reducing our carbon footprint in our personal and professional lives.

Action

Our management and employees are keenly aware of the need to reduce our carbon footprint and constantly enhance our sustainable practices as we continue to evolve to meet the demands of our changing world. As a company we are always looking for new, innovative approaches to environmental responsibility. For example,

At the Office, we:

- Use energy efficient light bulbs, printers, and kitchen appliances, and recommend that all new equipment purchased is Energy Star certified.
- Use recycled paper and envelopes for printing documents.
- Use Recycling copier and printer ink cartridges.
- Conserve energy in our offices by turning off monitors, all unnecessary lighting and using natural lighting when possible.
- Use telecommuting techniques, e.g., video conferencing, teleconferencing, to lessen travel.
- Offer telecommuting options and flexible work schedules to employees to minimize our travel related footprint.
- Use alternative transportation: many of our employees commute by train, cycling, carpooling, and other travel relevant to our environmental footprint.
- Ensure that all recyclable waste is recycled properly, including local e-waste of electronic, CFL lighting, and batteries.
- Purchase supplies based on minimal packaging and maximum recycled material content.

- Encourage employees to use the local toxin-free dry cleaning facility.
- Purchase local and organic food and beverage products for the office and employee functions.

Partnership

In addition to our internal efforts, we make a point to use our expertise and presence within the sustainability industry as a forum to further promote these practices and encourage green behaviors. To create viable sustainable communities, it takes personal commitment to sustainable practices that is enhanced by collective action throughout the community. WES is always active within the community promoting energy efficiency and sustainability.

In our Community and With our Customers:

- We create sustainable communities - energy efficiency engineering and sustainability strategy are at the heart of our company's core competency.
- We develop marketing materials for our clients on recycled paper or use electronic marketing techniques for disseminating information, such as, twitter conversations, e-blasts, a central website, and the latest social interactive media.
- We run 16 user-friendly, high-tech kiosks that deliver energy efficiency information to homeowners at local credit union branches in Southern California.
- We provide clients and neighbors with the latest energy efficiency, recycling, and conservation information.
- We promote sustainability at local community events and festivals that have been hosted by local utility companies that encourage community participation in utility rebate programs for energy efficiency services and upgrades. This includes handing out complimentary CFL's and programmable thermostats for heating and cooling systems.
- We encourage schools to complete Student Energy Audit Training (SEAT), which teaches the initial concepts of electricity and what to look for in energy savings audits.
- We speak at local schools to explain and encourage energy savings to students.
- WES employees participate in the Urban Village Project, which promotes urban farming, Earth Day Activities, and general encouragement of employees to actively get involved with their communities through professional organizations

Sacrifice

Tying all of this together – commitment, action, and partnership – is our willingness to accept the extra effort that can be a part of creating a sustainable community. Our employees are willing to give their own time to the community and our managers are willing to take on the added cost that can sometimes be associated with buying environmentally friendly products. We make these sacrifices because we realize that creating sustainable communities is a complex task, with multiple approaches. Sustainable communities must develop and implement strategic plans for energy, waste, water, transportation, and telecommunications. The goal is to create communities, inclusive of infrastructure and social behaviors that take advantage of on-site renewable energy, recycling, waste control, water and land use patterns, and green building standards. Today, sustainable and smart communities are necessary for a less polluted environment, and informed and knowledgeable residents are essential to the success of these communities. WES recognizes that the solutions to global warming and climate change exist today, and we are committed to implementing them.

ZOFNASS PROGRAM FOR INFRASTRUCTURE SUSTAINABILITY AT THE HARVARD GRADUATE SCHOOL OF DESIGN

Named after its benefactor, Paul Zofnass, the Zofnass Program for Infrastructure Sustainability at the Harvard Graduate School of Design, whose aim is to organize and standardize a set of sustainability guidelines for large-scale infrastructure projects, held the first in a series of research colloquia with participants from the a/e/c industry on May 1st, 2009.

The colloquium addressed several topics, including:

- the definition and measurement of sustainability in the context of infrastructure
- how sustainability can be integrated into the infrastructure planning, design, and construction process
- the strengths and weaknesses of existing sustainability standards such as LEED
- how to formulate the most appropriate set of sustainability standards for civil infrastructure

The core research group of the Program, consisting of senior faculty members from Harvard, together with research associates and graduate students, presented an initial “straw man” draft of a set of sustainability guidelines. In addition, the industry representatives presented their own guidelines, methods, and innovations, which will be incorporated into future iterations of the Harvard-produced sustainability guidelines. Firms participating in this meeting included Acciona, AECOM, CDM, CH2M-Hill, and HOK.

The next meeting of the Zofnass Program for Sustainable Infrastructure will meet in the fall of 2009. If your firm would like to participate, please contact Brian Kenet at bkenet@gsd.harvard.edu.

FINAL COMMENTS:

THE ESSENTIAL TRANSITION TO SUSTAINABLE DESIGN

By Michael Gresty, President and Principal, Kinetix [business ecology]

The transformation of the real estate marketplace by the devaluation of asset-backed securities, the steep drop in real estate prices, and the severe recession, will continue for years to come. Defensive, short-term tactics such as layoffs and cost-cutting, while sometimes necessary, will not enable architecture and engineering firms to survive and prosper. Rather, they must recognize and take advantage of four factors that signal opportunity: the role of government, resource constraints, a price on carbon dioxide equivalent (CO₂e) emissions, and the potential in existing building stock.

The Role of Government

Across the globe, governments have taken on a new role as guarantor and lender of last resort, through a series of direct interventions at a scale not seen since the 1930s: the equivalent of trillions of dollars directly injected to save banks and other companies. But more important, the expanded role of government includes the implementation of new policies, and is creating opportunities for firms through massive recovery spending informed by smart growth, sustainable design, energy efficiency, 'green' job creation, and capping greenhouse gas (GHG) emissions. The 2009 Recovery and Reinvestment Act includes \$106 billion—or 13.5% of the total—for 'green' initiatives.

The Obama administration's commitment to transparency and its determination to use vast short-term government spending to stimulate the economy by investing to create long-term value, may mean the end to 'business as usual' in infrastructure and real estate development. Increased concern over the proper use of funds—clearly evident in the stimulus bill, which defines the Inspector General audit function at the very beginning—will subject consultants and contractors to increased scrutiny and disclosure. Firms must therefore maintain the highest ethical standards and record keeping practices; not all will be up to the task.

Resource Constraints

In 2007-8, global commodities reached their highest prices ever, driven by a peak demand for raw materials, food, and energy, and a global average real GDP growth rate of 5%, according to *Reed Construction Data*. The collapse of commodity and financial markets, and the proliferation of low-cost green building materials, will trigger a significant transformation in the building materials sector, making sustainable design more affordable than ever. *Building Global*, the UK trade magazine, reports that the giant \$5B City of Arabia project in Dubai will now cost up to 20% less because of falling materials prices.

Before the recession, pressure on ecosystem resources—such as clean air and water—was also high, but less noticeable, since most of these services are still almost 'free.' However, they are not without value, and are conservatively priced by World Resources Institute at more than twice the global GDP. Most governments now recognize that the pressure on ecosystems will return, and that they must legislate price signals to preserve irreplaceable services. The UN Food and Agriculture Organization (FAO) reports that payments for ecosystem services (PES) are mostly still funded by the public sector from taxes, and only in rare cases are revenues generated from fees charged directly to the service beneficiaries, such as water user fees in South Africa. Firms that can innovate to create value through sustainable design that protects or enhances ecosystem services will thrive, while those that employ more resource intensive strategies will fall by the wayside.

A Price on CO₂e

Public awareness of climate risk caused by GHG emissions has increased dramatically, and so have investor concerns and policy responses:

- The Climate Disclosure Project, a consortium representing 385 of the largest institutional investors, requires disclosure of climate risk by leading companies and their suppliers worldwide;
- S&P has just launched an SP500 carbon-efficient index, and several financial institutions, including Deutsche Bank, are announcing related investment products;
- The National Association of Insurance Commissioners now requires that major insurers disclose their climate risk by 2010;
- The EPA is moving to regulate GHG emissions under the Clean Air Act; and
- The Obama administration has asked Congress to deliver a GHG emissions cap-and-trade bill for the President's signature before year-end.

Reducing energy use, the associated emissions, and consequent climate risk, are key business issues today. At Davos this year, 100 leading companies delivered their 'CEO Climate Policy Recommendations to G8 Leaders,' which included reducing CO₂e emissions by 50 to 85 percent by 2050. Although some expect the impact of the recession to dampen enthusiasm for adding a 'cost to carbon,' reducing emissions goes hand in hand with reducing energy costs, and therefore with cost savings. Feasibility studies using discounted cash flow models to determine return on investment must also include scenarios where project-related CO₂e emissions, or emissions reduction, are priced between \$15 and \$60 per ton of CO₂e, estimated by various economists to be sufficient to drive changes in behavior. Design firms must both minimize their risk and protect their reputations by reducing energy use and climate impacts, and ensure that their professional services can achieve the same for clients.

The Potential in Existing Building Stock

The collapse of the capital markets, newly rigorous loan underwriting, and the dearth of buyers and tenants, are forcing developers and asset managers to seek value in existing buildings. Smart growth initiatives adopted recently in many major metropolitan areas to reduce pressure on infrastructure and improve quality of life will place limits on unfettered ex-urban development, as well as the associated infrastructure. And the Carnegie Mellon Green Design Institute has estimated that renovations create 30-50% less GHG emissions than new construction.

McGraw-Hill Construction estimates that the commercial and institutional green building market size will grow from 10-12% of construction value in 2008 (a \$24-\$29 billion marketplace), to 20-25% of construction starts by value in 2013 (a \$56-\$70 billion marketplace). The study also found that green building values are 10.9 percent higher than conventional equivalents. The flight to quality that accompanies any recession will further drive the demand for 'green' buildings, and this will manifest in a greater interest in LEED-EB (Existing Buildings) over LEED- NC (New Construction) certification. Firms that can manage the complexity associated with existing buildings and urban environments will gain market share.

A commitment to sustainability, in-house green initiatives, and familiarity with clean technologies are necessary, but not sufficient, for firms to succeed. Other activities such as involvement with NGOs like the USGBC, Architecture 2030, Ceres, and Business for Social Responsibility can further raise awareness of issues. Sustainability integration requires a fundamental transformation in the way firms do business and approach projects. Demand that compensation align with results as well as long-term interests is growing, and it will increasingly be tied to sustainable outcomes. National Grid, for example, recently announced that it will measure staff performance on emissions reductions as well as traditional benchmarks.

To take advantage of the opportunity identified here, firms such as those featured in the EFCG newsletters, that have already immersed themselves in 'green' infrastructure and building, must now go further to break down the boundaries between disciplines and embrace the integrated process that is essential to sustainable design. Others that have been slower to adopt green practices are advised to play

catch-up, using the downturn to re-train, retool, and reposition. In today's business, sustainable design has transitioned to a core competence.

Kinetix [business ecology], a New York sustainability strategy and high performance design consultancy. Kinetix is active in the chemical, pharmaceutical, consumer products, financial services, manufacturing, food and agriculture, and real estate development sectors. For more information, visit www.kinetixllc.com.