



Sustainable Enterprise QUARTERLY

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Thinking about Sustaining Worker Health

By David A. Hofmann, PhD

For many companies, worker safety is a key determinant of corporate reputation as well as corporate success. In some industries—nuclear power, health care, and gas and oil, for instance—safety is not just a goal, but a core value and a critical success factor. A great many other companies, however, like those with manufacturing operations in developing countries, are increasingly finding worker health and safety to be a critical aspect of their corporate social responsibility (CSR) expectations.

Creating an organizational culture that values worker safety is one of the most fundamental and direct steps companies can take to manage CSR. Yet there are great discrepancies between companies in terms of how they manage employee health and safety. Further, even within the same company, there are discrepancies in how safety is treated across work groups and over time during the course of projects.

Creating a Culture of Safety

Groups develop distinct cultures that vary in terms of the degree to which they value safety. In the wake of the tragic space shuttle Columbia explosion on Feb. 1, 2003, the report that emerged from the accident investigation board heavily criticized NASA's workplace safety culture as the primary factor contributing to the disaster. More than a year after the Columbia accident, NASA workers reported that they were still reticent to speak up about safety concerns and did not feel supported by management.

In the context of safety, leaders within the organization must value and encourage upward communication about safety in order to ensure organizational success. One critical question that leaders need to ask: Is this an organization where leadership practices create an atmosphere of trust such that a free exchange of information occurs, or is this an organization where the upward communication of problems is either ignored or punished—either implicitly or explicitly? The notion of upward

(continued page 2)

In this Issue:

“Thinking about Sustaining Worker Health”	1
Global Events Calendar	3
“Measuring Environmental Footprint”	4
Notes from the Field	5
Student Spotlight	5
CSE Program News	6
CSE Events	6
Alumni Spotlight	6
NC Events Calendar	7
CSE Year in Review	7
News from around the World	8
Resources	8



Worker Health (continued from page 1)

communication is relevant not only for safety issues in organizations, but also for other strategic priorities such as innovation and organizational learning. Simply put, employees often see problems, issues and/or opportunities for innovation that are never brought to the attention of management due to fear or a perception that their ideas are not welcome.

To assess an organization's values about upward communication, leaders should ask the following questions about their organization:

- Are there norms in place for upward communication of positive and negative information?
- To what extent do employees feel comfortable discussing problems or potentially damaging issues with their supervisors?
- What happens to people after they report an issue?
- If people make an honest mistake, what's the outcome?
- To what extent is information filtered, framed or otherwise manipulated in order to conceal or minimize problems that legitimately need to be addressed?

Further, research in high-risk environments suggests that high-quality relationships between leaders and employees are associated with increased safety communication, increased subordinate safety commitment, and fewer accidents. Specifically, in work environments where leaders and employees have positive relationships and where worker safety is highly valued, employees are more likely to view

“Upward communication is critical not only for safety but also for innovation and organizational learning.”

safety behaviors as part of their formal responsibilities and are more likely to engage in safe work behaviors themselves. When the relationship between leaders and subordinates is not positive and/or there are not strong messages about the value of safety, this relation-



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ship is not found. Simply put, both are necessary: effective working relationships between leaders and employees, and strong signals that worker safety is highly valued.

Changing Emphasis on Safety over the Course of a Project

Even companies that place a high degree of emphasis on employee safety may exhibit discrepancies in their investment in safety over time during the course of a given project. Most decision-makers assume that the emphasis on safety is uniformly high over the course of a project. However, interestingly, the relationship between production and safety is not static. It changes over time as the project moves forward. In fact, there is a curvilinear relationship between the level of project completion and allocations to safety, with safety allocations highest near the beginning and end of the project, and lowest in the middle of the project.

At the beginning of a project, the importance of the safety goal of a project is high, as decision-makers are not yet concerned with the completion of the project and there is a strong push to establish the focus on safety early on. In the middle of the project, however, a team's focus changes to emphasize productivity. As people become energized in the middle of a project and focus their attention on task completion, they are likely to concentrate more on production than on safety. In the final stages of a project, decision-makers

(continued page 3)

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Worker Health (continued from page 2)

become more risk averse as the project nears completion; this risk aversion brings with it a renewed focus on safety.

This result was borne out in two studies. The first was a management simulation in which participants assumed the role of supervisor of a fictitious highway construction company, and were asked to make management decisions and investments in productivity and safety over the course of the simulated project. The second was a study of actual safety accident data from a large highway construction company. Both studies showed a similar relationship, with attention to safety at its highest near the start and completion of a project but declining in the middle.

“Employees need to see every day that safety is valued, rewarded, supported, and encouraged.”

This finding has critically important implications for how work is conducted. One recommendation for managers is to encourage decision-makers to consider the diverse goals that exist for projects throughout the life of the project. Typically, financial information tends to be the centerpiece of decision-making. However, if decision-makers are regularly provided with information as to how well other goals are being met (e.g., safety goals, worker morale goals, public relations goals, stakeholder goals such as community engagement or goodwill

created, etc.), these may work to collectively restrain completion goals from leading to inappropriate resource allocations.

Conclusion

In sum, developing a consistent focus on safety both across groups within an organization and within a single project over time takes significant effort and attention by leaders within the organization. Leaders need to create a culture within the organization that signals to employees that their ideas and issues regarding safety (and, I would argue, ideas for innovation as well) are highly valued. These leaders also need to monitor carefully their reactions to the upward communication of problems or issues that arise. Is there a “shoot the messenger” mentality, or are these issues investigated and responded to constructively? At the end of the day, to create a strong culture for employee health and safety, employees need to see *every day* and through multiple ways that safety is valued, rewarded, supported, and encouraged. ☪

For more, see:

Humphrey, S., Moon, H. Conlon, D. and Hofmann, D. Decision-making and behavior fluidity: How focus on completion and emphasis on safety changes over the course of projects. Organizational Behavior and Human Decision Processes, Jan. 2004, Vol. 93, Issue 1, 14-27.

Hofmann, D., Morgeson, F., and Gerras, S. Climate as a Moderator of the Relationship Between Leader-Member Exchange and Content Specific Citizenship: Safety Climate as an Exemplar. Journal of Applied Psychology, 2003, Vol. 88, No. 1, 170-178.

Global Events Calendar

Jun. 23-24 3rd Annual Sustainable Finance Summit Brussels	Jul. 19-20 Green Mountain Summit on Investor Responsibility Newport, RI, USA	Sept. 11-12 Corporate Responsibility and Sustainability: Leadership and Organizational Change European Academy of Business in Society Cranfield, UK	Oct. 2 5th Annual Businesswomen's Sustainability Leadership Summit New York
Jun. 24-25 Green Supply Chain Summit 2008 London	Jul. 30-31 Association to Advance Collegiate Schools of Business Sustainability Conference Salt Lake City	Sept. 16-17 CarbonMarkets USA Washington, DC	Oct. 26-29 SRI in the Rockies Conference Whistler, British Columbia, Canada
Jun. 24-25 CarbonMarkets Asia Singapore	Aug. 7-8 Green Homes and Sustainable Communities 2008 Chicago	Sept. 22-23 Corporate Climate Response Chicago	Nov. 4-7 BSR Annual Conference New York
Jun. 26-27 CSR Partnerships Amsterdam	Sept. 7-8 Green Innovation Venture Capital Summit Scottsdale, AZ, USA	Sept. 26-27 Sustainable Innovations at the Base of the Pyramid Conference Helsinki School of Economics Helsinki	Nov. 13-15 Net Impact North America Conference Philadelphia
Jul. 15-18 ISBEE World Congress 2008 Cape Town, South Africa			Dec. 9-11 Sustainable Brands International Miami Beach, FL

Measuring Environmental Footprint: *A Financial Services Industry Case Study*

Following is the executive summary of a new report released by the UNC Center for Sustainable Enterprise and Institute for the Environment in April 2008. The full report is available for downloading, free, at: www.cse.unc.edu/knowledge.

Executive Summary

To better understand how firms measure their environmental impacts and make strategic project investment decisions related to reducing their environmental impacts, the University of North Carolina (UNC) undertook an environmental footprint study of Bank of America's domestic U.S. operations. UNC shares the process and results of this project as a case study—for firms both in the banking industry and in other industries. This study presents an example of how a firm can 1) assess and measure the environmental impacts of its operations, and 2) apply business decision-making tools to identifying initiatives that meet environmental, financial, and corporate strategy considerations.

An environmental footprint is a measure of the amount of resources consumed and the amount of pollution and waste created by an entity and by the firms that serve the entity, usually summarized by the equivalent area of land needed to assimilate these impacts. In this assessment, the researchers focused on five primary categories of operational impacts: paper usage, energy usage, transportation, buildings, and water.

This analysis concluded that the overall environmental footprint of Bank of America's domestic operations is almost 650,000 acres, or approximately 3.33 acres per employee. For comparison, the generally accepted values for the acres per person for a "sustainable society" are 2 to 3 acres. Specific environmental impacts, by category, were calculated as follows:

Category	Component	Bank of America Total Annual Use, U.S. Operations, 2005
Paper Usage	Paper	77,292 tons
Energy Usage	Electricity	2,121,961 MWh
	Natural Gas	1,835 million ft ³
Transportation	Commuter Travel	1,059,551,000 miles
	Rental Car Travel	59,438,000 miles
	Air Travel	454,206,000 miles
	Fleet (gas & diesel)	474,000 gallons
Buildings	Buildings	87,465,972 ft ²
	Office Devices	168,571 items
	Furniture and Carpet	\$ 52,506,800 spent
	Communication Devices	22,389 items
Water Usage	Water	23,623 million gallons

Using this data, the UNC team created several hypothetical environmental initiatives—energy efficiency strategies, purchases of green power, paper reduction programs, and remote workplace initiatives—and modeled them using cost/benefit and corporate strategy analyses. As frameworks, the team created an Impact Assessment Tool (cost/benefit analysis model) and a "Strike Zone" Framework (strategy matrix).

These analyses give both academics and executives insight into how corporations assess environmental initiatives in strategic decision-making. The key lessons learned from this project include:

- Financial services firms can have significant environmental operational impacts, particularly in their use of energy, paper, and travel/transportation.
- Due to the number of offices and branches in financial services businesses, greenhouse gas (GHG) emissions due to energy use are typically the single largest environmental impact of their operations.
- Environmental footprint is a unifying metric that can allow firms to compare environmental impacts across a wide range of different environmental measures and should be utilized as an input for decisions regarding specific environmental impact reduction initiatives.
- GHG emissions inventories may be more relevant and objective criteria for decision-making regarding specific environmental impact reduction initiatives.
- Not all environmental initiatives come at a cost; there are often initiatives that may result in both cost savings and environmental impact reduction.
- Using cost/benefit analysis of proposed initiatives, combined with an understanding of the firm's core competencies and strategic objectives, can help any firm identify and prioritize environmental initiatives.





Notes from the Field *Faculty & Student Projects*

Professor **Lisa Jones Christensen** and CSE program manager **Jessica Thomas** authored a new teaching case study that was awarded 2nd place in the oikos International Sustainability Case Writing Competition. “Procter and Gamble’s PuR Water Purifier—The Hunt for a

Sustainable Business Model” can be downloaded from the [CSE Knowledge Bank](#).

CSE executive director **Katie Kross** and professor **Lisa Jones Christensen** moderated panels on the topics of “Social Responsibility” and “Creating Value and Growth Opportunities through Innovation,” respectively, at the UNC-Duke 2008 Women in Business Conference in March.

Five MBAs are leading CSE Consulting sustainability consulting projects this summer with Rockwell Automation, Progress Energy, eTc, NC Choices, and Advanced Energy. Congratulations to the 2008 CSE Consulting team of: **Jared Inselmann**, **Kevin Lucas**, **Susanna Schick**, **Tina Prevatte** (all MBA '09), and **Courtney Phillips** (MBA '08).



Top, L to R: Kevin Lucas, Jared Inselmann
Bottom, L to R: Susanna Schick, Courtney Phillips, Tina Prevatte

U.S. News & World Report featured **Jessica Meyer** (MBA '08) about UNC's sustainable enterprise studies, strong alumni network and her team project for Burt's Bees on sustainability strategies in [“Business Schools Teach Environmental Studies: Learning how to be ecofriendly is an important business skill”](#) (Mar. 26).

Sustainable Industries Journal featured Good Capital's **Deb Parsons** (MBA '06) and the UNC Kenan-Flagler Sustainable Venture Capital Investment Competition in [“Do green MBAs get green jobs?”](#) (Apr. 4).

Boeing, Boeing Shanghai Aviation Services, Tsinghua University and the **University of North Carolina** are hosting a competition for college students from select universities in the United States and China to create more environmentally progressive ways of operating an aviation maintenance, repair and overhaul (MRO) facility. The [2008 Boeing Shanghai Challenge](#) invites teams of university students and faculty to prepare “green” concepts for the Boeing Shanghai Aviation Services MRO operation.

A team of students representing Carolina Liquid Assets won first place in the social track of the 2008 Carolina Challenge. Carolina Liquid Assets plans to manufacture and distribute a ceramic water purifier to Cambodia's poor for both social and financial returns; the team included **Sara Abdoulai** (MBA '09), **Tom Outlaw** (EMBA '08), and School of Public Health students Ben Aiken, Kate Rademacher, and Lindsey Witmer.

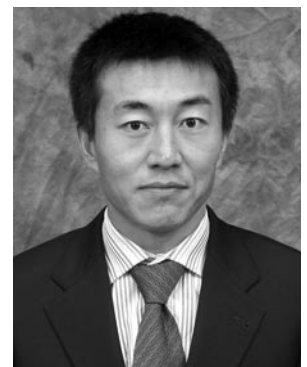
Student Spotlight: *Yan Guan, MBA 2009*

Yan Guan (MBA '09) is over 7,000 miles from the village of Hong Qi Pu in China where he grew up. That's a long way, but represents only a fraction of the miles he has traveled around the globe in pursuit of helping Chinese businesses to become competitive in a global context, while simultaneously doing good for people and the environment.

With a background in engineering and experience in the technology field with ZTE Corporation, Yan's interest in sustainability was piqued as he traveled to different countries and observed different cultures. “I thought about how businesses could make a difference to people's lives when I saw kids begging in Afghanistan, young boys cleaning cars in Pakistan, and children in poor parts of China walking hours to school without wearing shoes.” It was when he was charged with integrating Corporate Social Responsibility into ZTE's corporate strategy that sustainability became a prime consideration for Yan in his future endeavors.

Yan's experience at UNC Kenan-Flagler has allowed him to further define why it is important for executives to incorporate social and environmental impact management into business practices. Professor Lisa Jones Christensen's Sustainable Enterprise class made a real difference to Yan during his first year. “I learned that sustainable practices *can* create shareholder value and the value *can* be quantified.”

Yan is interning in investment banking with Morgan Stanley in Hong Kong this summer. While this internship is not sustainability-focused, Yan is confident he will be integrating his sustainable enterprise knowledge training in this role.



... [read more about Yan](#) ...

CSE Events

Jul. 23

[“Legal Aspects of Starting and Running a Sustainable Business”](#)

Hosted by UNC BASE and Walker, Lambe, Rhudy & Costley, PLLC

4:30-6:00 pm

Lecture and Panel Discussion

6:00-7:00 pm

Reception

Kenan-Flagler Business School,
Chapel Hill, NC

Free and open to the public;
RSVP to cse@unc.edu required

~

The CSE and BASE are planning several great speakers and events for Fall 2008.

Visit www.cse.unc.edu in upcoming months for details, and look for email announcements.

We will take a brief hiatus from *Sustainable Enterprise Quarterly* this Fall, but will be back with more features, articles and resources in December 2008.

CSE Program News

There was an overwhelming response to the launch of the **UNC Business Accelerator for Sustainable Entrepreneurship (BASE)**. Over 130 participants attended the “Branding for Good” panel discussion moderated by The Change on Apr. 16. Seven different companies were chosen from over 30 applicants to participate in the pilot phase of BASE: CaraGreen, Counter Culture Coffee, NC Choices, PVEe, Trinity Design/Build, WaterPLUS, and Zebra Crossings. These companies represent a broad spectrum of early-stage companies, including type of business, stage of development, and scale and scope of strategy. Throughout the 6-month pilot phase, the BASE entrepreneurs will interact with mentors on the topics of funding, business development and strategy, human resources, and sustainable business practices. To date, events have included a branding and marketing workshop with The Change, and a “speed mentoring” event and reception in June.



BASE entrepreneurs & mentors connect at June “speed mentoring” event

Press about the BASE:

- The Herald-Sun: “UNC business incubator starts” (Apr. 11)
- The Daily Tar Heel: [“Fast Track to Success”](#) (Apr. 16)
- The Chapel Hill News: [“UNC program will aid business growth”](#) (Apr. 27)
- RTRP radio program (AM 570 WDNZ): [“UNC Launches Sustainable Business Accelerator”](#) (Jun. 11)
- Clear Admit blog: [“Sustainable Business Incubator Debuts at UNC Kenan-Flagler”](#) (May 6)
- [UNC News Release](#) (Apr. 9)

Entrepreneur and futurist Rinaldo Brutoco spoke at UNC Kenan-Flagler Business School as a **CSE Distinguished Speaker** on Mar. 27. A video of his talk, [“Lemons to Lemonade: How to Launch a Sustainable Business in 24-36 Months”](#) is available online.

A team from the University of Pennsylvania’s Wharton School won the **3rd annual Sustainable Venture Capital Investment Competition (SVCIC)**, hosted by UNC Kenan-Flagler on Mar. 28-29. The SVCIC is the only MBA competition in which students evaluate business plans that incorporate financial profitability, environmental integrity and social equity from entrepreneurs actively seeking venture capital funding.

Alumni Spotlight:

Fernanda Abbud, MBA 2004

Fernanda Abbud (MBA '04) has found stakeholder engagement to be an area where her UNC Kenan-Flagler sustainable enterprise training has been incredibly useful. “To work with sustainability means being able to constantly link many different stakeholders. During the MBA, I developed the communication skills to, for example, promote multi-stakeholder dialogues so everyone at the table comes away happy.”

This is important in Fernanda’s current role as Advisor to the Executive President at the Brazilian Business Council for Sustainable Development (BCSD). Founded in 1997, BCSD Brazil is a coalition of companies with a presence in Brazil, with annual revenues corresponding to 40% of GDP. BCSD Brazil is a partner of the World Business Council for Sustainable Development, and was one of the first institutions in Brazil to work on integrating economic, social and environmental issues.

With her exposure to so many businesses, Fernanda has some insight into why it is important for executives to incorporate sustainability into all aspects of their business. “Although we are still far from an ideal scenario, the comprehension of sustainability issues by companies is improving. The market leader companies are the ones that invest the most in sustainability, and the valuation of intangible assets—brand, reputation, ability to communicate with stakeholders—is growing. At BCSD Brazil, we work to show executives that if they do not place sustainability as a priority, they may suffer from this pressure on their bottom line.”



... [link to more about Fernanda](#) ...

CSE Year in Review

The Center for Sustainable Enterprise and the Sustainable Enterprise program at UNC Kenan-Flagler had a banner year in 2007-08, marked by exciting new initiatives, skyrocketing student engagement, and extended community outreach. Highlights of our year included:

- **Launched BASE, the UNC Business Accelerator for Sustainable Entrepreneurship.**
 - Received seed funding from CEI Innovations Fund for pilot phase program launch.
 - Over 30 entrepreneurs applied for 7 spots in pilot phase.
- **Enhanced the MBA Sustainable Enterprise course offerings and enrollment.**
 - Enrollment in SE courses totaled 698 seats, up 18% from last year.
 - Added new elective MBA 831F: Climate Change, taught by John Lott.
- **Extended the reach of the MBA Sustainable Enterprise concentration.**
 - 45 students graduated with the SE Concentration, a 25% increase from last year.
- **Hosted “Aligning Profit with Purpose: A Forum on Socially Responsible Investing.”**
 - Half-day conference with 75 invited foundation and nonprofit executives, academics, and philanthropic leaders.
 - Sponsors included Mary Reynolds Babcock Foundation, Self-Help, Phoenix Fund, Kuhn Fund, and Triangle Community Foundation.
- **Published original research and expanded CSE Knowledge Bank publications.**
 - Authored “Measuring Environmental Footprint: A Financial Services Industry Case Study,” with the UNC Institute for the Environment and Bank of America.

- With CIBER funding, sponsored the Procter & Gamble PuR water treatment case study.
- Contributed to grant-funded research for Camden County and NC Dept. of Commerce.
- 18 papers, case studies, and other knowledge resources added to CSE Knowledge Bank.
- **Brought thought leaders Andrew Winston, Martin Eakes, and Rinaldo Brutoco to campus as CSE distinguished speakers.**
 - Collective attendance of over 500 people. Speakers also led conversation hour gatherings with MBA students.
 - Co-sponsored a visit by John Hatch, founder of FINCA International, to the Sustainable Enterprise class.
- **Extended reach of MBA enrichment activities related to Sustainable Enterprise.**
 - Sponsored 50 MBA students to attend the 2007 Net Impact national conference.
 - Connected 40 MBA students with mentors through the CSE Mentoring program.
 - Sponsored the 3rd annual Sustainable Venture Capital Investment Competition.
- **Hosted largest-ever Annual Sustainable Enterprise Career Fair.**
 - 9th Annual SE Career Fair had the highest number of participating organizations (26) and participating students (130).

Thanks to faculty **Al Segars, Lisa Jones Christensen, John Lott, Larry Chavis, and Jim Johnson**; staff members **Katie Kross, Tracy Triggs-Matthews, Kelly Boone, Jessica Thomas**; and student interns **Tolu Odugbesan, Mike Waters, Jessica Meyer, Pira Panitpon, Valeria Orozco, and Tom Outlaw**—in addition to the many other faculty and students who worked with our Center this year!

NC Local/Regional Events

Jun. 15 - Sept. 17
[Nominations accepted for 2008 Sustainable NC Awards](#)

Jun. 25
[Sustainable Development/Green Building Conference](#)
Warren Wilson College
Asheville, NC

Aug. 12-14
[Southeast Bioenergy Conference](#)
Tifton, GA

Aug. 22-24
[Southern Energy & Environment Expo](#)
Asheville, NC

Sept. 4
[4th Annual Green NC Tradeshow](#)
NC State University
Raleigh, NC

Sept. 22-23
[NC Economic Developers Assn. 2008 Fall Conference](#)
Concord, NC

Nov. 5-7
[Symposium on Sustainable and Safe Drinking Water](#)
UNC Institute for the Environment
Chapel Hill, NC

Nov. 9-11
[AASHE National Conference: “Working Together for Sustainability on Campus and Beyond”](#)
Raleigh, NC

Nov. 10-11
[2008 Sustainable NC Awards](#)
Raleigh, NC

MBA Careers in Sustainable Enterprise Update

UNC MBA Class of 2008 Example Full-Time Positions

- Global Giving - *Business Development Manager*
- John Deere, Renewable Energy Group, Wind Energy - *Business Development Manager*
- Wal Mart - *Senior Manager of Energy Services*
- Kinetix (sustainability consulting firm) - *Strategist*
- Zebra Crossings (fair trade retailer) - *Founder*
- Market Street Press - *Sustainability Coordinator & Product Developer*
- Teach for America
- Novozymes North America - *Biofuels Specialist*
- ... among many others

(representative list as of 6/19/08)

UNC MBA Class of 2009 Example Summer Internships

- Burt's Bees - *Marketing Intern*
- Good Capital (social venture capital) - *Summer Intern*
- Fourth Sector Bancorp - *Carolina Entrepreneurial Fellow*
- Novozymes - *Biofuels program intern*
- GE Wind Energy - *Experienced Commercial Leadership Program Intern*
- CSE Consulting - *Summer Sustainability Consulting Associate*
- FedEx Office - *Summer Intern on green product marketing project*
- B Corporation - *Summer intern*
- Shorebank Corporation - *Summer intern*
- Advanced Energy - *Carolina Entrepreneurial Fellow*
- ... among many others

News from around the World



American Express, General Mills, Xerox, and Duke Energy were among the 93 companies recognized as the [World's Most Ethical Companies](#) by the Ethisphere Institute in June.

Brazil's **Banco Real** was named the winner of the third annual Financial Times/International Finance Corporation [Sustainable Banking Awards](#). Among other awards, **ASA** was recognized as the winner for Banking at the Bottom of the Pyramid, and **E+Co** won Sustainable Investor of the Year.

IBM announced the opening of its "[greenest](#)" [data center](#) in North America, and introduced [new modular data centers](#) that can reduce energy consumption by as much as 50 percent.

The **National Restaurant Association** launched "[Conserve: Solutions for Sustainability](#)," an initiative designed to help restaurant and foodservice locations become more eco-friendly.

The **World Bank** and British-based bank **Standard Chartered** have teamed up to [expand microfinance](#) to impoverished borrowers in Africa and Asia.

Researchers at **Palo Alto Research Center** have developed an innovative [low-energy water-filtration device](#) that doesn't use membranes.

Air New Zealand announced plans to use at least one million barrels of [environmentally sustainable fuel](#) annually by 2013.

Strapya Next Co., a Japanese online cell phone strap and accessory shop, started selling the world's [first solar-powered cell phone strap](#), the "Solar Charger ECO Cell Phone Strap."

Whole Foods, Honda, GE, and Aveda were among the companies identified as the top "green" brands by U.S. consumers, according to the [2008 ImagePower® Green Brands Survey](#).

Univ. of Michigan researchers have developed a [microchip that uses 30,000 times less power](#) in sleep mode and 10 times less in active mode than comparable chips on the market.

Office Depot is the first company to achieve [volume pre-certification](#) with the U.S. Green Building Council for its store prototype design under the pilot LEED Portfolio Program.

UPS is expanding its [U.S. green fleet](#) from 50 hybrid electric trucks to 250, and increasing its fleet of vehicles running on compressed natural gas from 800 to 1,100.

Australian banking company **Westpac** will ask more than 10,000 of its suppliers to meet a new [Sustainable Supply Chain Management code of conduct](#).

UK supermarket company **Tesco** is piloting new "[carbon labels](#)" on its store-brand products such as orange juice, potatoes, energy-efficient light bulbs, and detergent.

Google Earth and the UK government have released "[Climate Change in our World](#)," an educational tool that shows how potential global temperature rises could affect the planet.

... and lots of news from the auto industry:

- By 2011, **Toyota** expects to have [100 environmentally friendly dealerships](#)—or just under 10 percent of its U.S. dealer network, *The Wall Street Journal* reports.
- The Australian government will spend [A\\$35 million](#) to support production of **Toyota** hybrid vehicles in Victoria. The Australian government has allocated A\$500 million towards a Green Car Innovation Fund to spur development of low-emissions vehicles nationwide.
- **Daimler** plans to release an [all-electric Mercedes-Benz](#) in 2010.
- **Nissan** is planning to introduce a [pure electric car](#) in 2010 for fleet customers in Japan and the United States.
- **Mazda** is developing a [plant-based bioplastic](#) that it says could debut in vehicle instrument panels and car bumpers by 2013.

Resources

[Global Sustainability Strategy Survey](#)

Survey of 300 executives about their companies' sustainability strategies.
(June)

[State of the Voluntary Carbon Markets](#)

Report from Ecosystem Marketplace and New Carbon Finance summarizing trends, trading volume, and value of the voluntary carbon trading markets.
(May)

[Leveling the Carbon Playing Field](#)

Report from Peterson Institute for International Economics and WRI examining climate change policy options and impacts on international competitiveness by industry.
(May)

[GreenFactor Study](#)

Global survey of 3,500 enterprise IT decision makers about perceptions of "green" IT products and marketing.
(June)

[Innovations Review 2008: Making Green the New Business as Usual](#)

Report from Environmental Defense Fund highlighting trends and best practices that show how environmental sustainability efforts can create new markets, provide competitive advantage, and save companies money.
(May)

[A Business Guide to U.S. EPA Climate Partnership Programs](#)

From BSR and EPA, guide to the EPA's 35 climate-related Partnership Programs, which have more than 13,000 participating organizations.
(June)