

# 2011 INSIDER knowledge REPORT

Lessons Learned from  
Corporate Environmental,  
Sustainability and Energy Decision-Makers

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**BECAUSE CLIMATE CHANGE IS SERIOUS BUSINESS.**

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WORKING TOGETHER...BECAUSE CLIMATE CHANGE IS SERIOUS BUSINESS

## From environmental leader's publisher

Welcome to the inaugural edition of **Environmental Leader's Insider Knowledge Report**, which provides corporate lessons learned from environmental and energy management programs.

While we're always amazed at the level of engagement our readers exhibit in attending webinars, downloading white papers, commenting on stories and opening and reading our daily newsletter, we were frankly unprepared for the response we received when we asked readers to provide us with a lesson learned over the past 12 months. Over 600 of you took the time to write paragraphs and articles with your lessons learned, sharing your ups and downs involved in implementing or continuing environmental, energy and sustainability programs.

As the responses came flooding in, it quickly became apparent that we were going to have to disappoint a large number of you who took the time to send us your responses. I apologize. If only we could have included them all. But to read a report hundreds of pages long seemed to be asking a lot – even from a highly engaged audience like our own. Thanks to all of you who participated.

What we do include in this report are 150 of the most enlightening responses. It was not easy to cull the numbers. We went back and forth, moving responses from pile to pile. Those that ultimately were included were those we think provide real lessons, advice and examples from which other companies and executives can learn.

So, what have we learned from reading these responses – as well as those not included? From Yahoo

### **Paul Nastu, Publisher**

Environmental Leader

[www.environmentalleader.com](http://www.environmentalleader.com)

designing a data center that takes advantage of the natural cooling effect of prevailing winds blowing in from Lake Erie to Computershare removing trash cans from employee work stations, we learned that executives charged with managing environmental and energy programs are implementing a wide range of actions both large and small in order to save their companies money and become more sustainable.

It's also clear from what our readers write that improvements from energy and environmental management programs don't happen instantaneously, and that that can hurt efforts and buy-in. But other executives realize that big payoffs seldom happen overnight.

What else? Companies are investing a lot of resources to involve employees in sustainability efforts and infuse them with a sense of esprit de corps. We learned plenty more, but we'll let the words of our contributors speak for themselves.

Thank you to our sponsor, The Pew Center on Global Climate Change, for making the production of this year's report possible.

As with all of our work, we hope this report helps to make your job a bit easier.

Thanks for reading.

## From the sponsor

### **Make an Impact: Working with Businesses to Save Energy, Save Money and Save the Planet**

Make an Impact is a unique employee-focused energy efficiency program of the Pew Center on Global Climate Change and three corporate partners. Founded by Alcoa in 2006, the partnership now includes Fortune 500 companies Bank of America and Entergy Corporation and reaches more than 350,000 employees worldwide. A clear program benefit is the opportunity for collaboration, innovation and best practice sharing.

Successful employee engagement in sustainability efforts differs for each corporation, but there are a few constants:

Leadership from the top and a strong implementation team are critical.

Employ multiple engagement strategies. Make an Impact includes a customized website, workshops with experts and local advocates, community volunteering, and a best-in-class carbon calculator that provides a personal analysis and recommendations to reduce your carbon footprint.

Scale globally, implement locally. Use local experts and services to ground the program in the community; this also increases the opportunity for behavior changes.

Successfully reinforces business relationships with community stakeholders.

Back it up with data. Employees like to know their efforts are meaningful. Make an Impact provides corporate partners the ability to track engagement in a variety of ways.

As part of its commitment to address climate change, Bank of America introduced MAI to associates in the US and UK in 2010. In its first six months, the program has attracted more than 2,400 visitors to the website and identified 5 million pounds of potential carbon savings by employees. In 2011, the company plans to introduce the program to employees in additional markets and double potential carbon savings and calculator usage.

Entergy Corporation uses the program to engage both customers and employees and has customized the program so that it offers benefits to local non-profits and disadvantaged consumers. Entergy has also added an offsets component to its program - including a commitment to double pledges made through its website.

Alcoa has a goal to reach 50 percent of its workforce with the program by 2012; to date it has introduced the program in 16 states and two countries and this year will launch a community/schools engagement module in five states, roll out in two additional countries and five additional states. Employee engagement is a key component to corporate sustainability efforts. One Alcoa employee attending a workshop in Washington was inspired to suggest improvements to plant operations that saved the company nearly \$120,000 in auxiliary power costs. When employees make the efficiency connection, the results can be unexpected and significant. Visit <http://makeanimpact.pewclimate.org> and learn more.

### **Katie Mandes, Director**

Make an Impact

Pew Center on Global Climate Change

<http://makeanimpact.pewclimate.org>

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## environmental management

A 2010 study by Gartner, in collaboration with TRIRIGA, finds that many large organizations primarily focus their environmental initiatives on energy efficiency and are still in the early stages of the implementation of such projects.

Analysis of the preliminary survey data reports the following:

- While most organizations reported having a sustainability program, a majority of respondents (67 percent) have not yet implemented projects to reduce energy and environmental impact.
- Energy efficiency is considered a higher priority than other initiatives such as reducing GHG emissions. The majority of respondents (68 percent) rated energy efficiency as a top-three environmental initiative. And, somewhat surprisingly, less than one-fifth of respondents reported that reducing GHG emissions was a top-three priority.
- When asked which environmental initiatives each organization plans to invest in over the next 10 years, almost all respondents (95 percent) indicated that they would invest in energy efficiency. Less than 20 percent of respondents reported that they were currently investing in the tracking and management of GHG emissions. And, less than 75 percent of respondents indicated that they plan to invest in GHG management over the next 10 years.
- A large majority of respondents reported that their organization attempted to focus on their worst performing facilities when prioritizing sustainability investments. Given the respondents' focus on energy efficiency, the majority (58 percent) reported that they use external energy benchmarking ratings such as ENERGY STAR to evaluate building performance. Less than 15 percent of respondents reported using GHG emissions as a variable to determine building level environmental performance.
- Fifty percent of respondents reported that quantifying the cost-benefit of a project was a top-two challenge when deciding which projects to invest in. This challenge, along with competition from other capital projects, may be a primary reason that less than 40 percent of respondents reported that their organizations are currently implementing projects to reduce energy or environmental impact.

### John Clark

TRIRIGA Inc.  
www.tririga.com

A client was working on a refrigerant replacement plan that mapped to their country's phase-out schedule of HCFC's. However, analyzing this plan in the context of their sustainability objectives, it became obvious that only meeting regulatory requirements with regard to refrigerants would prevent them from meeting other environmental performance targets such as GHG emissions reductions. Taking a broader view of sustainability objectives resulted in a refrigerant management plan that is consistent with company sustainability goals and the environmental performance that consumers have come to expect of their brand.

If your company is in a similar position, we suggest considering the following when constructing your refrigerant management plan for 2011 and beyond:

- Understand the scheduled phase out plan for HCFCs in your country. Continued use of HCFCs may increase your costs as R-22 increases in price as availability decreases. Continued use of R-22 may also be in conflict with your organization's environmental performance

### Michael S. Roy

Common Fields  
www.common-fields.com

objectives. Check for alignment across the company.

- Anticipate that GHG-emitting refrigerants will become the focus of restrictions over the coming decade.
- Invest now in new equipment or retrofits that use refrigerants with low GWPs such as hydrocarbons or ammonia, which could help you avoid higher costs in the future.
- Having a GHG emissions policy as a component of your company sustainability strategy can provide operational guidance that is consistent with your external communications and brand messaging.

**In 2006, we invested in a state-of-the-art** Loring Smart Roaster in an effort to lower our carbon footprint. This roaster allows us to virtually eliminate the smoke produced during the roast process while massively reducing greenhouse gas emissions. We were one of the first 6 coffee roasters in the country to invest in this new technology. The roaster allows us to achieve both our quality and sustainability goals, making it one of the better business decisions we've made. 1. The roaster is designed to use 80% less natural gas, saving us \$36,000 over the past four years, and substantially reducing our operating costs, which helps us offset the expense of operating a bio-fuel powered delivery truck. 2. The roaster uses just one burner to both roast the coffee and clean the exhaust before it is allowed into the atmosphere. Most roasters use a separate burner for the roasting and exhaust incineration, greatly increasing gas use. 3. We collect and donate all the chaff to local farmers.

## Helen Russell and Brooke McDonnell

Equator Coffees and Teas  
[www.equatorcoffees.com](http://www.equatorcoffees.com)

**We are in the Life Cycle Assessment business** and we are constantly surprised by the valuable lessons we learn every time we conduct an LCA. Here's a great example: We were hired by a building products company to see if their product, which requires less concrete to be used in various construction applications, helped to also reduce carbon emissions. We're happy to say that it did, but that's not what we learned. We learned that the company was using natural gas (the primary driver of their carbon footprint) to burn off toxic emissions generated by their manufacturing process, before they were released into the atmosphere. We recommended that they capture the side benefits of that energy by incorporating a co-gen system to power their factory. The company used the LCA report to apply for a grant to afford a system that will dramatically reduce their carbon footprint. Other clients learned that incorporating recycled content reduced the CO<sub>2</sub>e generated from their products' life-cycle impact. Clients also learned the environmental value of transporting goods by ship to the port nearest to their final destination and avoiding travel by truck. Interesting fact: Less CO<sub>2</sub>e is generated shipping a metric ton from New Zealand to California than trucking that same weight from California to New York.

**Andrew Keenan**  
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**Instead of treating sustainability** as “new and wonderful,” you may wish to search for the components already in place throughout your operations. It is clearly easier to build on what you already have. I have found that an integrated management system provides the perfect foundation for sustainability. Many companies start with their ISO 14001 environmental management system and add OHSAS 18001 (occupational health & safety) and some elements of ISO 9001 (quality management system’s purchasing and design requirements). With the publication of ISO 26000 (social responsibility guidance), social responsibility can be added to this integrated management system. Economic responsibility can

### **Robert Pojasek**

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be addressed using ISO 31000 (risk management guidance), given the relationship to this standard and the Sarbanes-Oxley Section 404 financial operational controls. All of these methods are used internationally and are well-proven. Using an integrated management system and naming it after your company will help you make the business case to the organization’s governance and your stakeholders. You do not need to certify to these standards to take advantage of their flexible frameworks. When thinking about sustainability, look inside your operations first before you search for “true north.”

**We’ve noticed a new wave** of companies certifying to ISO 14001, the international standard for environmental management systems (EMS), in the high-tech industry. While the first wave of certifications consisted of electronics manufacturing companies, the second wave is hitting non-manufacturing companies in the technology industry, such as software companies, services firms, and product companies that outsource manufacturing.

A good example of a recently ISO 14001-certified company within the second wave is Blue Coat Systems, Inc., a technology leader in Application Delivery Networking. My team and I were privileged to support this tech-company client with their successful ISO 14001 certification (received in September 2010). The ISO 14001 registrar TÜV SÜD America Inc. reported that Blue Coat’s certification process was particularly swift — in part due to the fact that the company’s corporate environmental sustainability program, BluePlanet, was in place for more than two years before the certification process began. Insights on the part of Paris Dieker, the Blue Coat compliance engineer who championed ISO 14001 certification, are summarized here:

(1) Having a significant head start on environmental management: Over 2 years before beginning its ISO 14001 certification process, Blue Coat started a corporate environmental/sustainability program called BluePlanet, whose mission is to select and implement environmental initiatives that substantively reduce environmental impact and benefit Blue Coat financially. BluePlanet’s multifunctional, multiregional employee participation and systems for setting and achieving environmental goals provided a strong foundation for the ISO 14001 process.

(2) Strong executive commitment and follow-through: Blue Coat had a strong commitment in the executive level to the necessity and benefits of ISO 14001 certification. Employees at all levels were engaged in the process.

(3) Effective corporate communication systems: At the outset, Blue Coat engaged a multifunctional, multiregional team and employed existing corporate communication channels to generate buy-in and cooperation among employees. This ensured that initiatives were carried out in a timely manner.

### **Pamela J. Gordon**

Technology Forecasters Inc./TFI Environment

[www.TFIenvironment.com](http://www.TFIenvironment.com)

(4) Selection of an ISO 14001 registrar: Blue Coat chose its ISO 14001 registrar based on customer focus, competence, and expertise in the information-technology and electronics sector. Strong customer-oriented service was a deciding factor in choosing the registrar.

(5) Effective leverage of auditor. During the certification period (from pre-assessment through the final stage 2 audit) the BluePlanet team was open to constructive feedback from the auditor to improve certain processes to better achieve goals and objectives while being more efficient. This feedback increased understanding about making improvements and adding more value for the benefit of employees, partners, customers, and the company overall. Additionally, the lead auditor had extensive knowledge about Blue Coat's industry sector and expertise with a variety of certification processes and implementations. The auditor's feedback helped improve Blue Coat's EMS significantly and was a valuable resource for any questions related to EMS and ISO certification. The auditing process was a closed loop process divided into 4 phases to ensure that at every step of the process the customer needs were clearly understood and taken into consideration during the entire certification process.

## auditing & reporting

**Spurred on by the energy-conservation framework** given to us by the Green Schools Alliance, we here at the Fenn School in Concord, MA, have started to track consumption of fuel oil, natural gas, water, and electricity. Fenn has had energy and broader sustainability audits done by professionals in the past; however, this fall, we realized just how simple (and more budget-friendly) it would be for us to do our own tracking. All of the rates, locations, volumes, dates, and histories appear on the utility bills, and that data is entered into basic Excel spreadsheets for analysis later.

Starting in January 2011, we will have a few faculty volunteers help us enter the data.

Bills come at different times, and there are as many as fourteen different meters around Fenn's campus for a single utility—tracking usage will be no small task for our otherwise busy and involved teachers. However, we felt that it was important to have a few faculty help with this tracking process, as it makes environmental sustainability more of a regular part of their daily duties and lives at Fenn. The Business Office and Sustainability Coordinator can only benefit by delegating out some of our responsibilities to faculty who use myriad spaces around campus every day.

### Cameren Cousins

The Fenn School  
[www.fenn.org](http://www.fenn.org)

**Working with many “first time reporters,”** I have found that they have not yet come to grips with the level of transparency and disclosure that is required by them to produce a meaningful sustainability report. Often a lack of buy-in at senior management level will constrain what they can and cannot publicly report. Total disclosure, however, is neither possible nor desirable. There are many legal and regulatory controls with which companies must comply. It is vital for a company to understand what it is legally able to report and what information it is comfortable reporting, given its stakeholders’ desires for information.

## Natasha Malinda

ACCSR

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Of course it is not just a matter of transparency in reporting. The way a company collects its data will also determine the content of its report. This comes back to the learning curve. More often than not the company will learn what it needs to do next time in order to be able to provide the kind of information their stakeholders want.

I found that data collection was one of the main hurdles for one global gold mining company I worked with. The lack of understanding of sustainability reporting, as well as cultural and linguistic barriers were all part of the challenge, but the main obstacle was internal buy-in. There will always be difficulties when employees that need to provide data have little interest to do so or see sustainability reporting as an extra burden on top of already heavy workloads.

For those embarking on their own sustainability reporting journey, here are some words of advice. A sustainability report is not solely focused on philanthropy and positive impacts. A good sustainability report will have a balance of favorable and not so favorable information. Research shows that your stakeholders will ultimately view you in a more positive light for being open and honest.

Measurable targets and goals are important to enable stakeholders to see how the company’s performance is improving (or otherwise) over time. This means also including information about how the company performed against last year’s targets and goals. It will reassure stakeholders of the company’s commitments and future directions.

Avoid high-level information, but don’t include too much jargon or technical detail either. Stakeholders may come from all walks of life and they just want to know the facts in plain language. If it’s impossible to avoid technical words, include a glossary at the end of the report. Engagement with all stakeholders, including employees, is key to finding out what’s important to them. Balance that against what’s important to the company then report on those material issues in a way that is clear and succinct.

The best sustainability reports will demonstrate how sustainability is integrated into a company’s core business. The report should be able to draw on the key policies and practices that underpin a company’s commitment to different aspects of sustainability. This is often difficult for first timers to report on if the policies do not yet exist, or the company is still exploring its comfort level of transparency. But if it’s not possible say so, and talk about where the company is heading in that regard.

**As a member of the American Chemistry Council (ACC),** ICL North America needed a system to help with the Responsible Care certification process by integrating our environmental, health, safety and security activities across our business operations and to meet stakeholder demands for improved performance. ICL began implementing Dakota’s ProActivity Suite in July 2009 to build regulatory profiles of our facilities, audit for regulations, track action items to completion and report ESH incidents internally. Master Control software was used for document control for ICL North America ESHS Procedures. These web-based systems were the key to quickly integrating all of our ESHS management systems. By Dec 2010, ICL North America had met ACC Responsible Care certification requirements with

**Pat Hyland**

ICL North America

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RC14001 certifications and had also achieved OHSAS 18001 certification at 5 facilities. With regulatory changes, personnel adjustments, and an increasingly tech savvy workforce, having secure systems in place assures ICL of the consistency and reliability needed for conformance to our standards.

**In 2010, we observed two important trends:**

- (1) Increasing and intensifying tempo in the regulation of greenhouse gas, and
- (2) Increased interest in “Supply Chain Environmentalism”— the use of environmental finance platforms to identify and reduce imbedded environmental costs, thereby increasing competitiveness through cost reduction and sustainability-related differentiation.

The increase in GHG regulatory intensity started with the issuance of the greenhouse gas reporting rule, which compels greenhouse gas tracking commencing January 2010 and requires reporting by March 2011, of not only emissions but of operational metrics that can be used by EPA for verification.

In February of 2010, the SEC brought the CFO community into the GHG regime by issuing guidance, compelling publicly traded companies to measure their GHG emissions and promptly report any material adverse risks posed by GHG. In November of 2010, California—home to 1 in 9 Americans and the eighth largest economy in the world—reaffirmed by a vote of 61% to 39% its intention to implement cap and trade for GHG by 2012, and has since published scoping documents to make this a regulatory reality. The GHG regulatory trend brings new costs and new risks to industry, which must now find a cost-effective way to manage this increased burden. The Supply Chain Environmentalism trend constitutes a potentially game-changing shift that simultaneously could lash the market to the quest for the climate solution and dramatically diminish both the need and justification for increasing environmental regulations.

**Lawrence Goldenhersh**

Enviance

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**The excitement over the private unveiling** of a new, sustainable packaging component was palpable at our meeting with a major Europe-based snack food company. The execs were sure that the new flexible packaging – that could be recycled and incinerated – would yield a substantial decrease in the cookie product’s carbon footprint. Yet once the data was run in Carbonostics, the results told a different story: the new packaging had a negligible impact on the product’s carbon footprint!

**Lori Gustavus**

Bluehorse / Carbonostics

[www.carbonostics.com](http://www.carbonostics.com)

The cookie product’s hotspots were in raw materials. Our advice to food companies is always to screen a product’s lifecycle for embedded carbon before investing hundreds of thousands of dollars in R&D on packaging that will have more impact on the budget than on sustainability efforts.

Use the 3-day data rule. Collect data for 3 days, then screen your product for carbon hotspots. Once a product is screened for hotspots with secondary and/or primary data, a company will know where they need to dig deeper. Some clients listen... some don’t. A large UK-base food manufacturer started collecting data to run a Carbonostics lifecycle assessment. The company just knew that they had high electrical impacts in their manufacturing facilities so the sustainability team

spent one entire week collecting data on the electrical outputs of every single machine in one facility. The primary data was then input into Carbonostics and electricity was, once again, a minor impact for their product line. The team spent an entire week on collecting data that would not improve their product's carbon footprint.

The moral of these stories is to avoid making assumptions about where carbon is embedded in a product. Screen for hotspots, then dig deeper.

**In Australia, while sustainability data collection and reporting** is on the agenda for organizations, it was not uncommon for these tasks in 2010 to take a back seat to the day-to-day business, especially for small to medium businesses (SMBs), and be relegated to a reactive management approach, rather than a proactive vision to drive good business practice for greater financial returns.

For example, if a tender arose where data was required it would be hastily put together.

A survey of Australian SMBs found less than one third have quantified their annual production of GHGs through a GHG emissions inventory, with those taking no action stating lack of skills and knowledge the primary reasons for not measuring emissions (Swinburne, 2010).

My experience in particular with SMBs, and some larger organizations that don't have a history involved with EHS legislation, has been that sustainability data is quite often the responsibility of inexperienced employees. Those responsible undertake managing data part time while also undertaking their core responsibilities.

Largely these sustainability responsibilities are not part of their job description or performance reviews and they tend not to have a great knowledge of the field of sustainability and GHG reporting.

This was the case for one large Australian organization which faced many challenges with its data capture over 2010; their aim was to create a baseline for their data before deciding on ongoing requirements and potential for an enterprise sustainability software solution.

The biggest hurdle the organization faced was that while electricity consumption from its locations made up 65% of its total emissions – the majority being indirect – 95% of premises are owned by third parties, making it difficult for them to collect and manage their data.

Several improvements were identified to improve their data capture and reporting techniques which included:

- Consolidate systems into one system that is able to collect all direct and indirect emissions;
- Improve data collection processes – they found data would come in all different formats, making it a major task to calculate emissions with multiple spreadsheets;
- The coordination of sustainability data collection

and reporting was found to require improvements, as responsibilities were split between two corporate groups– Property Management and Communications;

- They also found there were data errors that required data to be checked by an independent reviewer for correct emissions factors and methodologies used.

## Stuart McComb

Elusor Environmental Accounting Tools Network  
www.environmentalaccountingtools.com

If you begin by reading other reports you will get an idea of what you are aiming towards.

Try searching for “GHG Inventory” and the name of your industry or type of organization. If you are using Google include “filetype:pdf” in your keywords so it only shows you PDF files and you don’t have to dig through web pages to find the actual reports. And engage with people on the internet who have done it before by joining discussion forums such as LinkedIn Groups.

Start off by keeping your inventory simple. Don’t expect to get it perfect the first time round. It’s important to keep notes on areas you are unsure about, things you decide to leave out (and why) and information you can’t get hold of. When you review this list later many things will have become apparent to you for next time.

It’s critical to capture the knowledge you gained while developing your inventory each year. Insist that you or your team keep a blog to regularly record their experiences in detail. It could be an internal or a public facing blog. Either way, ensure it is not a resource your organization will lose access to should the author leave the company. And this blog may encourage other employees within the organization to engage with you. It can be an emotive topic.

### Chris Lindley

Revolution ID

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If you decide to use consultants, insist on playing a major role in the exercise so as to develop your internal expertise. Try to ensure they don’t over-complicate things by comparing their work with other GHG Inventories you have looked at previously. Still keep your blog if you use a consultant and insist the consultant records their experiences with your organization too as

part of their deliverables.

As you progress from year to year you will learn how to improve your data collection processes, better understand where to make the best reduction initiatives and how to reduce both the costs of the exercise and improve the resource efficiency of your operations.

It’s important to track these financial savings for obvious reasons. But you should also showcase these benefits in relation to the return on investment of having a climate change team. You want to develop the role into a valuable part of your organization.

Most of all, choose to enjoy the exercise. It’s a great opportunity. The role gives you what is often an unprecedented view of your whole organization. The exercise will inspire you with ideas of how to improve things and motivate people along the way. It can be a very rewarding position to have within the company.

**This year, Edelman surveyed corporate responsibility** and sustainability reporting practices among 60 Fortune 500 companies in the consumer products, financial, manufacturing, pharmaceutical and technology industries to understand how companies are reporting on ESG issues. The results were clear that reporting is growing increasingly important: 86% of companies publish information on corporate responsibility and sustainability on their website and 69% publish a formal report. However, only a handful of U.S. companies, including American Electric Power and Southwest Airlines, have caught on to integrating reporting. We predict U.S. companies will begin to catch-up with their peers in Europe and Latin America and see the business benefit of this powerful tool.

### Jane Madden

Edelman

[www.edelman.com](http://www.edelman.com)

**We recently began working with a client** to explore the synergy and overlap between the requirements of the Electronics Industry Citizenship Coalition (EICC), and the principles of a “typical” CSR program, such as those topics defined by the Global Reporting Initiative, the most widely used framework for corporate social responsibility reporting. The company is interested in both for sure, but is particularly sensitive to complying with the EICC guidelines.

The process for performing such an analysis consisted of a side-by-side assessment of the elements of the two frameworks, identifying the overlaps as well as the gaps. Based upon our experience with both frameworks, we also clarified which topics, although slight differently phrased, would “cover” the required issues.

Based on our analysis, we found significant overlap between the EICC guidelines and the GRI framework. Thus by implementing a targeted CSR program using GRI as a guide, a company can also in parallel fulfill the guidelines of the EICC. However, what to do about the differences between the

## Matthew Gardner

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EICC guidelines and the GRI Framework? The answer to this is quite simple. A robust, well designed CSR program is constructed based upon the interests and requirements of the different stakeholders of the company. In this case, we considered the guidelines of the EICC to be highly material to our client as their customers are requesting compliance. Thus, moving forward, with our help our client will be developing a program that considers both frameworks.

The bottom line is that corporate sustainability is a process whereby the needs of various stakeholders are integrated into the development and deployment of programs. Therefore the design of such programs must include a process whereby these interests are considered. By doing so, a company can position itself to respond to the increasing variety of data and information requests in an efficient and timely manner.

**Establishing a sustainability baseline** is usually a key component of any sustainability program or initiative. When we went into establishing our first sustainability baseline for a client of ours, we went in with the assumptions that they would have basic information and data we needed at least somewhat readily available. But it turns out that they didn’t have the information to the extent we were expecting (though they did give us some pretty useful information). Through our investigation we also found that they did not have clearly defined protocols for collecting, managing, or analyzing this data. In addition to that, their different departments documented information on the same items using different methods, resulting in different qualitative and quantitative information describing the same exact item. Needless to say we became frustrated, at first. Then we spoke with other sustainability leaders within our client’s industry and found that they went through the same types of issues. They shared with us that we can only deal with the information we have, and said that the lack of information is part of the baseline report. We ended up publishing a superb baseline report by remaining patient, being optimistic yet honest with ourselves, conducting thorough investigation and engaging stakeholders. We also benefitted from the client’s willingness and support, and utilized every aspect of our collective wisdom, network, and resources.

Lessons learned for those beginning their journey in sustainability consulting and/or programming:

- 1) Do not enter a project expecting to find any quantity or quality of information, or lack thereof,
- and 2) Stay positive, patient, and humble; successful sustainability is a journey.

**Kainoa Casco**, MBA Candidate  
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Every project is different so you will have your successes and challenges; view your challenges as those opportunities with the most to learn from and largest percentage change for improvement. With more experience on projects, you will develop an understanding of how to handle challenges and develop systems that promote effective solutions. Do not think you need to know it all; reach out to other sustainability advocates, ask for advice, do your research, and tap the collective wisdom of your network.

**Earlier this year, we conducted a several-month investigation** into our vendors' business practices and social responsibility programs. From the information provided by survey respondents, we were able to draw conclusions about the state of sustainability reporting for small businesses. The current market for corporate social responsibility (CSR) and environmental reporting tools is primarily focused on large

### Mike Kissinger

Tech Networks of Boston  
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firms. Smaller firms, many of which have extremely limited staff time and budgets, struggle to solicit and disclose CSR and environmental information. Currently, there is not a clear standard method for small firms seeking to report information regarding the environmental and social programs of their own business or those of their partners. This presents a challenge for small businesses who want to improve their own sustainability and help their business partners do the same.

## facilities

**In pursuit of LEED for Existing Buildings Operations and Maintenance**, we chose to commission our 104,000 square foot building which consists of a warehouse and 12,000 sf of office. When we moved in 4 years ago we conducted a major renovation on the office space, and in the process we added 4 new heating and air units. Commissioning discovered that wiring was crossed on those units and that a damper was broken, which could have only happened on installation. Other things that were discovered: our snow-melt system was on all the time, not just when the temperature was below 32 degrees. We knew about two water systems on the property (one for potable and one of irrigation),

### Renaë Hesselink

Nichols  
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but the commissioning process discovered a third system that was also used for irrigation. However, it was not metered correctly, and that was causing us to pay extra taxes to the city. One of the silly things that we laugh at is that the microwave in our cafe was never placed in the space that was built for it –instead it sat on a counter right in front of a thermostat! Outdoor light sensors were not working so several of our light fixtures were on 24x7 instead of turning off during the light of day. We cannot tie these things to a savings in energy specifically to calculate the return on investment on the cost of commissioning. However this along with a lighting fixture change-out in the warehouse means we have achieved a 34% reduction in energy usage. When we started our LEED pursuit our Energy Star score was 70 and we increased it to 79 by the time we



certified, and were able to also achieve Energy Star Partner status.

**When looking at new construction**, or major renovations, be willing to slow way down when reviewing the bid tab to take the time necessary to make the apples to oranges comparisons. Be willing to entertain many different strategies for the insulation package and for the systems. Solicit multiple bids from each of these various strategies. Easy so far, but then be willing to invest in the real due diligence necessary for studying between line items to measure add costs in certain categories such as energy efficiency upgrades. Then capture the corresponding cost savings to be had in other parts of the bid tab. In other words, be willing to make the apples to oranges comparisons. Be willing to weigh the more abstract pros and cons for each strategy being priced and considered.

## Mikel Lolley

Treadwell Institute

What routinely happens at final bid review is that the project is wildly over budget. The design professionals begin editing out the extras. The aesthetic adds such as the high-end light fixtures, the 14K gold plated plumbing fixtures, the hand forged hardware, the fancy custom front door – the jewelry for the project – gets down-graded or cut out of the budget all together. Worse, the energy efficiency upgrades get cut without any real due diligence toward making the apples to oranges comparisons or seizing opportunities to capture cost savings in other categories to be had from the up-grades.

**During the pursuit of LEED certification for a new construction project**, there is a day when the team sits down to determine the credits to be attempted and any potential cost premiums that will result. The cost of LEED is a topic that is discussed often, and many excellent articles have been written to try and quantify the extra costs, if any, that LEED projects incur compared to a non-LEED project. One LEED credit (a prerequisite actually) is Fundamental Commissioning, EA prerequisite 1. Basically, it requires a third party verification of the performance of all building systems that use energy. This prerequisite is often viewed as the most expensive single requirement of the LEED rating system, and therefore the toughest pill to swallow, so to speak, when going for LEED. However, there's a reason LEED projects are required to be commissioned, and there is significant and often measurable value in this process.

LEED was designed to transform design and construction and reduce the energy demands of the built environment (one of the E's in LEED actually stands for energy). Commissioning verifies that the building actually performs the way it was designed and saves all the energy that it claims to save. It is, in short, the accountability piece of the LEED puzzle. No matter how meticulous a contractor is, having someone who didn't design or install a system take it for a 'test drive' is the best way to make sure it performs under normal operating circumstances.

The measurable value of commissioning lies mostly in energy savings ensured by the verification. If you ask a commissioning authority, they will tell you that, on every job, something always needs adjustment, tuning or even replacement. A few examples will illustrate that the savings due to commissioning are very quantifiable. A warehouse building in Southern California's Inland Empire was designed to harvest daylight and turn off the high bay lights when enough sunlight was shining through the skylights. The commissioning process found that, indeed, there was a photocell on the roof, but the wiring was not completed from the photocell to the lighting panel. This trivial repair resulted in energy cost savings on the order of \$50,000 per year! A library building in the San Gabriel valley used rooftop HVAC units to cool the building. The units were equipped with economizers to take advantage of the cool morning air and bring in fresh air when it could be used for cooling. A certain tiny switch on each economizer tells the equipment that,

## Duke Graham

Gaia Development, LLC

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for example, 15% means 15% open or 15% closed, depending on the switch's position. 8 out of ten of the units had this switch in the wrong position, having come "out of the box" that way. That means that on a hot day, when the outside is too warm to use for cooling, the economizers that should have closed to minimum ventilation position, were in fact almost all the way open, letting in and cooling the hot air. And when the outside air was cool enough, the units would not take advantage of it. The resulting savings of flipping these switches to their correct position was estimated at about \$3000 per year.

In addition to the somewhat intangible benefits of fewer contractor repair callbacks and improved occupant health and comfort, commissioning results in measurable energy cost savings in most cases. It may be the best money you spend during the LEED certification process.

**When building a new process** numbering the instruments and equipment can turn out to be difficult.

### anonymous

We worked with an engineering firm to get the numbering correct in our new plant so it would follow the current plant's numbering. The engineering firm sent us some drawings with their numbering. The numbering followed our conventions so we OK'd the drawings. Our mistake was not having someone approve all drawings. We are now stuck with a numbering system that sometimes matches our current system and sometimes not. It's too expensive now to go back and correct.

**While LEED was not designed specifically** for high tech, energy intensive buildings, it can be applied if understood well. This particular example comes from showing compliance with LEED 2009, v3.0, Energy and Atmosphere credit 4: Enhanced Refrigerant Management (referred to hereafter as E&Ac4). It is important to remember when showing compliance with LEED that you don't penalize yourself unnecessarily!

Our project had three types of chillers which were rated for 800 Tons of 42°F chillers, 550 Tons of 14°F chillers, and 40 Tons of -18°F chillers. We did the initial calculation for E&Ac4 using the NPLV tonnages associated with each chiller system and found out that we did not meet the credit requirements.

But wait! E&Ac4 notes that that you should use Gross ARI tonnage (or IPLV) in the calculation and not the de-rated tonnage (or NPLV) at your operating point! This was originally overlooked and we were using actual ("de-rated") tonnage in our calculations. For example this meant that our 14°F (-10°C) process utility chillers which are de-rated to 550 Tons should actually have been inputted as 1300 Tons. Using ARI ratings (NPLV) we found that our weighted average for all of the chiller systems meant that we could once again qualify for the 2 points under this credit because we weren't penalized for having to achieve extremely cold supply temperatures.

These additional 2 points could mean the difference between certification levels! Notes: 1. NPLV = Non Standard Part Load Value. 2. IPLV = Integrated Part Load Value. Performance characteristics developed by the Air Conditioning, Heating and Refrigeration Institute (AHRI) 3. ARI has become AHRI. The AHRI rating method for chillers can be found under the current AHRI Standard 550/590.

### Keith Higgins

CRB Consulting Engineers  
www.crbusa.com

The Clorox Company corporate headquarters is now one of only 38 buildings in the U.S. to have attained Platinum LEED – Existing Building certification. We invested significant financial resources and more than nine months and 3,000 hours of staff time on improvements which included:

**Bill Morrissey**  
The Clorox Company  
[www.CloroxCSR.com](http://www.CloroxCSR.com)

- Replacing every toilet and plumbing fixture in the building to reduce water consumption by more than 40 percent and 1.5 million gallons annually
- Replacing more than 1,700 lamps with more efficient lighting
- Installing a new white reflective roof that keeps the building temperature cooler
- Making numerous efficiency improvements to the building’s heating, cooling and ventilation systems
  - Moving to non-potable water for all irrigation, and
  - Expanding solid waste recycling and implementing a composting program.

In 2010, we made seven years of real operational building energy data publicly available. We did this through our eighth sustainability report [www.investa.com.au/2009](http://www.investa.com.au/2009), inviting stakeholders and peers to explore our seven years of results for themselves through an interactive data tool. For example, they could:

- select individual buildings or groups of buildings
- look at the values over time for water, energy, complaints, waste and more
- compare the results with averages for temperature or portfolio averages
- filter the results for building age classes, size or other attributes.

This represents a unique turning point for our business and our industry. It is unusual for companies to make this type of data available due to commercial sensitivities. By making the data freely available we have enabled you to generate your own insights and form your own judgments about our performance managing commercial office buildings.

Was it risky? Yes, especially as releasing this data has exposed exactly which buildings operate above and below the portfolio average – in other words where we are doing well, and where we are not! Why did we do it? From some of our real world examples we know that a 60% reduction in energy use is possible in a building. Much of this will come from upgrading to more efficient equipment, but to rapidly reduce carbon emissions from buildings we need to change behavior too. By making building performance data available we can help build knowledge about what works and what doesn’t, as well as highlighting those buildings that need more everyday attention from building managers on energy and water use. With greater transparency we believe we will achieve better results.

What did we learn? We identified a few key issues about managing and presenting data: 1. People do want to see the data and we have had excellent feedback from stakeholders and investors about the transparency of our approach. 2. It is really difficult to present eight years worth of data really well – we have a lot of data, but sometimes it is better to present the most important or interesting data rather than all of it as it can simply be confusing. 3. This exercise has encouraged far more interest and effort in analyzing our own data. This has helped us to identify new trends and ideas to improve performance that we wouldn’t have otherwise come across, especially longer-range trends that were not possible to view in the past.

**Beck Dawson**

Investa Property Group  
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**We have designed a next-generation store model**, to be introduced in 2011, that will be 75 percent more energy efficient than stores built in 2010. The energy savings will come from combining multiple technologies, including LED lighting in parking lots; hydronic heating combined with high efficiency condensing boilers; Energy Recovery Ventilation (ERV) for the retail floor and service centre; improved ventilation effectiveness by optimizing system efficiency; adjusted temperature set points; and enhanced thermal efficiency through thermal imaging.

Much can also be done to improve the energy efficiency of existing stores, as we have discovered using a computer-based Central Energy Management (CEM) technology to retrofit approximately 200 Canadian Tire Retail stores. This initiative is still in progress and will bring the total number of stores with CEM up to 300. CEM automates and controls the energy needs of the stores, including building

### **Tyler Elm**

Canadian Tire Corp.

[www.corp.canadiantire.ca/EN/CSR](http://www.corp.canadiantire.ca/EN/CSR)

temperatures, thermal comfort, and lighting adjustments, based on the schedule of the store. It provides regular, on-going data about the store's energy consumption, and alerts managers to problems or inefficiencies in the mechanical systems. The estimated annual avoided energy cost is approximately \$3.4 million for 200 stores. The energy saved in the new centrally managed stores will also reduce annual greenhouse gas emissions by an estimated 7629 metric tonnes (eCO<sub>2</sub>), and is equivalent to removing 1149 cars from the road. To date, 45 stores have been converted.

**At our New Hampshire regional headquarters** we have an interactive "green screen" display in the building's lobby that continually tracks and monitors the building's energy systems. Not only does the system depict live temperature data and real-time ROI calculations, it can also help boost efficiency overall. Shortly after moving into the building in December 2009, WESTON noticed that the building was consuming more electricity during the weekends than what the model predicted. The reason, they learned, was that they had lowered the temperature set points on the first floor during unoccupied periods to maintain a proper temperature in the IT/telecom room. Since the small, interior room was not on its own "zone," the temperature of the entire area had to be lowered to account for the additional heat. These types of observations allows us to revisit certain operational processes and continually challenge staff to find new ways to conduct business in the most sustainable, energy-efficient manner possible.

### **Jim Ricker**

Weston Solutions, Inc.

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**In 2010, we opened Progressive Processing**, a new manufacturing facility in Dubuque, Iowa, and the first plant the company had built from ground up in more than 25 years. As one of the world's first manufacturing facilities to earn LEED certification at any level, designing and constructing Progressive Processing was a complex task. One of the challenges in doing something for the first time, both for the company and for the industry, was that the team was required to conceptualize and design many of the systems from scratch.

One example of this is the integrated energy and water efficiency systems throughout the plant which allow Progressive Processing to use at least 25 percent less energy and water than a plant built to meet current building codes and industry standards. While Hormel Foods has used similar energy savings strategies at some of its other facilities, this is the first completely plant-wide fully integrated

system. There are lighting controls that monitor the amount of light needed based on daylight, occupancy and time schedule, and temperature controls that use sensors to identify room occupancy and determine the heating or cooling need. As a result, actual electricity consumption at the facility during the first 10 months of operation as billed by the utility is about 30 percent less than the baseline building used for comparison.

## Chad Sayles

Hormel Foods

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Additionally, there are sophisticated heat and water recovery processes in place throughout the plant. The plant-wide heat recovery system captures the equivalent of more than 100 MMBTU of energy every day, and during the first 10 months of operation, over 1,000,000 gallons of water has been recovered from reverse osmosis reject and reused in place of fresh potable water. These water savings, combined with several closed loop processes and the efficiency of the process equipment, save 25 percent of the water that would otherwise be used at the facility. Because of these integrated systems, and the selection of the most energy efficient equipment available, Hormel Foods believes they will recoup the extra cost necessary to construct an environmentally friendly facility during the first two years of operation.

**In every LEED Project I have worked on** there comes a moment when I wonder if we are in danger of losing the real focus. Maybe it's the nature of the beast as we seek to document and validate the sustainability efforts for an individual project. However the danger of point counting and the potential to lose the overall focus of true sustainability cannot be overstated. It comes down to the human element. The most efficient mechanical systems can be in place, the best construction procedures can be written, the correct no-smoking signs can be located, the latest energy saving design can be realized; but without the end users and especially those responsible for executing these measures truly embracing and understanding these instruments the entire effort can be undermined and go for naught. Years ago I asked a representative of the USGBC what was the end goal of their efforts. He answered that it was to see the tools used so effectively as an everyday part of life that there would be no need for an organization such as his. To achieve that goal there has to be a healthy understanding of the difference between a simple (or not so simple) tool and the objectives that tool seeks to reach. It calls for the education of an industry and the public that industry serves.

## Charles Schlauch, RA, LEED AP

Charles Schlauch Architectural Services

**#1 lesson learned** – The benefits of sustainability initiatives are not obtained overnight. Our research into building/facility retrofit projects, onsite renewable energy generation, and waste diversion are continuous and ongoing. We're evaluating all areas of our business and operations, with plans to capitalize from quick ROIs, while simultaneously making long-term investments.

## Robert Ellsworth

Pick-n-Pull

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**#2 lesson learned** – Continuous improvement efforts are allowing us to identify and strengthen core areas of our business. From a variety of building and facility energy efficiency projects (E.g. lighting) we estimate reductions of 500,000 kWh/yr in energy-use, \$50,000 in electricity cost savings, 700,000 lbs/yr of CO<sub>2</sub>-e evaded, and \$100,000 in available state and federal incentives to cover project costs!

#3 lesson learned – We can't manage what we don't measure. Tracking the resource consumption of our operations has become ever-more important. To take this to the next level, we have identified the requirement for integrated management systems to utilize real-time tracking, driving efficiency and effectiveness.

Washington University in St. Louis eliminated the sale of bottled water on campus in 2009 in an effort to reduce waste and encourage the use of reusable mugs and bottles. This past fall, in response to requests from the student body, we began a project to retrofit drinking fountains on the university's campuses to allow for the easy refilling of reusable water bottles. More than 20 initial locations for the retrofits were chosen based on a number of factors, including:

- Estimates of student, faculty and staff foot traffic through the buildings
- Variance of fountain manufacturer and model type
- Level of difficulty and feasibility of retrofit.

This has proven to be an interesting learning experience as we found ourselves ahead of the curve

in terms of demand for bottle-filling options at the time. Given the myriad of water fountain manufacturers and the various model types we have on our campuses, no universal solution was available on the market. With each location, we had to consider the type of fountain we were working with (and whether it was still being manufactured), specific site concerns (such as potential for vandalism) and often the aesthetic needs of the department in question. We started out striving to be as consistent as

we could with these retrofits, but we discovered that this was not as feasible as we had hoped, given the many types and ages of fountains we were working with on our campuses. It is encouraging to see the market catching up, however. Most every major manufacturer now offers some kind of retrofit for those drinking fountain models still being produced, and many companies now offer bottle-filling stations, which we are also piloting at Washington University. These more elaborate options come with all manner of extras from an infrared sensor to a digital counter indicating the number of bottles "saved from the landfill."

## Daniel Bentle

Washington University in St. Louis

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**L'Oréal USA's Piscataway manufacturing facility has focused** on finding a cost effective and more energy efficient source of lighting for its plant. Efforts were made to find a light source that would provide adequate lighting with lower overall energy consumption. The plant replaced their traditional fluorescent light bulbs with LED (Light Emitting Diode) lighting in the administration and production areas and installed sun tubes in the warehouse. The LED bulbs have a significantly longer operating life than fluorescent bulbs at 50,000 hours versus 2,000 hours, and without a ballast to burn, maintenance costs are also reduced. It is estimated that maintenance savings by converting to LED will be approximately \$2,000 per year. To date, several areas in the facility have been successfully converted to this new LED lighting technology. The largest area – 2900 sq ft – has resulted in an overall annual savings of:

- (Electricity) 31,500 kWh
- (Green House Gases) 9,418 Kg of CO<sub>2</sub>
- (Operating Costs) \$6,410

## Myriam Coneim

L'Oréal USA

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And the change resulted in a CO2 emissions reduction of over 70%. In addition, the LED bulbs do not contain any mercury or other hazardous materials. At the end of the bulb's 50,000-hour life, it can be discarded as regular waste. This will reduce the amount of hazardous waste generated. LED technology also offers other advantages including simplified installation. The total time it takes to convert a fixture is less than 10 minutes. The selected LED bulbs are UL listed to insure safe operation. Feedback from the employees working in the areas already converted has been extremely positive. Lighting measurements, before and after the installation, validate that the LEDs provide the same lighting levels as the fluorescent lights. These LED lights could have also been used in the warehouse but L'Oréal's engineering team felt that the warehouse posed additional challenges as it has high ceilings and there is no source of natural light. The lack of natural light not only increases the energy use in this area of the facility, but also contributes to a reduction on the morale of warehouse employees. Sun tubes and motion sensors were also installed. The sun tubes in the Warehouse have provided very favorable results. On sunny days and even partially cloudy days, there is sufficient sunlight to completely illuminate the warehouse areas without the need for supplemental electric lighting. To date the facility has installed over 65 of these sun tubes. It is estimated that, collectively, these sun tubes will save:

- 44,000 kWh per year
- 13,000 Kg of CO2 Emissions per year
- \$ 6,500 per year

In addition to the electrical, CO2 and cost savings, the employees working in the warehouse have expressed that the natural light makes them "feel better." The company's engineers have estimated that if L'Oréal was to convert the entire facility to a combination of LED lighting and sun tubes it would be able to achieve the following annual reductions:

- 650,000 kWh per year
- 197,000 Kg of CO2 per year
- \$92,000 per year in electrical costs

The L'Oréal USA Piscataway facility plans on systematically converting the entire facility to LED lighting over the next 2 years.

In working on projects with high-level green building certification goals, one lesson that gets repeated again and again is the importance of starting the project with clear intentions and a willingness to dialog about goals. We have found that an integrated design process, in which all project participants share

### **Jerry Yudelson**

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ideas, insights and experience, is essential to realizing high-level green goals on conventional budgets. This process needs to start with the original RFQ or RFP to designers and be followed up with one or more "eco-charrettes" that clearly explore key design issues, site constraints and client/owner requirements. Only then should anyone start thinking about specific design decisions.

**We've rolled out a Green Office for Tenants** program, which is a free, voluntary program to enhance the sustainable features and operations of indoor office space. Tenants were offered a Green Office scorecard that highlighted strategies they could take to green up their space. And because Hines had gone through the process in all of its own offices worldwide, it made itself available to help tenants along the way. Without any measurement or verification program in place, some naysayers doubted the potential effectiveness of the program. On the contrary, Hines demonstrated that it was the ease of the program, and its low cost, which endeared tenants and encouraged them to participate. Recent research highlighted in The Wall Street Journal indicated that data and metrics are only so persuasive in engendering behavioral change. What really motivates people is what their neighbors are doing. In less than two years more than 700 tenants, representing 32 million square feet, have signed on to the program and earned the Green Office designation.

## Jack Beuttell

Hines

[www.hines.com](http://www.hines.com)

## supply chain

In order to raise guest and employee awareness about climate change in our national parks, Xanterra developed the “For Future Generations” campaign. Central to the initiative was the opening of a retail store dedicated to interpreting climate change in the parks: “For Future Generations: Yellowstone Gifts.” Key to the store was the development of a sustainability scorecard and rating system. Xanterra Parks & Resorts has implemented an aggressive sustainability program at Yellowstone, with an ambitious set of vision goals developed under the direction of noted environmental scientist Hunter Lovins.

Environmentally preferable purchasing (EPP)—to achieve the objectives of waste minimization and diversion, hazardous chemical reduction, energy and water conservation and greenhouse gas emissions reduction—is an integral component of this program. Although our operation possessed an existing EPP policy and guidelines, we had no effective or efficient tool for evaluating the products and services we utilized as information on companies and their products was often lacking and difficult to obtain. In order to make real gains in our program, we needed a comprehensive tool for evaluating our purchases.

To achieve the transparency we sought, we developed our own sustainability index, complete with a visual key and scorecard—the first of its kind in the industry. The system was the result of six months of research and testing, and the first phase was rolled out in the new sustainable store, For Future Generations, in December of 2009.

The index measures the sustainable attributes of both the company and the product. The 16 attributes – or categories – include organic, recycled content, recyclable, rapidly renewable materials, biodegradable, compostable, locally made, made in the USA, made with renewable energy, sustainable packaging, cruelty free, fair trade certified, socially responsible practices, supports non-profit organizations, conventional and other sustainable attribute. In addition to the product attributes and product origination information, the scorecard rates the product’s environmental impact on a scale of



one to 10 with one being the lowest impact and 10 the highest. The scorecards also include additional information about the product's manufacturer.

We included qualitative data in the index, with a special section dedicated to revealing the location of the product in all steps of the manufacturing process—from materials procurement to distribution. In an additional information section, we placed any disclosures that helped clarify the sustainability of an item or company, such as noting exceptional practices or revealing areas for improvement.

Gathering the information involved sending a six-page survey to each company, which they had to complete for each product sold to our operations in Yellowstone. The company also had to certify that the information was accurate and truthful. Once the surveys were received, Xanterra's Director of Environmental Affairs rigorously screened each one and followed up with the company for clarification and with additional questions. The information was entered into a database, and once the data was analyzed the scorecards were produced to make the information easily accessible, especially to customers in a retail environment.

After witnessing the success of the scorecards in the retail store, and recognizing the immense benefits the sustainability index provided in improving environmentally sustainable purchasing, we decided to expand the program to include all of our vendors and products at our Yellowstone operation in August of 2010. For images of the scorecards and index, please see page 6 at <http://www.yellowstonenationalparklodges.com/UserFiles/File/yellowstone-pdf/ynpenvironmental-initiatives-2010.pdf>

As for achievements, the sustainability index and scorecard rating system has achieved three significant outcomes: influencing park visitors to purchase more sustainable products, greening the purchasing practices of our company, and causing our vendors to evaluate their practices in order to become more sustainable.

In terms of increasing sustainable purchasing with park visitors, in the first year of implementation the project has been very successful. Transparency has translated into higher sales, indicating visitors support the new model. Overall sales in the new sustainability store increased 35% over the prior year (before implementation)—leading the entire company in annual growth for a store. More significantly, the average sale increased by 3%, indicating that consumers are choosing the more expensive sustainable items in some cases. For internal purchasing, the rating system has allowed us to make immeasurable gains in our environmentally preferable purchasing program. For the retail department, the results of the surveys caused us to replace some of our products we offered for sale. Our prior reusable water bottle vendor provided a good illustration—they scored very low in terms of sustainable attributes, so we shifted to another “greener” company. In terms of our operational purchases, even in the early stages of implementation the scorecard has proven effective in selecting environmentally preferable products or companies. We are currently working with our purchasing and accounting system to establish better tracking systems for EPP items. Finally, this new sustainability index has provided the impetus for vendors to begin evaluating their business practices given that customers and employees will now have instant access to information about its sustainable merits or detriments. In the initial phase of the project, many of our retail vendors approached us about what changes they would need to make to obtain a better score. For example, we worked with one of our local t-shirt production vendors to make recommendations on how they could improve their environmental management system.

## **Beth Pratt**

Xanterra Parks & Resorts at Yellowstone  
[www.yellowstonenationalparklodges.com](http://www.yellowstonenationalparklodges.com)

**We used the downtime of 2009** to thoroughly examine our packaging. We noticed that we were not fulfilling the Japanese 3 M's philosophy of Muri (preventing the overburden of labor), Mura (avoiding inconsistency), and Muda (elimination of waste). The trick was to find a box that eliminated extra space while still getting through the delivery mishandling crux.

## Travis Solberg

Solberg MFG

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Environmentally, a damaged product and all the inputs used to create it (let alone customer's expectations of receiving the product they purchased) far outweigh the energy used to make a box or extra material. Then the trick was to mimic what worked through hundreds of products sold.

This move saves countless minutes of crumbling paper to fit in holes. Now, we are managing to save on thousands of pounds of corrugated material and space in a truck since we are now able to fit much more on a skid. We use many cost comparable biodegradable bags and even corn foam for responsibly assuring expensive products make it to our customer safely.

**We challenged 23 of our key suppliers** to join in a "Race to The Top." Over the long term, the Staples focus is to encourage suppliers to compete in finding new ways to reduce impacts on the planet and increase environmental, economic and social sustainability and remove waste and inefficiency of all types.

Staples' first step was to task its key suppliers to address environmentally sustainable packaging priorities in the next six months. This will reduce impacts on natural resources by using less, or alternative, packaging materials for products in the company's delivery and retail businesses as well as for bulk shipments received from suppliers.

As a retailer, more than 90 percent of our environmental footprint relies on our suppliers, so this approach makes sense. Our supply chain is where we have the biggest opportunity to make the greatest impact.

Three months into "Race to The Top," Staples continues to work collaboratively with its suppliers to achieve sustainability goals. Already, the company has learned important lessons that other businesses can use to ease the implementation of a supply chain sustainability strategy.

These include:

- Create a common language within your business and with suppliers. The terms and concepts must be understood by all constituents. This will help all the various groups to rally behind the plan. Without a common language, confusion will hinder progress.
- Involve, engage and collaborate with others. You can't do this on your own and in order to succeed, you need to work with others, both internally and externally. Work to get your organization excited and encourage suppliers to take a position on sustainability. Then, channel that excitement to fuel progress.
- Be your own advocate. Work to convince others of the value of sustainability. Illustrate how sustainability is integral to the entire business including serving customer needs, saving money, reducing waste and increasing efficiency.
- Play to your strengths. Rely on the resources and knowledge that are already available to help you build a strong program.
- Develop a clear framework of steps and make sure everyone is aware of those steps.
- Measure your progress. Varied sets of data aren't conducive to having a common language.

Common metrics are needed to compare, contrast and analyze your results.

## Mark Buckley

Staples, Inc.

[www.staples.com](http://www.staples.com)

- Constantly assess and reinforce the progress made and ensure that the team is on the right path to achieving goals.
- Focus on the areas you will have the most tangible results first. This will help others see the business case for sustainability and understand the magnitude of the opportunity.
- Most importantly, get started! Don't wait for the perfect plan to be in place before you start making a difference.

**The healthcare industry is facing increased pressure** to contain costs and reduce the environmental footprint of healthcare delivery. One cost-cutting and sustainability initiative that has proven successful for Sisters of Mercy Health hospitals is the use of reprocessed 'single-use' medical devices. Mercy and ROi, Mercy's supply chain division and a leader in healthcare supply chain management, partnered with Ascent, the leading provider of reprocessed and remanufactured devices for the healthcare industry,

### **Stacy M. Howard, R.N.**

Sisters of Mercy Health System and ROi  
www.mercy.net

to develop a solution for optimizing Mercy's savings potential and environmental impact without sacrificing operational efficiencies. Our team engineered a sustainable supply-chain model that consistently delivers inventory preference, cost savings and waste reduction with little or no changes to Mercy's normal purchase process.

Not only can Mercy point to bottom-line savings, but our creative supply chain model is good for the environment, too. Today, reprocessing is one of Mercy's Top 12 Savings Initiatives. At Mercy, we believe reprocessing is the right thing to do. We want to go green and save the environment, and it's a less expensive alternative. These devices can be remanufactured safely and, of course, patient safety is number one. Sisters of Mercy stands to save \$2 million a year and divert 60 tons of waste from landfills every year once all of our 30 hospitals fully implement medical device reprocessing programs, along with other green initiatives.

Mercy's success shows that reprocessing is a smart supply-chain strategy that can make a big difference for hospitals. In 2009, U.S. hospitals saved hundreds of millions of dollars by using such devices and an estimated 5.3 million pounds of waste was diverted from landfills.

**We began our "profitable sustainability initiative"** with concerted efforts to address the sustainability impact for transportation activities. By using the appropriate modes (surface versus air) & reducing the number of carriers used, we reduced diesel fuel consumption by the carriers servicing us by \$195,150 annually. In addition, annually, this reduced the CO2 emissions by 716 tons, oxides of nitrogen by 18,900 lbs and particulate matter by .32 tons. Then we converted from hard copy freight invoices to electronic, reducing costs by \$60,600 annually, and implemented shipping management technology, reducing labor costs for shipping, customer service and accounts payable by \$251,000 annually.

### **Gary Glisch**

LogiServe  
www.logiserve.net

**AMD, a global leader in designing computing and graphics processors**, set about to re-design its packaging for its PIBs, or processors-in-a-box in the past year. The objective was two-fold: we wanted to reduce our box size and material cost, but just as importantly, we wanted to institute sustainability practices into our packaging.

To succeed in this effort, we had to overcome many common misperceptions and perceived “mandates” about packaging, such as: “bigger is better” and “one size fits all.” We opted to challenge the status quo with our suppliers and internal stakeholders by changing their perceptions and

### Tim Mohin

AMD

[www.amd.com](http://www.amd.com)

convincing them that a re-designed, smaller package could still meet their needs.

Through an innovative package re-design that reduced, eliminated and modified many “old” packaging elements, we met our original goals and more. The new PIB packaging design allowed us to reduce the amount of packaging material, allowed for a higher pallet density and simultaneously reduced shipping weight, improved the packaging security, simplified the opening of the package and reduced cycle time in the supply chain. The PIB packages are now 55 percent lower in volume and 36 percent lower in weight. AMD estimates these changes will save 1,352 metric tons of greenhouse gas emissions annually, which equates to 230 cars being taken off the roadways. We also estimate this will result in annual savings of more than \$10 million USD.

Work with your vendors and partners to innovate and find sustainable solutions. Waggener Edstrom Worldwide shared its existing practices and commitment to the environment with OfficeMax and discovered a mutual passion that existed between the two companies. As a result, OfficeMax asked Waggener Edstrom’s Lake Oswego, Oregon office to partner with them to test an alternative way to deliver office supplies. In lieu of cardboard boxes, OfficeMax began delivering Waggener Edstrom’s orders in reusable durable totes. Because of the immediate success of this program, the practice was broadened to Waggener Edstrom’s Seattle office as well as many more of their customers in the Pacific NW. In 2011, OfficeMax plans to continue this program and extend it even more broadly to small and medium sized companies across the country.

### Rhian Rotz

Waggener Edstrom Worldwide

[www.waggeneredstrom.com](http://www.waggeneredstrom.com)

Ask not what your suppliers can do for you—ask what you can do for your suppliers. That is, if you want suppliers to disclose their greenhouse gas, energy, or other sustainability impacts, then first understand what managing those issues offers them, and then offer tools, training or other resources to help meet their needs.

### Ryan Schuchard

BSR

[www.bsr.org](http://www.bsr.org)

**Our company has fielded comments and concerns** from the public and customers for several years on the carbon footprint of transporting the goods we produce overseas, and that local manufacturers are better suited due to the relative close proximity of their plants.

Well, we enlisted Blue Tree Strategies and the Chemical Engineering department at Seattle University to do a comprehensive carbon footprint. At the end of a very exhaustive study our results and product were certified by the Carbon Trust – only the 3rd such certification for a U.S. Company.

The results clearly showed that the ocean transportation of our goods, the carbon emissions for the transport to the U.S. via water, was the lowest part of the emissions chain. The thousands of miles by sea was even lower than simply loading a truck here and shipping a few hundred miles.

### **Buzz Chandler**

Asean Corporation

[www.stalkmarketproducts.com](http://www.stalkmarketproducts.com)

Essentially, it was a “Mythbuster” finding, debunking a commonly held, and seemingly very plausible concern.

As with all manufacturing, no matter if domestic or foreign, we discovered the greatest source for reducing emissions in our production and supply chain was not the logistics transportation part, but right at the production source, in every case. And you cannot sit back on your laurels, you must view your carbon reductions as a “job in progress” which is never ending as new technology and techniques become available and evolve in themselves. A key factor in all this is to motivate your staff and management to embrace the concept, and if they see something or have an idea that might not only be more carbon emission friendly, but cost saving too, you will reap the rewards for a long, long time.

## sustainability

**Over the last ten years,** I’ve noticed that the Japanese have done a much better job of integrating environmental concerns into their daily business and personal lives than we have in the States. Virtually every project has its list of goals, and one of them always addresses eco-concerns. Maybe it’s because they live together so closely, or perhaps they have a good collective memory of events like Minamata or the perpetual smog over Tokyo in the 60s. Or, it might be that they are just thrifty – seeing a connection between environmental awareness and the bottom line.

### **Richard Seireeni**

The Brand Architect Group

[www.BrandArchitect.com](http://www.BrandArchitect.com)

**Dontien S Ingram-Moore**

Crowe Horwath LLP  
www.crowehorwath.com

The recent acquisition of sustainability consulting firms by Deloitte Touche illustrates the fact that corporate responsibility, including sustainability reporting and carbon management, will become business as usual in the near future.

By using the science-based tool of life cycle analysis, we've uncovered some surprising truths.

1. Where food comes from is less important than how it was produced and transported

A. Highly processed food and some crops are resource-intensive, no matter where they were grown and where they are shipped. For example, in North America, tofu has a larger carbon footprint than most chicken.

B. All air-freighted food can be characterized as "high carbon."

The most efficient way to transport food long distances is on container ships.

2. Food waste is a bigger part of the equation than most people think, packing a double dose of global warming potential

A. Food waste represents the loss of energy used to produce the food.

B. Deposited in a landfill, wasted food is among the few types of organic matter that actually decomposes. When it does, it releases methane into the atmosphere. Landfills are responsible for one-third of U.S. methane emissions.

**Maisie Greenawalt**

Bon Appetit Management Company  
www.bamco.com

**As I look back at the year** I'd say our most significant lesson in sustainability stemmed not from computer simulations or laboratory tests, but from the thousands of discussions we had with the people who know our green cleaning products the best – dishwashers and chefs, maids and custodians. Our customers are our front line. Together, those conversations reconfirmed a crucial lesson, that sustainability is a very large umbrella term that is constantly evolving, and that to succeed in the sustainability biz, you must constantly redefine what sustainability is. EcoLogic Solutions is a Brooklyn-based supplier of environmentally preferable cleaning supplies and solutions for the institutional market, such as restaurants, hospitals, schools, hotels, and office buildings. When our sustainable products first hit the market, our definition of the word "sustainability" mirrored those in the dictionaries, with emphasis on minimizing environmental impacts.

Our customers convinced us our definition of sustainability was incomplete. Sustainability means much more than just offering products that are safe for the environment, they showed us. Our products

**Anselm Doering**

EcoLogic Solutions Inc.  
www.ecologicsolutions.com

are natural, plant-based, and non-toxic. But if they're too expensive, they're not sustainable. If they don't work as well as toxic alternatives, they're not sustainable. If our cleaners and disinfectants are not simple to use and understand, and a janitor ends up using twice the recommended amount, we can't consider them to be sustainable. Thanks to the countless conversations with our customers, we've expanded our training and service

programs, improved formulas for a few items, and eliminated products that may be environmentally safe, but are too expensive in these tough times. The result? Greater use, improved products, increased satisfaction, and enhanced true sustainability.

**About four years ago**, Bank of America Merrill Lynch established a team that focuses on financing energy efficiency and renewable energy projects for companies as well as governmental entities. Over that time period, we've financed more than 400 projects and evaluated four times that many. That has given the company an informed perspective on best practices related to these projects. Based on the group's experience, here are three things in particular Bank of America Merrill Lynch recommends to companies and government entities considering undertaking an energy efficiency or renewable energy project:

- Facilities managers and finance people within the organization should be involved with each other up front. Physical plant people may be excited about a potential project only to have the finance people find that there are important financial aspects that were not taken into consideration. By making sure both your plant and your finance people are involved early, you are much more likely to be successful in getting your project implemented and built.

### Todd Karas

Bank of America Merrill Lynch

[www.environment.bankofamerica.com](http://www.environment.bankofamerica.com)

- When planning on utilizing any of the various tax credits or other tax-based incentives, hire legal or consulting professionals with experience qualifying for and modeling tax-based energy incentives. Depending solely on regular staff can be problematic given the complexities of interpreting and executing on specialized tax law, both federal and among various states.

- Work with internal communications and human resources departments to help take advantage of the positive internal employee relations opportunities presented by environmentally friendly projects. One bank client, a community college, turned a 3.5-megawatt solar energy project into a campus-wide celebration and a curriculum enhancement.

**Recent procurement initiatives have helped** us lower costs while reducing environmental impact:

- Both price and the proportion of renewable energy sources figure into our annual selection of electricity providers. In 2009, 37% of all the electricity purchased by Alcatel-Lucent came from low-carbon sources, nearly 24% more than 2007. Starting next year, part of the electricity needed by our Bell Labs headquarters in Murray Hill, NJ, will be generated by solar panels.

- By updating our leased vehicle catalog, Alcatel-Lucent reduced the average CO2 emissions of its fleet by 10.8% over the past five years, in addition to reducing cost.

- Thanks to employee awareness campaigns such as Let's Be eco-Friendly, Alcatel-Lucent employees drastically cut down on printing. Total paper consumption decreased 22.7% over the past three years as a result, with about half of the paper purchased from either recycled or environmentally certified (FSC – PEFC) sources.

### Rich Goode

Alcatel-Lucent

[www.alcatel-lucent.com](http://www.alcatel-lucent.com)

### Patty Calkins

Xerox

[www.xerox.com](http://www.xerox.com)

**At Xerox, I learned early on** that incorporating green business practices generate cost savings. One tip to keep in mind is to think innovation – how can your green initiatives be a cut above the rest? Also, look into partnerships with suppliers and vendors that reduce waste, energy use and greenhouse gases – this always leads to success.

**The Outdoor industry has had a huge collaboration** for the past 3 years that has produced an Eco-Index meant to help companies make better environmental products. We have had the participation of over 150 brands working to develop it. The best part of this collaboration is that we have instant acceptance because of all the brands that have been working on it. They are invested so they are more interested in adopting and using it. This is a project that we have had in our sight at Patagonia for many years but never would have been able to do on our own, and with wind industry acceptance, in such a short time frame.

The other topic that I have learned about this year is empowerment. I have been leading two projects here, The Footprint Chronicles and our Green Team, which have allowed employees from different departments to become involved in our environmental initiatives. Through these projects, employees that hadn't worked on environmental issues in the past have been directly involved in decision-making and training of their colleagues. With the Footprint Chronicles, employees have had to make decisions on how to communicate transparency about our practices. Not an easy task. But this has given them the skills to now bring environmental transparency to their departments and be bold in asking for change. For example, one of our website coordinators that has worked extensively on the Footprint Chronicles was talking to one of their big vendors and was asked what this vendor could do to support Patagonia's environmental values.

## Jill Dumain

Patagonia, Inc.

[www.patagonia.com](http://www.patagonia.com)

In the past, she would have turned it over to us in the environmental department, but feeling equipped by her experience, she led them into a very robust and bold discussion about what they could do. She asked for much more than I would have been comfortable doing in my environmental position because she owned that relationship and knew how far she could push!

The other success around empowerment has come with our Green Team. This is a group of employees assembled from all different departments. They researched and presented trainings for the whole company on many different office and lifestyle practices that would benefit the environment and did all the work with very little guidance. As the director of this program, I wasn't in town for 2 of the 3 trainings and wasn't needed at all for the 3rd. This is a great way to get the message of my department out to all of our colleagues without a lot of extra work for me.

**Data centers, because of their typically disproportionate energy consumption,** can represent low-hanging fruit for any company looking to reduce their overall energy footprint. Cooling is approximately 30% of a data center's energy consumption and has lots of room for improvement. Two impactful strategies that we found effective are:

- 1) raising the set point temperature to 80° , and
- 2) implementing dynamic management of cooling units.

The first strategy is free with immediate savings. Conventional wisdom has been that set points need to be in the 68-70° range for optimal server operation and longevity. However with current server technology and less than three-year technology refreshes an 80° set point temperature will not impact your server performance and it will save you plenty. Dynamic management of cooling units also provide an opportunity for energy and cost savings. This strategy requires the deployment of wireless temperature sensors at the server racks that provide real-time feedback to a central control system. The control system then determines how much cooling is required to maintain desired inlet temperature at the racks for proper operation of servers, i.e., no hot spots. In the typical, unmanaged scenario all cooling units are running at full load all the time. A dynamic cooling control system moderates the level of cooling and even shuts down units when not required. In our case implementation of the Federspiel



Controls energy management system is estimated to reduce our energy consumption by 112,000 KWH per year with an annual savings of \$10,000.

Responsible management of electronic waste, e.g., computers, servers, phones, video conferencing and batteries, is a critical aspect of most corporate sustainability programs. But “asset management” is a tricky industry to navigate for those not familiar with that industry. Not all vendors do what they claim. e-Stewards ([www.e-stewards.org](http://www.e-stewards.org)) and, more recently, the EPA’s Responsible Recycler ([www.epa.gov/osw/inforesources/news/2009news/08-r2.htm](http://www.epa.gov/osw/inforesources/news/2009news/08-r2.htm)) certification programs can help companies vet vendors that meet the highest standard of electronic waste management without having to invest in on-site inspections and expert consultants. At a minimum their standards can provide guidelines as to what to look for in a vendor.

When getting started focus your efforts on your biggest impacts. Often people get bogged down in the weeds of their sustainability program trying to address every aspect of sustainability within every organization or department. Start with a high-level, back-of-the-envelope assessment of your sustainability footprint that looks at energy, material and water consumption, and waste and pollution generation. Where you don’t have direct metrics you can get an order-of-magnitude-estimate using metrics you do have such as number of employees, square footage, miles driven/ flown, and industry standard conversion factors such as miles per gallon, KWH/sq ft.

For example, early on in our sustainability program we only knew the aggregate number of miles flown by our U.S.-based employees, who represented 75% of our total employees. We used an average carbon emission factor for flights and then extrapolated the estimated carbon footprint for air travel to the other 25% of non-U.S.-based employees. This gave us a rough estimate of our travel-related carbon footprint. Now we get a detailed breakdown of total mileage for short, medium and long flights for 90% of our employee population. And we found that the original estimate was quite accurate.

Once you’ve identified your big-ticket items, where do you have the most control to effect the biggest reductions based on the organizational and operational structure of your company? Areas where you can exact a compelling ROI will get the most support from management. Once you are rolling, focus your efforts on getting more accurate metrics, uncovering existing reduction projects, and identifying opportunities for additional reductions for these target areas.

Sustainability initiatives that are visible to employees, such as recycling, while not always addressing a company’s biggest environmental impact, are important in demonstrating to employees a company’s commitment to sustainability. At our company material consumption associated with our offices is a small component of our overall environmental footprint compared to our energy consumption and electronic waste. However, implementing double-sided printing and providing an office recycling program including batteries and printer cartridges that employees can bring from home makes our sustainability program tangible to our employees. Recycling is also something in which all of our employees can participate which is not the case for some of our other major initiatives.

**For Thomson Reuters, our environmental impact arises** from our data centers, our office facilities, our printing facility in Eagan, Minnesota and through the activities of our people. While many efficiency programs are owned and managed by business function, we rely on our staff around the world to act as local champions and ambassadors. We achieve this through our network of 75 Green Teams established in locations where we do business.

Through these teams our employees help to promote environmental awareness and sustainable

## Nicole Peill-Moelter

Akamai Technologies  
[www.akamai.com](http://www.akamai.com)

practices that align with their local circumstances. These teams of staff volunteers address issues of relevance and interest to their location, providing opportunities to learn and take personal action. Green Teams share best practices via a dedicated intranet site equipped with checklists, toolkits, blog discussions, and staff photos.

### **Julia Fuller**

Thomson Reuters

[www.thomsonreuters.com/about/corporate\\_responsibility/environment](http://www.thomsonreuters.com/about/corporate_responsibility/environment)

As our network grows we are identifying and promoting the features of the best performing teams which include the presence of an executive sponsor from the business, a great communications program and focused projects. As we close off each year we gather feedback – both qualitative and quantitative – reporting back to the Teams to celebrate their successes. We then challenge the Teams as they go into the new year to set SMART objectives for the coming year and to report against them.

**The City of Hamilton undertook a climate change strategy** in 2007 with corporate targets of 10% reductions of 2005 levels by 2012, followed by 20% reductions by 2020 and interim community targets of 10% reductions of 2006 levels by 2012, followed by 20% reductions by 2020. These goals were adopted into Hamilton's 2008-2011 Corporate Strategic Plan.

In 2008, a Community and Corporate GHG Inventory was undertaken. The inventory suggested that business as usual scenarios would lead to an increase of 2.9% in the community and a 3.2% increase corporate-wide in 2008. An assessment of actions in 2009 revealed community emissions decreased 6.5% in 2008 and corporate emissions decreased by 5.4% in 2009.

The decreases are a result of several programs, policies and services that are delivered corporate-wide and in the community. Examples include the Green Fleet Implementation Plan, the Corporate Energy Policy, Transportation Demand Management, Clean Air Hamilton, methane capture from landfills, biogas capture from wastewater treatment and a Smog Response Plan. Hamilton is moving forward with a Community Climate Change Discussion Paper and community presentations to engage citizens and following up on a Climate Vulnerability Study (2005) to examine climate change adaptation and to identify more opportunities and strengths for continued action.

Three lessons learned for designing and starting to implement a climate program:

- 1) Scan to see what is already happening – so you're not reinventing the wheel,
- 2) Make the linkages between issues and current programs visible – images, charts and text help, and
- 3) Talk common language with others – you think climate change, you say flooding to engineers or impacted communities – it helps educate and bring awareness on a local level.

Overall lesson -Doom and gloom and end of world scenarios do not help in all cases; look for the positives already being undertaken. Encourage and support those positive programs and visualize the linkages for everyone to leverage more continued action along the path to sustainability.

### **Brian Montgomery**

City of Hamilton

[www.hamilton.ca/climatechange](http://www.hamilton.ca/climatechange)

**The FTC's revised guidelines are an attempt** to fix the fundamental inadequacy of green marketing to business engagement with sustainability. Its superficial, product attribute focus is too narrow for the breadth of operation change that sustainability requires. But companies like Timberland, Starbucks, and Ford have begun to develop a new approach. They focus on initiatives to make the company (not just individual products) more sustainable, share extensive data about their results (even when they fall short of goals) and enlist employees, suppliers and even customers as collaborators in tackling problems that transcend the corporate boundaries. Rising consumer expectations that business will play a major role in solving global social and environmental problems mean more firms must abandon a tunnel-vision focus on their products' "green" benefits, and embrace a more holistic approach.

### Jim Nail

Verdantix

[www.verdantix.com](http://www.verdantix.com)

**For a number of years, we have provided support** for an annual conference sponsored by one of our clients. Several years ago, we started looking at how to reduce the environmental footprint of the conference. Our first focus was on what we could do internally through conference planning. With the full support of our client, we significantly reduced the volume of paper handed out (we are down to a one page program and wallet-sized program summary card from a conference packet with a folder containing over 25 pages), encouraged recycling, reduced the use of disposables, and purchased recycled content items like badge holders (which we reuse every year). However, we felt that reducing the impact of our conference was small compared to the potential of helping the conference venue and participants reduce their impacts long past the conference.

We have always looked for greener conference hotels but have found that there are actually very few alternatives. So three years ago, we decided to work to "green-up" the conference hotel not just for our conference but their operations into the future. We met with the hotel staff, provided them with a copy of Smart Steps to Sustainability – A Guide to Greening Your Business (a guide we developed for the Environmental Protection Agency that helps businesses, or any organization, develop a systematic plan for becoming more sustainable) and information on environmental resources and programs in their state. The hotel, as a result of our efforts, joined a state voluntary environmental leadership program that has a requirement for members to commit to voluntary environmental projects every year. This year, we are working with the conference hotel to help them conduct a carbon emissions inventory, an important step to reducing emissions.

We also wanted to increase the environmental awareness of the conference participants so that they could reduce their environmental footprint at our conference and in the future. In the past, we tried activities like an environmental pledge for activities at the conference but that seemed to have a limited impact. So last year we created a participant green self-assessment. Participants fill out the checklist at the end of the meeting and receive a score based on areas like transportation, energy, recycling, and food choices. Just taking the survey provides participants with information on how to travel greener. The participant with the greenest score wins a prize (a donation to the charity of their choice). This year we also hope to use the results of the self-assessment to provide feedback to the hotel on what areas participants found easy to use (like in-room recycling containing) and where there are opportunities for greener approaches.

### Tiffin Shewmake

PRIZIM Inc.

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**In my time in the sustainability industry** I've learned that business has an enormous innovative capacity to tackle the environmental and social challenges we face. Here and now in 2010 I believe business

### Mike Barry

Marks & Spencer

[www.marksandspencer.com](http://www.marksandspencer.com)

can be the galvanizing force for change, demonstrating to governments and consumers that change is not only desirable but possible. However, I've also learned that business cannot operate in a vacuum. It needs to be aligned with the democratic mandate that governments bring and the actions of all of us as individual citizens and consumers.

**The paper industry is extremely competitive** and, in a down economy, we're convinced that making an effort to expand our FSC-certified product lines and providing consumers with more options and greater access to certified paper has helped to grow our business and strengthen our position in the marketplace.

### Penny Machinski

West Linn Paper Company

[www.westlinnpaper.com](http://www.westlinnpaper.com)

**I have found that making a company,** office building or even a home really "green" goes far beyond recycling and water conservation. While those steps are undeniably critical and provide a solid foundation for sustainable operations, we find that our guests and employees are most enthusiastic when our efforts build teams, strengthen relationships and foster ownership.

### Whitney Hoover

The New York Palace

[www.newyorkpalace.com](http://www.newyorkpalace.com)

We were the first hotel in New York to partner with Clean the World, a non-profit organization that collects gently used soaps and bottled amenities from guest rooms to be sterilized and sent to countries in desperate need of basic sanitary supplies. As a result of our involvement, we have not only diverted more than two tons of waste from the landfill to date, but we have also provided more than 3,500 children in Haiti with enough soap for an entire month.

In an effort to promote a healthy diet while at the same time supporting our local farmers, we invited a nearby farm to set up a produce market in our employee cafeteria on a monthly basis during the spring, summer and fall seasons.

**How do we get rid of polystyrene** plaguing food courts across the country? When we look at shopping malls in the downtown or business district of any major Canadian city, they are usually attached to one or more office towers. These office towers could each have upwards of 2,500 people who work there, increasing the population of the 2 or 3 block radius they occupy by thousands of people between Monday and Friday. These "cities within cities" are usually operated by large property management and development firms and have environmental policies in place.

I would email the appropriate person at an office tower and send them some information on my firm and our sugarcane bagasse disposables. This more often than not generated a return email and a dialogue was started.

I worked with key personnel from the property management firms to identify which operators were still using polystyrene, and how much of it they were going through on a monthly basis. This audit was crucial in order to learn at what price point these operators would be purchasing. Then the next step was to provide these operators with sample product so they could see how the eco-friendly option worked in comparison to the polystyrene they were using.

While all this was going on, we also submitted an article to their internal newsletter, as well as addressed the merchants at one of their monthly meetings in order to field their questions and get

**Mindy Shepard**Green Land Enterprise Ltd.  
www.greenlandltd.com

them into a receptive mood to make the switch. What it boiled down to was educating the foodservice operator to the fact that consumers want green packaging, if they have to have any packaging at all, and they are willing to pay a little extra to have their food served to them in a compostable container. It seems that once they acknowledge these 2 key points, they can't wait to rid their operations of polystyrene.

## workplace

**Becoming a more sustainable company** and using fewer resources internally often means changing behavior. We've found that one of the most effective tools is from the ground-up: when the change comes from employees themselves. In 2010, one manager challenged his team – and then his entire floor – to reduce paper use. He held a salon inviting team-members to present, netting more than 30 resource-saving ideas, and placed green plants with paper reduction reminders near printers. The result? After two quarters, paper orders in this unit had dropped 84%.

**Nancy Shaw**Blue Shield of California  
www.blueshieldca.com/socialresponsibility

**The profile for Sustainability Officer has changed.** He or she is no longer the most “environmental” team member [EHS, env. engineer, env. counsel], but now more likely the smartest strategist in the room who can also lead and influence. Charisma and political capital of the executive sponsor is hugely important, for better or worse. We find that technical and “scientific” sustainability competency [i.e. being an LCA expert] is becoming less important, and viewed as a function that can be brought on in a contract or consulting capacity.

Newly-created roles are rarely being titled CSO, but typically more Manager/Director-level; this is especially so in highly-conservative, mid-market organizations that still view sustainability as a political hot button issue, continue to associate “green” with “liberal,” and have not yet seen the solid ROI that comes along with sustainability initiatives.

**Eryn Emerich**Footprint :: Sustainable Talent  
www.footprinttalent.com

Compensation is all over the place, but we have found that companies are willing to pay somewhere in the 20-30% above-market range for even very junior sustainability leaders. Classic supply and demand, we suppose.

**Lisa Dickson**

Kleinfelder/S E A

www.seacon.com

**With respect to implementation** of a corporate-wide sustainability program, we recognize that champions have to exist at many levels in the organization. Since many sustainability initiatives seem to falter at the middle manager level, we are committed to developing an approach that guards against this. Middle managers are simply overwhelmed with competing tasks. We are currently in the midst of developing an incentivized system to ensure implementation of the overall program as well as its associated reduction goals. Over the next year we will be working closely with management at all levels to balance the carrot and the stick approach (with the hope of leaning more heavily on the carrot) to ensure the success of this program.

**I knew that reducing our waste would make enough of an impact** on the environment and the bottom line. Eliminating the usual garbage cans at all workstations and replacing them with a much smaller waste bin that holds approximately 2 cups of waste would encourage people to not only produce less waste, but also recycle. This would be a simple straightforward change, I first thought, but I soon discovered this small change would cause a big wave of discussion and debate.

With the help of our passionate Green Team associates, we decided to roll this project out during Waste Reduction Week in Oct 2010. We provided bins in the break rooms that would allow for a central area to segregate recyclables, organics and general waste. The Green Team also posted information on the types of acceptable items that are allowed in the different bins. Lastly, we took away all existing workstation garbage bins and introduced the significantly smaller replacement. The intent was to raise awareness that almost all of what we normally may be putting in the garbage really could be deposited in the organics or recyclable bins. Thus reducing the amount of waste we send to the landfill by almost 50%. This initiative of waste reduction and maximizing our recyclables would have a positive and long lasting effect on the environment.

For the most part, people were receptive to trying to adjust to this change. They made the effort to get up and drop off their recyclables and organics / food waste in the break rooms. Some folks were not so convinced that this small change was for the best. After many one-to-one talks with some of these concerned individuals, it was realized that really whenever one is leaving their desk (i.e. going to the photocopier, printer, fax or to the washroom, etc ) they could drop off their organic or recyclables at the nearby break room. To be sure we were making progress, the Green team conducted waste surveys within the building after a few weeks. We were pleasantly surprised that almost all interviewed had said it did take some time but now they are used to the small bins. They now realize their waste output has diminished significantly because of the use of the other bins (organics and recyclables).

Two lessons learned from this are really quite simple.

First, upper management support and buy-in is critical to help drive alignment and lead by example. People need to see change implemented from the top.

Second, employee engagement is essential to “making it work.” By listening to employees about their concerns and making their voices heard we were able to resolve their issues with the program and “make it work.” It took some time, flexibility and patience for change to come about but it did come and now there’s no looking back. The large garbage cans are a thing of the past.

In addition to this, we were recently advised that one of our customers learned about our transition to the small waste bins and observed it as a best practice... resulting in them wanting to rollout nationally the same idea! It’s rewarding to know our small change to help the environment also inspired someone else to go down the same path!

**Susan D’Souza**

Staples

www.staplesadvantage.ca

**In order to engage our entire corporation** in our new sustainability program, our CEO launched “The Chief Executive’s Award for Innovation in Sustainability.” While our company has had many internal award programs in the past, this is the first one to encompass the entire international corporation and to be sponsored by the CEO himself.

The award is a new initiative, supported by the corporate sustainability council, which is designed to recognize our achievements in this critical area for our business and for society as a whole.

Sustainability is a core component of our corporate vision and we’re encouraged by the extent to which we’re already embracing the principles of sustainable development and making real changes in the way we work and the products that we’re developing to make a positive long-term impact.

For the purpose of this award, we’re considering three different aspects of Innovation in Sustainability:

## Roy Conn

- Products and applications,
- Processes (e.g. energy, waste or emission reductions), and
- Outreach and community programs.

The objective of the award is to recognize and celebrate innovation in sustainability and reinforce its importance throughout the organization in order to promote continuous improvement.

**In 2008 we changed our temperature set-points** in our headquarters building in Albany NY. We called this “5-up, 5-down.” Our headquarters is a 13-year old, 180,000 sq ft building that was not built to green standards, but has decreased expenditure on energy every year it has been in operation, mainly due to an inventive and attentive building management team. 5-up 5-down was just another step in properly managing energy use and costs.

We went from 73 degrees year-round to allowing the temperature to float as high as 78 degrees in the summer and as low as 68 degrees in the winter. The important part is the “float” because we need to allow the building to respond to what nature is doing, and we also need to educate our staff to broaden their comfort ranges. To engage the staff, we invested the first year’s savings (about \$10,000) in fleece vests and long sleeve fleece jackets with the DASNY logo on them. The key, in my opinion, to any success is to recognize that people need to be included in the puzzle. We gave out the fleeces, and also changed the dress code for the Authority, encouraging people to dress for the seasons “as your mom taught you to do.” We now allow staff to dress in light dresses (no spaghetti straps) and capri pants and to forego neckties in the summer, and we encourage sweaters in the winter. It would have been extremely foolish to change the setpoints without addressing this people part of the problem – the dress code.

Another interesting aspect of the people part of this: we changed the setpoints and did not announce it. No complaints at all. Two weeks later we announced the setpoint float and the dress code change, and building management started then to receive some complaints about comfort issues! So – our savings is about \$10,000 a year (which changes, of course, based on energy prices), we have reduced our carbon footprint, expressed respect and care for taxpayer dollars and we did this keeping the staff fully in mind, engaging them as part of the solution and reinforcing their pivotal role in greening New York state government.

## Jodi Smits Anderson

Dormitory Authority State of New York  
[www.dasny.org](http://www.dasny.org)

# SUSTAINABILITY, *noun* \sə-'stā-nə-'bi-lə-tē\ : TO CONDUCT BUSINESS IN A MANNER THAT IS ENVIRONMENTALLY, SOCIALLY AND ECONOMICALLY ENDURING.

**Make an Impact** is a proven model for engaging a company's most valued assets – its employees and customers – by empowering them to live and work more sustainably.

This innovative collaboration with like-minded companies and the Pew Center on Global Climate Change has reached more than **400,000** employees in the US and around the world.

**Individually we can make a difference...  
but together we can Make an Impact.**



Alcoa employee  
Bloomsburg, PA

“ We know that engaging our employees and our customers is critical to our efforts to be a truly sustainable company. ”

– Wayne Leonard, Chairman and CEO, Entergy, Corp

“ Climate change is the most critical sustainability issue of our time and to make a real difference we all need to take action – on all fronts and at all levels, individually and together. ”

– Klaus Kleinfeld, Chairman and CEO, Alcoa

“ Even if it's something small – like replacing a few incandescent light bulbs with more energy efficient lighting – we can all be part of the low-carbon solution. ”

– Brian Moynihan, President and CEO, Bank of America



SAVE ENERGY, SAVE MONEY  
SAVE THE PLANET



In partnership with:





**Increasingly, environmental professionals are required to be a “jack of all trades”** in terms of relaying their message to the business and the wider community. It is no longer enough to have the technical skills, and the skills necessary are broader in the analytical and communicative sense amongst others.

Environmental messages within the business often need to, where possible, manifest themselves in the language of finance. It is understood that this is not always possible. Elements of the environment and the services provided are difficult to price and are often priceless in the very truest of senses, however where possible the message needs to be the language that most businesses understand and that is one of profit and loss.

As an example, environmental professionals cannot talk about a 15% reduction in carbon emissions to senior management but must frame the story in a manner that is understood: “\$5 decrease in the production cost of a...” This is the language that is understood and is how the message is best communicated at this level.

Outside of the business the message often reverts back to the benefits of the change to the environment, sustainability, etc. Businesses clearly do not want to be seen publicly as making

changes to their business function only due to the value of the mighty dollar. Here environmental professionals again need to be able to translate that financial benefit into a tangible environmental outcome that a company can gain kudos, customers, leverage and publicity from.

The modern day environmental professional requires a range of skills including interpretation of financials, ability to engage the public, executives and staff, public speaking skills, media management, technical knowhow and an ability to blend all of this information into something tangible. I believe moving forward that environmental professionals will no longer come from broader science-based programs but from varied backgrounds.

## Rod McCulloch

**We began a monthly e-mail giving tips** on recycling and reduction ideas at work and at home, we have had earth day events at several of our facilities, we put out speaking points for supervisors to discuss with their direct employees, and we installed bulletin boards in each facility describing the company's initiatives and our progress. We felt that we were moving in the right direction and then reality hit.

An external auditor was in a couple of our factories and asked a few employees about the bulletin boards (which are 4 X 8 boards placed near employee entrances). Employees said they never looked at them. Since then we have asked other employees and received similar responses. One suggestion was that we put a newsletter with the checks. That idea was quickly shelved as we thought of the poor impression that would be made by using paper to discuss our environmental initiatives.

What did we learn? Changing to a culture of environmental awareness takes longer than 12 months and more than just providing the information. The old saying you can lead a horse to water, but can't make him drink, comes to mind.

## Ryan Fleser

McQuay International

[www.mcquay.com](http://www.mcquay.com)

## Micah Brill

ICF International

[www.icfi.com](http://www.icfi.com)

**If a company creates a Green Team** and then de-emphasizes its importance over time, the group loses credibility and power so that nothing can be implemented.

**In an effort to engage our entire division** in the strategic process for sustainability, we conducted a Zoomerang survey. But it was not your ordinary survey.

Each page began with a short educational piece and then at the bottom were related radio-button and open-ended questions related to the topic above; eleven pages in total. Topics covered included an introduction to our commitment to sustainability, impacts in our market segments, and a review of what we are currently doing to improve those impacts. Associates completing the survey were asked to

provide their personal feedback on what was necessary for us to be successful and how they were actively contributing to that success.

The survey was distributed to every individual, globally, that ultimately reported up to the division president. And while participation was voluntary, many sites returned 100% completion rates; overall we had greater than 71% of associates across our global network complete the survey. The respondent's comments voiced overwhelming support for the strategy and their personal interest in ongoing active participation. Through creative use of the survey tool, we were able to engage one of our key stakeholder groups providing

them insight into our strategy while ensuring a consistent simultaneous introduction to sustainability.

Next steps include incorporation of feedback into the 2011 updated strategy and development of targeted region- and business-specific follow-up training and education that builds upon the common baseline from the survey.

**Tanis Marquette,**

**CSP ROHT CHMM CGP**

Momentive Specialty Chemicals Inc

[www.momentive.com](http://www.momentive.com)

**In an effort to move our sustainability program** from a grass roots effort to a corporate initiative, we conducted a sustainability fair that included presentations, poster sessions and workshops.

Purpose of the sustainability fair:

- Build awareness
- Share the vision
- Re-think business strategy, methods, products and services
- Engage people's values
- Empower the players

Anticipated outcomes: To increase the awareness of sustainability activities at IDEXX. Educate and promote the use of the triple bottom line philosophy. Foster a culture of involvement and continuous improvement related to sustainability.

The event included both internal teams presenting their sustainability efforts along with some of our key business partners. These included sustainability efforts in carbon footprinting, energy efficiency and conservation, MRO, research and development, manufacturing, green cleaning, dining services, etc. We planned the logistics in line with best practices for "green events," including electronic voting for "best in show." The top three presentations received public recognition from leadership along with donations made on behalf of the winners to local charitable organizations.

We also used this event to roll out our sustainability intranet community page that provides resources for our internal community on how they can incorporate sustainability into their day-to-day work and home life. The event was a huge success and has in turn been a catalyst for the creation of a sustainability leadership team.

**Matt Haas**

IDEXX Laboratories

[www.idexx.com](http://www.idexx.com)

Sometimes the most effective way to motivate people to act is to put them in competition with their peers. Park and Company, a full-service advertising agency in Phoenix, Arizona successfully employed peer pressure to change behavior. Derrick Mains, CEO of GreenNurture, described how every employee was given only one ream of paper each year. Those who ran out had to plead their case in front of their fellow employees in order to obtain another ream. The program succeeded in saving money and increasing consciousness about conserving resources. Derrick said that no one wanted to be the one who had failed the organization! This approach was viewed as a fun, yet serious game that everyone wanted to play.

## Kathleen Miller Perkins and Kathi Irvine

Miller Consultants, Inc.  
www.millerconsultants.com

Sometimes it is the simple stuff that works best, i.e. providing clear information about targeted actions or enabling behavior by making it convenient to act. Other times the effort is a little more strenuous, i.e.

changing an organizational culture to support sustainability. Nevertheless, let us all commit to making 2011 the year of acting in order to make our sustainability visions come alive.

## design & innovation

In 2009, Honest Tea lightweighted its plastic bottle by 22%, marking the single largest improvement we have ever taken in terms of reducing our environmental impact. Given the scale of the improvement, we were taken by surprise when the new design provoked a negative response from our consumers.

Over the previous two years we had been working hard with bottle suppliers to find ways to decrease the weight of our plastic (Polyethylene terephthalate or PET) bottle. Such a move had the potential to reduce our consumption of PET resin by up to 1 million pounds on an annual basis. Another advantage of a lighter bottle is that it takes less fuel to ship (before and after filling). And, of course, we would save money as well because the price of the bottles is directly tied to the amount of resin in the bottle.

It turned out that consumers thought that the new bottle shape was a deceptive way to sell them more air.

A typical e-mail that we received from a customer named John reads:

I just bought a bottle of Orange Mango, and was amazed that the bottle is so deceptively designed. The bottom of the bottle has been designed with a hollow to displace fluid, making it appear that the customer is buying more than is the case. Yes it's 16.9 ounces, but I'm sure your marketing dept has determined that purchases are based on visual impressions. I have bought your product regularly, but will stop with a name like Honest Tea, I would expect more than these types of cheap tricks!

Seth's co-founder and Honest Tea's Board Chairman, Barry Nalebuff, responded with this note:

Dear John,

Many thanks for writing, for your honest critique and your longstanding support. We recently switched to a thinner bottle, one which is 22 percent lighter. This saves us money

and saves the world resources. The only problem is that the thinner bottle had the risk of getting dented. In fact, this was a real problem that forced us to redesign the bottle. To help keep its shape, the inside must be under pressure. When the bottle is filled with hot tea, the liquid expands and the plug on the bottom pops out. (If you squeeze real hard, you can make this happen.) Then as the tea cools, the plug pops back in and creates the pressure on the inside that prevents the bottles from being damaged. The thinner plastic means we needed more pressure and hence the bigger plug. There really is 16.9 ounces inside and we aren't trying to pull a fast one. But I can see how you could get confused or could think that we are trying to be deceptive. We need to do a better job explaining why the bottle has this design. In the next label run we plan to say something to explain this to our customers. I hope that makes you feel that you can still trust us and will stick with us.

Honestly yours, Barry.

Once we explained the physics of the bottle, John's response was quite different:

Thanks for that explanation. I feel I may have jumped to conclusions, but I'm glad I wrote and didn't just abandon you guys! The physics behind the design solution are actually very interesting. Thank you for taking the time to answer my concerns.

I'm glad to hear what it was all about. I will continue to support Honest Tea!

## Seth Goldman

Honest Tea

[www.honesttea.com](http://www.honesttea.com)

We know that most consumers didn't take the time to write us, and hope we didn't lose too many customers because we took a major step forward for sustainability but didn't explain what we were doing. The lesson here – don't be afraid to "over-communicate." Just because we knew what we were doing and why, didn't mean that our consumers would understand – especially when confronted by a radically-different appearing bottle of Honest Tea. Early next year we will be launching a revised design that maintains the lighter package weight but loses the funky dome.

We strive to continuously have fresh and exciting new designs for our customers. One of the great ways that we have discovered to do this is to crowd-source new designs by hosting online design contests.

In 2010, we hosted two contests. In the first contest, we asked a panel of judges to select 10 finalists from dozens of entries. Then we posted the finalists' designs on our website for online voting. At the end of the voting period, the three designs with the most votes won prizes and their designs were printed on PeopleTowels and sold on our website and at retail. It was our assumption that the most popular designs would be the best selling. What we discovered was that those individuals who had the largest online communities, not necessarily the best designs, could win.

Reflecting on this, we modified the rules in the second contest. We included both Popular Choice determined by the most online votes and a Judge's Choice prize based on design originality, creativity and theme appropriateness. We also engaged our Facebook fans in the selection of one of the finalists. We learned that it is critical to align intended outcomes with the rules and selection process. We also learned the true power of creating and leveraging an extensive online community to expand business.

## Mary Wallace

PeopleTowels, LLC

[www.peopletowels.com](http://www.peopletowels.com)

**Earlier this year, we completed a six-week pilot project** that – for the first time – proved our used paper cups can be recycled into new paper cups. To make this happen, we collaborated with International Paper, our largest cup supplier, and Mississippi River Pulp LLC, the company that produces post-consumer recycled fiber (PCF) for our paper cups. While the PCF for our current paper cups is made from office paper, the PCF used for the pilot project contains used cup material.

## Jim Hanna

Starbucks

[www.starbucks.com](http://www.starbucks.com)

This advancement brought us one step closer to our goal of ensuring that 100% of our cups are reusable or recyclable by 2015. By “recyclable,” we’re not just talking about the cup design, but the ability for local communities to collect, haul and process our cups for recycling. We want customers to be able to recycle single-use cups in our stores, in their homes and workplaces, and in public spaces.

Beyond demonstrating the ability to recycle our used cups into new cups, this project reinforced the importance of collaborating with stakeholders across our value chain.

**In 2010, Motorola Mobility celebrated a significant milestone** on its journey to sustainability excellence with the launch of its fourth and fifth mobile phones containing recycled plastic. The material, which is made from used water cooler bottles, takes 20 percent less energy to make than virgin plastic, saves thousands of used bottles from going to landfill and creates a market for waste materials. The achievement was the result of our straight-forward approach to green design: look for ways to make products greener, right across the entire lifecycle. We analyze impacts from the moment a device is made, through to the end of its life, and then work out the changes that will make the most difference. Our analysis of lifecycle carbon emissions showed that most of the footprint of a mobile phone is from manufacturing. That means that by using less energy intensive materials, such as recycled plastic, it is possible to slash lifecycle impacts.

## Bill Olson

Motorola Mobility

[www.responsibility.motorola.com](http://www.responsibility.motorola.com)

## Duncan Billing

Hasbro, Inc.

[www.hasbro.com](http://www.hasbro.com)

**The elimination of wire ties from packaging**, instead using innovative, sustainable materials like paper rattan, is good for the environment, and good news for consumers.

**Corrugated cardboard is Nike’s single-largest material purchase.** The shoebox and its shipping carton account for half of Nike packaging. So to reduce packaging waste, we took a fresh look at the shoebox.

We came up with various alternatives to the traditional shoe box in order to reduce materials used, thereby reducing weight and cost in shipping. But examining this solution through a wider lens, we realized many ultimately had a negative overall impact. Consumers anywhere in the world can recycle corrugated shoeboxes. In most markets, however, most of the materials in the innovative designs would not be recyclable. Rather than settle for the win in reduction only, we realized the loop was not closed. Without a universal means of recycling, this was a net addition to waste, not a reduction.

So we went back to the drawing board, with the box’s full lifecycle in perspective. We started again, focusing on ways to reduce weight and materials. We developed a shoe box that is anticipated to use 30 percent less material than a 1995 vintage box, our first 100-percent recycled-content box.

Nike will begin using these shoe boxes in 2011, saving the equivalent of 200,000 trees annually.

The reengineered shoe box is fully recycled and recyclable, lighter weight and stronger. The weight reductions translate to reductions in greenhouse gas and overall embedded energy. Nike launched the box on Earth Day 2009 with the introduction of Steve Nash's Nike Zoom MVP Trash Talk. The box held a classic hoop shoe designed for performance and using scrap materials.

We have also applied this thinking to shipping cartons. The new lightweight shoe boxes will be shipped in cartons that are nearly 20 percent lighter than their predecessors.

## Kate Meyers

Nike

[www.nike.com](http://www.nike.com)

We anticipate the new footwear and shipping boxes will be released throughout Nike brand by FY11 and will translate to an annual savings of nearly 12,000 metric tons of cardboard or the equivalent of 200,000 trees annually.

We are exploring other reductions: changing shoe box sizes to better fit the shoes they hold, reducing wrapping tissue and reducing other packaging such as poly bags used for samples.

The pouch concept may be viable in the future, so we are keeping the idea on hold. Someday, as material availability and recycling systems improve, the shoebox may be a thing of the past.

**Renewable energy technologies are based on subsidies and connections, not science.** The status quo trumps innovation. For serious energy concepts, the era of the non-affiliated inventor is past. US energy policy fosters little in the way of serious renewable energy innovation.

The advice from venture capitalists and intellectual property attorneys: do not go to university or DOE labs for research help. You will not get it. Since they did not invent your technology, it cannot possibly work. At US universities, scientific research grants fund professors' salaries, English Literature departments and the sports program. Universities have the resources to research, develop, patent, and commercialize innovation. You do not. You are their competition and they will eat you alive if you let them.

**anonymous**

Protect your intellectual property first. If you do not know enough to write and file an enabled patent for your work before you talk to others: do not talk to others. Find venture capital financing. If this does not work for you, give your IP away – or walk away.

**As part of our ongoing effort to engage** eBay's 90M buyers and sellers around sustainable commerce, in late 2010 we launched the eBay Box – an idea born from a group of employees to develop a durable box that can be used over and over from seller to buyer to seller. To engage those using the box and provide data on the environmental benefits of reuse, we allowed users to track their boxes online. This pilot program is an example of what can happen when employees are empowered to innovate. However, we

## Amy Skoczlas Cole

eBay, Inc.

[www.ebaygreenteam.com/stories](http://www.ebaygreenteam.com/stories)

encountered overwhelming interest and demand for the boxes from our community – and only a limited number of boxes were printed for the pilot. We were faced with the dilemma of engaging a community of 250,000 eBay Green Team members around a program that only a fraction had the opportunity to participate in. Our solution? eBay Box Stories. An interactive community hub on the eBay Green Team website that encourages those who received boxes to share their own eBay Box story via short online videos, and an opportunity for those who hadn't to follow and experience the results of the program.

**The most common desire we have heard** in the last year in the area of sustainable product design has been for tools that support sustainable decision making. In developing these tools, it has become clear that designing for the environment cannot be done in a vacuum; all of the traditional engineering considerations must be accounted for in parallel. One cannot design for low carbon footprint or reduced water use without also considering function, aesthetics, ergonomics, and, of course, cost.

**Jamey Amrine**  
Altair ProductDesign  
www.altairpd.com

## strategy & leadership

**The business commitment to seeking profitable solutions** to market problems has led to some of the most compelling innovations in history. However, among the companies that have existing sustainability programs, there is generally an absence of innovation within the programs themselves. The early adopters (Wal-Mart, GE, BP, etc) have tended to focus on one or two significant though far from comprehensive areas. For Wal-Mart, it was supply chain and convenient access to energy efficient light bulbs (at a volume-discounted price level). For GE, it was the branding and messaging. For BP, it was new product development (i.e. renewable fuel sources) combined with great marketing but clearly not operational efficiency or risk management. Other companies with sustainability programs in place have generally followed in the footsteps of the early adopters. These programs tend to focus on a narrow subset of issues such as energy conservation or materials reduction with the goals of incrementally reduced costs, brand enhancement, and employee recruiting and retention.

Let's take a look at the internal workings that led to this lack of innovation:

A feel-good energy-conservation project looks great on a company website (but has little impact on a balance sheet). Without potential for major balance sheet impact, the best and brightest minds within the company simply aren't likely to be attracted or assigned to these projects. Instead, that nice guy Bob down the hall gets assigned. You know Bob—everyone likes him, but no one quite knows what he does. In contrast to Bob, everyone knows that Sarah was the engine behind the new product line that's seeing 20% year-over-year revenue growth. And you better believe that when James slashed costs by 34%, it was announced to the press.

But the CEO would never dream of having Sarah or James take over the environmental projects. In his mind, that would be like sending General Patton to guard the Canadian border.

Not to mention that Sarah and James would probably be offended by a low-impact environmental assignment and would soon start looking for high-impact positions at other companies.

And so Bob continues to lead the nice, feel-good projects and the leading innovators in the company continue to ignore the untapped value within business-led environmental solutions.

**Stephen Boston, Nora Simpson**  
Corporate Sustainability Inc.  
www.corpsustainability.com

And nobody ever figures out that the company missed the most significant value-creation opportunity of the decade.

In order to first contextualize environmental issues as market problems and then develop market solutions, we must create integrated, game-changing sustainability programs that require the kind of high-speed innovation that ignites the imagination and passion of the company's most high-achieving executives. We need people comfortable with speaking to boards and CEOs, people who will be constantly analyzing ROI calculations and comfortably leading investment debates.

We need people who know what it takes to design, build, deliver and market a product successfully. And we need people who can implement highly effective communication and marketing campaigns to ensure that all this innovation gets monetized as revenue, profit and share price.

**How do you create buy-in** when shifting a corporate culture to be more “green?” Simply defining the “green” practices for the company, and then rolling out a mandate to be followed, will not produce many followers; even if it is the “right” thing to do. The following steps help to gain the support when attempting to change culture.

Step 1: Benchmarking – Define what sustainable practices occur in your company today. It is important to know where you are starting to gauge success and to quantify results for employee gratification and marketing.

Step 2: Define your goal – Define a clear sustainable goal that aligns with your corporate vision.

Step 3: Make a plan – Ask yourself what changes should the company make to align with its sustainable goal? For example – paper recycling, jobsite recycling, more energy efficient offices, calculating the company's greenhouse gas (GHG) inventory and setting reduction goals, etc.

Step 4: Outline the steps to achieve the plan – Assess each action item and create a plan to implement it in your company. There may be multiple plans for the same goal, depending on where it will be executed in the company.

Step 5: Create buy-in (This step is critical. Without it... success will be limited.) – People like to be part of the process, and doing so creates buy-in. Start creating buy-in by conducting brainstorming sessions with key groups in the company. Go into each brainstorming session with the steps, tools and processes for the participants to implement the goals defined in steps 1 – 4. You will discover, at each brainstorming session, approximately 75% of the ideas are similar. This means you will be able to work with the group to begin immediate implementation of “their” ideas; keeping them bought into the process. Once you have prioritized their ideas keep the momentum going by sharing the steps to implement their sustainable goals. You may find it works best if you set up certain services.

Step 6: Follow up – Make sure to follow up with employees in the company to find out how they are doing and if they need any assistance.

## Andrea Wright

Barton Malow Company  
www.bartonmalow.com

**After working for years in the sustainability field**, sitting on working groups to develop standards, I've learned that it all comes down to collaborations. You can't have sustainability without collaboration.

## Rob Sinclair

Conscious Brands  
www.consciousbrands.com



**Financing is often overlooked in discussions** about environmental infrastructure and the green economy. In my 30 years working on environmental issues, I continue to be surprised that

### Michael Papanian

California Pollution Control Financing Authority  
www.treasurer.ca.gov/cpcfca

environmental and energy policy experts and entrepreneurs pursuing green businesses rarely connect early-on with the bankers and others whose financial resources will determine project success or failure. Even in a challenging economy, money is available for sound projects.

**With sustainability and clean or green operations**, it often boils down to lean operating principles, which have been around for over 100 years. Anytime you have a manufacturing process, we must recall that the waste that results from that process was at one time a raw material.

The manufacturer paid for that raw material, so even if its form has changed, why would you just throw it away? Those are dollars straight out the door. If you're able to eliminate the excess material from the beginning, however, you save on raw materials, superfluous manufacturing and, thus, emissions. You also save on landfill space or the energy necessary for the process of recycling it. It's an efficient solution with an extremely compelling business case to support it. Any savvy, cost-conscious company should be focusing on the development of such sustainable business practices.

### Jamie Dandar

Cameron-Cole  
www.cameron-cole.com

**It is clear from our perspective** that sustainable business practices are being incorporated and strategically integrated into companies of all sizes around the globe. We continue to see the standard for performance expand and become more prescriptive. As a result, firms focused on longer-term sustainability are moving well beyond compliance and addressing the need for both qualitative and quantitative progress across the spectrum of Corporate Social Responsibility. A key component to success requires understanding not only the requirements, but further, the uniqueness of a specific company and their vision for the way forward. Every firm is finding they are somewhere along the continuum of defining and truly understanding their greatest impacts, opportunities and approaches to operating efficiently, and acting with care.

### Jerre Stead

IHS Inc.  
www.ihs.com

**As an information systems solution provider** to global manufacturing companies, we have discovered that there remains a gap in understanding about sustainability initiatives – they are not only “the right thing to do,” but are also “the smart thing to do,” especially at the manufacturing plant level. At a plant, sustainability initiatives are often perceived as a good intention but potentially costly, with little IRR or positive impact to a local plant's operating budget.

It is no surprise that manufacturing plants are asking “what's in it for me?” We see some being pushed to comply with corporate initiatives through reporting-only solutions, where information is shared upward, but little if any intelligence is delivered to those operating on the shop floor to alter

process and change course in real-time. In some cases, those responsible for reporting on those sustainability initiatives at the plant level, spend more time manually chasing down the data before they enter it into online reporting software, and all well after the fact. These provide no real value to that manufacturing location and instead strengthen their perception of sustainability as a cost.

Those that do see business value in managing sustainability KPIs at the plant level (not just comply with them) can also get trapped into believing they need to invest in costly infrastructure like multiple sub-meters or specially designed systems to better monitor energy or water consumption, as an example. Few recognize that in many cases, the machine data they already collect in their existing manufacturing or production system can be translated into consumption numbers for further analysis, allowing them to begin monitoring that consumption, without the need to invest in hardware to do it.

The challenge exists not only from the bottom-up, but also from the top-down. Communicating the value of sustainability, and having those practices embedded into the plant operations, is a big hurdle to attack from the corporate office. While sustainability is understood as part of the organization's culture at some companies we work with, in others the corporate sustainability personnel are challenged with identifying and then communicating that local value, in manufacturing terms. In an economy that is still trying to rebound, good intentions get lost during survival mode, especially when plants are required to also reduce or maintain operating costs. We find ourselves helping to fill that gap and providing companies that connection between corporate intention and factory floor realization, usually leveraging the data intelligence that is already there, waiting to be uncovered.

## Mike Wilder

Seeit Solutions

[www.seeitmii.com](http://www.seeitmii.com)

**We've learned that in using a combination of positive psychology,** viral learning and communications strategies, and fun and refreshing creative tools, sustainability could become deeply relevant and meaningful to millions of employees while contributing to quantifiable and significant business value. And while this key piece of the equation has in the past not received the same degree of attention from the media as perhaps some lofty packaging goals, energy reduction strategies, or consumer-facing campaigns (though the work we did for Walmart and their 1.5 million employees through our Personal Sustainability Project – “PSP” – generated a tremendous amount of positive acclaim) it is without question, the next great frontier in sustainability. It is also much more than just about distributed problem solving and accelerating progress towards achieving challenging sustainability goals, though that in and of itself is reason enough to invest in building a sustainable organization from top to bottom. Through testing, scaling, and making plenty of errors along the way, engagement firms like ours – as well as a growing body of academics – are proving that sustainability is a framework for catalyzing individual happiness, driving employee engagement, spurring innovation, and fostering healthy behaviors on a massive scale. And, not surprisingly, given the mass infusion of Millennials in the workforce, it has also become a key piece in the talent acquisition and retention strategies of many Fortune 500 companies. Millennials want to work for sustainable companies. 2011 will be the year in which the corporate world take a closer look inward and discovers that both company and employees have so much to gain when every individual has the opportunity to be an active participant – rather than just a spectator – in building a sustainable future.

## Judah Schiller

Saatchi & Saatchi S, NA

[www.saatchis.com](http://www.saatchis.com)

**Our research in the sustainability space** in manufacturing shows that Best-in-Class have been able to consistently gain benefits by reducing their energy and emissions across manufacturing operations by 13% and 12% respectively and are also able to overachieve their targets for these goals. The key for these leaders have been their focus on enabling visibility into these key initiatives. Providing drill down information into key data points such as water, air, gas, energy and steam among others, to appropriate decision makers is the place to start. Doing that alone and making people accountable will help companies gain low hanging benefits. Once companies enable visibility, they have to establish processes to use this visibility to optimize their manufacturing processes, such as maintenance and production. This will allow companies to scale those early wins and realize long term operational and business value.

### Mehul Shah

Aberdeen Group  
www.aberdeen.com

**Show that you are serious** about your CSR Policy by publishing it onto your website so it's accessible for all stakeholders to view. Provide monthly or quarterly results to your staff about the successes and failures of your CSR Policy with initiatives to improve results. Have transparent results: before making statements about CSR results, your business must be prepared to have authentic and accurate answers and provide proof points as evidence. CSR policies have become a requirement in business and a good CSR Plan will help businesses set and achieve sustainable goals. You shouldn't be cautious about CSR policies; good sustainability claims are about being honest and not about being perfect. Effective CSR improves the feel good factor for your staff and your clients. For staff you can improve engagement and encourage development with non financial rewards and your clients will be even prouder to associate themselves with your sustainable brand.

### Mark La Croix

The CarbonNeutral Company  
www.carbonneutral.com

**In 2010, we established a new set of long-term environmental goals** to guide strategy for the next 20 years. Goals for 2020 and 2030 have been set for CO2 intensity, energy intensity, fresh water use intensity and waste elimination as well as a number of industry-specific issues.

### Kevin Anton

Alcoa  
www.alcoa.com

Each business is required to establish three-year plans designed to achieve progress toward the 2020/2030 goals and Alcoa's executive leadership team evaluates progress during in-depth quarterly business reviews.

The Company also has included incremental reduction of CO2 and energy intensity in their annual incentive compensation program.

**In 2010 we conducted a sustainability executive education session** for a new client, a \$1+ bn, first-tier supplier to several large, global firms. Awareness among the group was mixed, we were told, and some on the team were reluctant to incorporate sustainable business practices. We were also told that the CEO might drop by for a few minutes. In fact, the CEO participated in the entire half-day session. Though we'd love to take credit for moving the company toward developing a strategy to integrate sustainable

**Kathee Rebernak**

Framework:CR  
www.frameworkcr.com

business practices, it was the CEO's presence, and the message it sent to the executive team, that is propelling the company into action. No amount of executive education, research, or ROI analysis could have accomplished what the CEO did in just one morning.

**A key lesson when building your sustainability strategy** is to make sure you have the right organizational structure. A company needs to have one person responsible for sustainability but also have sustainability be every person's job. So, you need a strong leader who can shape the sustainability direction of the company but empowers the organization to make each person feel that it is THEIR job. That leader needs to make sure that the entire organization is trained on sustainability basics and that they all feel that sustainability is critical to the success of the company. Each person owns a piece of sustainability. These key aspects are missing from many organizations but really are critical to success.

**Shanna Moore**

DuPont Packaging & Industrial Polymers  
www.dupont.com

Consistent communication is key. In 2010 we launched our first Global Citizenship Initiative which cast a vision for the progress that we needed to make over the next five years. As a global organization that is currently implementing several enterprise wide projects, initiatives tend to get lost in the noise. Keeping goals and specifics related to the project in front of your stakeholder group is key to help the project's chances at success. You can have the best laid plans, but without the proper communication and support you make the challenge four times more difficult to accomplish.

**Jeffrey Whitford**

Sigma-Aldrich  
www.sigmaaldrich.com

**Our company is part of what some have termed the "Core Green Economy"** – businesses whose goods and services are themselves green in nature. So there has been no internal struggle around adopting sustainable goals. But when we evaluated how we are doing on various sustainability metrics, it turns out that we are not doing as well as we thought.

Our goal now is to move from simple greening – green team formation, green projects and initiatives, etc. – to a more fundamental shift towards truly working like a Triple Bottom Line company. This means shifting the focus for many of the things we do; it means complicating our job descriptions, and adopting different sorts of measures of success.

We see this as a natural progression for the business world, but it is not an easy transition, even for a small company whose business is green.

**Rick Hunter**

Microgrid Energy  
www.microgridenergy.com

**Manufacturers are still talking about the need for a business case** for sustainability. I think the reason this comment keeps coming up is that many people believe we should be more environmentally sustainable for the good of our grandchildren. You can replace grandchildren with any number of words, but the basic problem is that not everyone agrees with an emotional (or moral or ethical) argument.

**Kimberly Knickle**  
IDC Manufacturing Insights  
[www.idc-mi.com](http://www.idc-mi.com)

I find that within organizations and out to stakeholders there's a tremendous amount of inconsistency in how these groups perceive the need for sustainability. A business case helps overcome reluctance and enables the company to justify resource investments – time and money – in sustainability.

Ultimately, sustainability is about change, and people need convincing that change is worth doing.

**One important lesson I have learned** in making sustainability work is that the program you develop must fit in strategically with the company's other business priorities. Put another way, if you can't make sustainability make "business sense" in the specific context in which you are working, you can't succeed in embedding the concept into that firm's business culture. It sounds like a self-evident proposition, but I have been surprised how many companies I have seen that haven't really gotten this message.

**Ken Strassner**  
Strassner Consulting

**The commitment to an EMS continues to be in some organizations** a matter of marketing. They don't care about the real benefits of an EMS. They just want to wave the ISO 14001 certification flag to their client and suppliers. They are so closed-minded that they don't even realize the cost benefits of a well functioning EMS.

**anonymous**

**In my experience of talking this year** with many organizations that have environmental initiatives, products or services, I consistently find a proclivity toward myopia. They pick one element of sustainability and make that their god, ignoring anything else that might be relevant if it's inconvenient. Vendors hawking energy-saving devices ignore the life cycle implications and focus on selling more product. I've met carbon management consultants that have no clue about their own organization's carbon footprint.

**Carol Baroudi**  
Green IT For Dummies  
[www.linkedin.com/in/carolbaroudi](http://www.linkedin.com/in/carolbaroudi)

**When we implemented a flexible workspace** or "hoteling" strategy our initial goal was to create a system that would reduce real estate costs, reduce our environmental footprint, and create greater flexibility and agility for the workforce. Sabre was able to reduce its global real estate costs by 25%, reduce its headquarters footprint by 55%, from 1.04 million square feet to 470,000 square feet, reduce its energy consumption by 61%, and slash its carbon footprint by 54%. But beyond these savings, this

workspace change accelerated a transformation in Sabre's employees and work culture which ultimately created a sustainable enterprise transformation for value beyond the bottom line.

Making a transformational shift like this wasn't easy, and there were key success factors that proved vital to the implementation and sustainability of the program:

- Let data support and determine your decision – Not every office or organization is well-positioned to move to a Flexspace environment, but a detailed analysis including key data points such as attendance (badge swipes), travel and vacation days and commuting needs will uncover opportunities that are not always self-evident.

- Build the business case with key stakeholders – There are several elements that must be considered including cost and environmental savings, physiological and productivity impact on employees and results to the business. Working with a core team of primary stakeholders across several disciplines, including corporate real estate, facilities management, technology support, environmental sustainability, human resources and others will ensure that the business case and the implementation plan are balanced and positioned for success.

## Leilani C. Latimer

Sabre Holdings

[www.sabre-holdings.com](http://www.sabre-holdings.com)

- Secure executive management endorsement and support – Buy-in at the top level of the organization will set a clear direction for implementation and expectations for success. This includes leading by example.

- Develop a clear communication plan – Ensuring employees know what's happening and why, and having ample opportunities to raise concerns and ask questions is crucial for the implementation to go smoothly and to maintain productivity.

- Cultivate strategic partnerships – By partnering with Jones Lang LaSalle, a leading property management firm, we were able to gain forward-thinking insights and expertise as we developed and implemented our plan. Jones Lang LaSalle provided construction management, move coordination and planning and continues to play a significant role in maintaining our Flexspace program.

- Invest in flexible, robust technology infrastructure – Having technology systems in place that create a plug-and-play environment supports both the implementation and ongoing maintenance of the program, and makes it easy for employees to work in the most flexible way possible while staying connected to their teams.

- Never underestimate the human element – Transitioning employees who have been accustomed to traditional hardwall offices or assigned cubicles to a flexible work environment requires a significant amount of change management. Executives and managers alike will need support and time to adjust to a new work environment. We provide private spaces like phone booth rooms and health rooms so employees can easily tap into these available spaces when they need privacy.

- Know your global culture – When considering global expansion of Flexspace, know your corporate culture and your local culture. Being sensitive to local culture is important, but keep corporate culture the first priority.

- Expect the program to evolve over time to meet changing company needs – Maintaining support and controls for the program, through enforcement of policies and regular data collection, should be part of the initial implementation but also part of an ongoing review process. The program must be rigid enough to maintain balance and continue to achieve the original goals and objectives, but flexible enough to respond to the changing space requirements of a dynamic workforce.

**During this recession, we struggled with the intersect** between the goal of the bankruptcy laws to provide a fresh start to struggling companies and the goal of environmental laws to insure that environmental issues are addressed. Watching the EPA wrestle with these issues when faced with the bankruptcies of major companies such as GM and Chemtura, the best advice I can provide is to negotiate a settlement with EPA instead of leaving it to the bankruptcy court to figure out. The state of the law is too uncertain and the stakes are too high to leave these environmental issues to be sorted out in a bankruptcy proceeding. Ideally, 2011 will not present the major bankruptcy challenges we saw in 2010.

### Tricia Foley

Day Pitney LLP  
www.daypitney.com

**I had been discussing the advantages of going “green”** with the Corporate Environmental Director for a year or so. He understood the diverse business advantages, but could not get his bosses (the CFO and CEO) to understand. Then one day he phoned me out of the blue, asked me to prepare a Scope of Work to organize and initiate a “green” program, and get it to him ASAP. “What changed?” I asked. He said that the CEO personally walked into his office that morning and requested he start a “green” program and said he wanted to see initial results in just a few months. The Manager believes the CEO either just saw some documentary on climate change or spoke to people who were believers, and the CEO was a committed, changed person. The company systematically grew their “green” program, met many goals, and pleased the CEO who was hands-on, as well. And that enthusiasm from the top leadership made all the middle managers and production workers feel strong and committed in their roles, too, further ensuring success and good internal feelings about the company.

### Marc Karell, P.E., CEM

Climate Change & Environmental Services, LLC  
www.CCESworld.com

## water management

### Steve Ott

Cascades Tissue Group  
www.northriverwind.com

**We recently made some key investments** in water clarifier technologies. The technologies were instrumental in successfully reducing water effluent rates by an additional 3 percent, bringing levels to just 9.7 cubic meters per ton of paper produced.

**Our Durham Advanced Wastewater Treatment Facility is the nation's first** to recycle nutrients from wastewater into slow dissolving fertilizer pellets for golf courses, nurseries and agriculture and will generate up to 40 tons of eco-friendly Crystal Green fertilizer a month. CWS owns and operates the \$2.5

### Mark Jockers

Clean Water Services

[www.cleanwaterservices.org](http://www.cleanwaterservices.org)

million multi-reactor Ostara plant at the facility, and signed a 15-year contract with the Canadian Ostara Nutrient Recovery Technologies, Inc. We expect a five-year payback from sales revenue and operational savings, and preliminary data shows a savings of \$100,000 due to a 12% reduction in biosolids (260 tons) to be trucked to distant application sites, and a 23% reduction in chemicals needed for phosphorous removal—not to mention the many ecological benefits of less truck travel. Other benefits include reduced loading on plant, nearly 20% less phosphorus (equal to a ban on phosphorus in detergent), and reduced ammonia load.

**At the start of 2010, an hourly worker at our Irwindale brewery**

noticed that around 3 gallons of water per minute from our rinsers was going down the drain. At the same time, a large amount of fresh water was used to lubricate one of our conveyor belts. The employee helped the team engineer a tank and a pump to reclaim the water from the rinser and recirculate it to the conveyor – in total saving 150,000 gallons annually.

### Kim Marotta

MillerCoors

[www.GreatBeerGreatResponsibility.com](http://www.GreatBeerGreatResponsibility.com)

**Rallying around key global dates has helped us** generate the awareness and enthusiasm needed to drive changes and scale up best practices across our global operations. Last year, our breweries around the world celebrated the United Nation's World Environment Day on June 4, 2010 by implementing more than 550 facility and community-focused environmental projects. More than half of these focused on water issues and included activities in facilities to "tag and flag" leaks, awareness events for employees and communities, river cleanups, tree planting, and invasive species removal.

### Hugh Share

Anheuser-Busch InBev

[www.ab-inbev.com](http://www.ab-inbev.com)

We marshaled employee involvement and built awareness of our goals through an internal communications campaign. All employees, globally, had access to a suite of communications documents including a video message from Carlos Brito, our CEO, on our company intranet. They were encouraged to take part in the company-wide World Environment Day 2010 Facility Competition that recognizes projects that don't require capital expenditure but still make a significant difference on environmental sustainability. A key lesson of the effort is the benefit of identifying key global dates that can help to bring a globally diverse company together on key issues and can stimulate creative initiatives that make an impact at the local and regional levels. Often, the biggest impact results from making sure that small fixes and low-tech solutions are identified, implemented consistently and shared continually across a global organization.



Since 2007, Summerhill has worked on behalf of The Home Depot Canada to run in-store water savings events. In August 2009, the national Go Low Flow event was launched to help consumers make the switch from traditional 13L (or higher) toilets to a high efficiency (4.8 L or less) or dual-flush toilet. The Go Low Flow program has been a huge success with the three national events to-date having sold over 100,000 efficient toilets, helping to reduce water consumption by over 4.3 billion litres per year – enough water to fill 1,725 Olympic-size swimming pools!

### Alma Obeid

Summerhill

[www.summerhillgroup.ca](http://www.summerhillgroup.ca)

Summerhill has learned that the success of such programs is contingent on the valuable in-person engagement at the point of purchase. We all know that switching out a toilet is a disruptive change in any household, so our challenge was to tell the story of how the savings and positive impact on the environment would outweigh the cost and inconvenience. In addition to offering consumers national discounts on select water efficient toilets, The Home Depot Canada partnered with municipalities across the country to offer mail-in rebates in stores, making the transformative action more attractive for the consumer. Not only did our in-store reps successfully raise awareness on water conservation and promote water efficient behaviors and products, the in-person engagement at the point of sale helped drive sales on high efficiency toilets and toilet accessories to ensure sustainable and transformative change.

## waste & recycling

I like to talk trash at work. My penchant for rubbish routinely elicits bewilderment, inquiry, and revelation (in that order) and has revolutionized New Resource Bank's relationship with stuff. It brought us to the dump on a field trip, and the dump to us when we exhibited reclaimed-garbage sculptures by landfill-based artists. It spawned 6 different refuse bins, a disposable-free dining policy, and a 95% waste diversion rate. But we weren't always such a radically genteel, discerning people. The road to (almost) zero waste was in fact crude and odiferous.

It started with the introduction of the desk-side waste bin trio. No longer would the apple core meet its improper black or blue bin fate, instead, it would find its fool-proof way to Compost Heaven. Yes to ease of access and the formation of good waste diversion habits! This was quickly followed by department wars: a green-gloved championship to see who could pack a heavier trash-sorting punch as judged through daily desk bin audits. Knowledge gleaned was reinforced through a "Speed Sorting" contest, where two contestants competed to make the best time sorting twenty items to the beat of chaotic classical tunes. Incentives included zero-waste, local-organic lunches, reusable water bottle and bag giveaways, ego bolstering, and, if institutionalized, a free pass to Eco Heaven.

Employees consequently began to make a personal connection with sustainable resource use, healthy ecosystems, and the interrelation of all living things. Where I once saw disinterested or fearful faces cowering over the central kitchen bins, I now see recycling with abandon. Empowered citizens

### Marielle Horan

New Resource Bank

[www.newresourcebank.com](http://www.newresourcebank.com)

understanding the magnitude of their actions and their responsibility to future generations, erecting compost bins at home, asking when in doubt, and incorporating life-cycle considerations into their purchasing decisions.

10% lighter, our small black bin has finally shed the pounds it's toiled all year to part with and remains an oft-neglected member of this buoyant, savvy crew.

**During the global "Green Office Challenge,"** Computershare Chicago introduced three simple changes that have the potential to remove thousands of pounds of waste annually while helping to produce healthy trees in the process. The first program introduced was a chip bag "upcycling" program thanks to a partnership established with Terracycle. Terracycle and Frito-Lay donate two cents for every eligible chip bag sent to them. Products such as stereo speakers are made with the bags and all donations are made payable to American Forests, who will plant a tree for every dollar received. This charity was an easy choice based on their previous eTree partnership.

## Jason Stout and Todd Regan

Computershare

[www.computershare.com](http://www.computershare.com)

Inspired by Google's London office, we then decided to remove desk-side waste bins. By providing centralized recycling stations next to each trash bin, it is now just as easy to recycle that plastic Coke bottle as it is to throw it away. By

removing the convenience of tossing a recyclable item in the trash, we have been able to considerably increase our recycled content. The next challenge was introducing a simple composting program. Trying to communicate exactly what is and isn't compostable can sometimes be difficult. As a result, we designed a very basic container for only tea bags and coffee grounds. The Chicago office typically goes through more than 25 pounds of coffee grounds a week. Instead of dumping these grounds in a landfill, we now collect them. Volunteers can also bring the contents home for their garden or compost heap. Any additional grounds are then donated to a local tree farm.

Adopting programs like these at your office provide employees the opportunity to be an active part of your Green initiative. It is difficult to keep employees engaged in sustainability efforts if they are not an engaged participant. Changing the lighting at your office to energy efficient bulbs is great, but employees don't always feel like they are part of that change. Feel free to try one of these programs or design a custom one to fit the needs of your office. As always, the key to success is communication.

**Here are 10 suggestions** on how recycling programs should interact with the public:

1. Minimize text. People don't always take the time to read long, detailed instructions.
2. Use pictures when possible to show exactly which items are accepted. Actual photographs work better than cartoons.
3. Put the instructions near the opening where the item should be placed. Knees don't read.
4. Design the collection kiosk to fit the materials that will be disposed.
5. Make collection kiosks visible and place them near the entrance without interfering with operations. If multiple items are being collected, put all collection containers in one central location.
6. Train all employees responsible for implementing the program.
7. Engage and motivate the consumer to participate in recycling efforts by publicizing goals and rewarding those who recycle.

8. Do not design collection containers that resemble trash cans, or expect to find trash – move away from bins and toward a kiosk design.

9. Use a separate collection container for each item collected to avoid confusion and contamination.

10. Don't assume a one-size-fits-all method for each item collected and each facility where items are collected.

With these findings, we have been able to provide valuable guidance to many of our partners large and small as they have created new collection kiosks for locations nationwide. But we also uncovered a use for the research findings internally to improve the results of our own collection program. We used the relevant tips above to redesign our collection box. Our new box provides clear instruction with minimal text; includes compliance information to help program facilitators handle batteries properly;

has instructions near the opening; fits all battery sizes that we accept; and features a unique design that makes recycling feel more like a transaction than a waste deposit. Additionally, with the introduction of our new box, we implemented a marketing campaign and began customer service calls to educate our participants about the new design, our increase in acceptable battery weight and the environmentally-friendly elements of the new box, so that they could educate the end-user on our program and its recent enhancements. Since the introduction of our new Call2Recycle collection boxes, we have reduced our box production and shipping costs by approximately 30 percent, and have seen an almost 11 percent increase in battery collections from our program participants.

### Carl E. Smith, LEED AP

Call2Recycle  
www.call2recycle.org

**On June 28th 2010, Grand Hyatt New York** became one of three large-scale hotels (over 1,000 rooms) to begin a composting program in New York City. Whenever possible, our Culinary and Stewarding teams discard organic material into separate composting bins. This collection of what was once garbage is diverted from a landfill and transformed into a natural resource such as soil or fertilizer. To date, the hotel property has collected approximately an average of 10.90 tons of food waste per month and processed it for composting.

### Diana Beltran

Grand Hyatt New York  
www.grandnewyork.hyatt.com

**Instead of spending \$22 Billion per year** to put materials into landfills, companies can reduce their costs and even make money by rethinking their waste as a resource. Try describing the contents of

### Brooke Farrell

RecycleMatch  
www.recyclematch.com

your company's or supply chain's dumpster without using the terms trash, waste or recyclable. Once you specifically name it, it's much easier to see the potential hidden value in the material, and start to shift your company's thinking away from waste management towards resource management.

**Over the past 16 months, Cameron-Cole has assisted an aerospace sector client** in the implementation of a waste minimization program at one of their major manufacturing campuses. This program has diverted 67 percent (1,800 tons) of their waste from landfill and saved them over \$110,000 in waste disposal charges. The components of the waste minimization program include recycling, reuse or composting of the following materials: paper, cans, bottles, scrap metal, furniture, food waste, paper towels, construction debris, wood and yard waste.

The key elements of a successful waste minimization program are as follows:

1. Evaluate Waste Streams & Establish Baseline – Conduct a waste survey or characterization study to understand your waste streams. Quantify waste volumes and disposal costs.

2. Benchmark – Evaluate what peer organizations are doing. Understand what is working and what isn't.

3. Stakeholder Engagement – Engage vendors and facility personnel at all levels from senior management to janitorial staff. Hold stakeholder meetings to solicit ideas, identify potential impediments to success and establish mechanisms for providing feedback.

4. Pilot Programs – Prior to initiating a full-scale waste minimization program, start with a small-scale effort. Conduct a pilot program; solicit feedback; analyze results; fine-tune and expand program.

5. Education – Establish clear process and procedures. Train facility staff on program elements.

6. Performance Metrics – Select performance metrics (i.e. waste diversion rate, cost per ton of material recycled or disposed).

7. Monitor & Reporting – Establish tracking systems to monitor progress, conduct bin audits, interview facility staff and analyze performance data. Evaluate program successes and opportunities for improvement. Report the results.

## Chris Lawless

Cameron-Cole, LLC  
www.cameron-cole.com

**Composting in an urban area can be difficult** especially in a city like New York, where there are no industrial compost facilities and many logistical challenges. But it can be done successfully and with great benefit, especially for establishments like restaurants and hotels that generate a large percentage of food waste.

We conducted a pilot compost program for a hotel with multiple food service areas located in a multi-use building in New York City. The first challenge we faced was the issue of space – there was not enough room in the building's loading dock to store food waste separated for compost. Many buildings in New York City have this space issue, which also makes composting challenging. We overcame this by working with the hotel to find a place in their facility to store the compost bins until the daily pick-up.

The program was rolled out in one of the hotel's five main kitchen prep areas. We first tried to use existing containers, designating select bins for compost and labeling them with appropriate stickers. However, even with training, kitchen staff continued to have difficulty identifying the correct bins to use in the busy prep area. To solve this problem, we purchased green compost containers that stood out from the regular garbage bins. This worked successfully and staff began separating compostable materials and garbage with close to 100% accuracy.

With one kitchen composting, the hotel is diverting about 5% of its wet waste stream. When the program eventually expands to all five kitchens, the hotel is expected to divert up to 75% of its wet waste stream. This will potentially boost the hotel's overall recycling ratio from the current 20% to about 80%.

## Amy Marpman

Great Forest, Inc.  
www.greatforest.com

**Typically, when a company of any size moves locations,** they consider upgrading office equipment. When they do, the older equipment is left for others to use, or the trash heap. Armstrong Relocation

### Mike Gonzales

Armstrong Relocation

[www.armstrongrelocationdallas.com](http://www.armstrongrelocationdallas.com)

saw this as an opportunity to create revenue for our company, and an opportunity to create a better planet. Our national effort in these circumstances is to recycle whatever furniture we can, and those that are not recyclable will be auctioned for someone to use. This has dramatically lowered the amount of material previously destined for the landfill.

**Investing a little money into a recycling program** can return great reductions in overall general waste and cost. Specific waste streams include larger volume items like cardboard, paper and pallets. In 2007, we produced 547,000 lbs of general waste and recycled a minimal amount of paper. In three years, Fike has increased its recycling costs by \$2,600 annually, but decreased its general waste by 360,000 lbs and costs by over \$30,000 annually. This is a return of 10 times the annual investment.

### Chad Sanderson

Fike Corporation

[www.fike.com](http://www.fike.com)

**Profitability and conservation don't have to be mutually exclusive.** One example of this is a global industrial manufacturing company which operates in both Mexico and China. In its

### Shane Loidolt

Deloitte

[www.Deloitte.com](http://www.Deloitte.com)

assembly plants, devices not passing quality control would be scrapped, leading to significant waste. Recently, the company instituted a program first proposed in the late 1990s whereby nonworking components were disassembled and the components reworked. Now mandatory at all plants because it was the right thing to do, this program was initially assessed as not profitable due to labor costs and plant space. However, as the disassembly process became more streamlined, the company was able to leverage its low labor cost and process efficiency and begin realizing a 2% (and growing) net profitability increase in the overall component cost.

**We achieved zero waste to landfill** across our headquarters, manufacturing and distribution facilities as of April 2010. That was a major milestone in our journey toward our 2020 goal of zero waste. One enabling event that's received coverage in the past was our Dumpster Day in April 2008. This has been replicated with great success at other Clorox-owned facilities and elsewhere in our community. I highly encourage such an event as a means to engage your employees and unlock the opportunities that exist in your trash bins!

### Steve Walker

Burt's Bees, Inc.

[www.burtsbees.com](http://www.burtsbees.com)

## energy management

Our location's Green Team reviewed its carbon footprint study and selected two key areas for improvement based on the energy impact. The first was to install a Building Management System for our main lab's HVAC and ventilation systems. The BMS has an expected savings of 587,530 kWh of electricity, 270 metric tons of CO<sub>2</sub> and \$33,000 annually. The second project was switching lighting to more energy efficient bulbs creating an annual savings of 28,548 kWh of electricity, over 14 metric tons of CO<sub>2</sub> and over \$3000. The projects included taking advantage of available grants which covered 50% and 70% respectively of the initial investments required. Other initiatives implemented by the Green Team based on the study were the creation of a new Energy Policy, management training, adjustment of PC monitors' energy saving mode, temperature set adjustment points for thermometers, compressed air leak detection program and photocopier timers. All of these were in the top 10 recommendations of the carbon footprint study and are projected to reduce the locations energy usage by over 1900 MWh with an annual CO<sub>2</sub> savings of 764 metric tons.

### Christina Schrecongost

Bureau Veritas  
www.bureauveritas.com

**Utilities across North America are today installing smart meters** in their customers' homes. The new digital meters are a fundamental component of the overarching smart grid that promises 21st century power infrastructure with increased efficiencies and facilitation of renewable energy sources.

However, certain parts of the US and Canada are experiencing customer backlash: the meters are inaccurate, some customers argue; the RF emanations from the meters will harm health; the meters make us vulnerable to identity theft and hacking; etc. Highly organized opposition has followed in some places, particularly those areas where utilities' introduction of the meters was poorly handled. In California, for example, the Public Utilities Commission was forced to hire a third-party firm to test the meters' accuracies following a very organized campaign against the meters.

After six months of tests, the meters were shown to be accurate. Opponents then simply abandoned their "inaccurate" argument and have switched to the "RF emanations are harmful to health" arguments. NGOs continue to call for a moratorium on smart meter installation in areas of California, Texas and in Ontario, Canada, which, of course, could slow transitions to a smart grid and its expected positive effect on energy efficiencies, customer control over their usage, increased use of renewable energy sources, etc.

The lessons to be drawn from this continuing experience include the fact that transitioning our society to a smart grid can be extremely difficult, highly politicized and much slower than anticipated. Customer education, and lots of it, well in advance of actual smart meter installation, is key, as has been demonstrated by some utilities.

### David Kalson

RF | Binder Partners  
www.rfbinder.com

**The State College of Florida/Manatee-Sarasota (SCF) continues to show its commitment** to the arts with a major renovation to the Music and Theater Building. With all the advances to the building it was necessary for the Facilities Department team to come together, with the help of some local companies, to determine not only how to operate the building efficiently, but also how to maintain a stable and balanced environment for all the instruments in the theater, offices and practice rooms. The Challenge: In central Florida the pianos are the biggest challenge of all the instruments; the ambient condition requirements set by the industry are very stringent because wood and felt are very sensitive to extreme changes in temperature and humidity.

### **Douglas Bucciarelli**

State College of Florida/Manatee/Sarasota  
www.scf.edu

If the piano areas are not maintained the results can be very costly, re-tunings every few months. With the cooperation of the Music Department we were able to do the proper analysis to determine how we can move forward with a sustainable and efficient measure to meet these requirements.

Solution 1: Add solar film to all the glass on the west side of the building. These areas had pianos and in the afternoon the temperatures in those rooms would spike. The solar film helped us balance the temperature on that side of the building with no major expense. Because the solar film reduced the heat gain coming in from the windows by 68% we were also able to achieve energy savings.

Solution 2: Change the scheduling in the Energy Management System (EMS) so that during unoccupied periods we can continue to condition the piano areas and still shut down the rest of the building. In our EMS system we are able to create Scheduling Groups of rooms and zones for maximum efficiency and sustainability. This was a change that added no additional cost to the project.

Solution 3: Install real time sensor readings and reduce outside air flow at low occupancy. Through the electric utility program called "Demand Control Ventilation", we were able to better control humidity issues here in Central Florida, protect the pianos better and reduce air-conditioning costs by 10% or more. Plus, we received a rebate from the utility for installing the technology.

Overall the efforts of everyone involved have been very rewarding. Not only did we address the issue of the pianos but we also increased the energy efficiency of the building at the same time. Survey and analysis of both occupied and unoccupied scheduling and usage was essential to the success of this project.

#### **Key Learnings for 2010 and Expectations for 2011:**

1) Projects that have come on line are doing better than expected- estimates about electricity price increases were lower than expected. Projects commissioned in 2010 are providing better savings than projected.

2) Financial Market Uncertainty Continues- The turmoil leading up to the expected termination of the Treasury Renewable Cash Grant program at the end of 2010 led to a delay for projects that would have a 2011 impact. Given the uncertainty possible projects were put on hold. With the extension, solar projects are again being explored. It will take several months to determine what the impact of the extension will be.

3) Reduction of the California Solar Initiative Performance Based Incentives- The CSI PBIs are dwindling to a small number. Questions about the viability of distributed commercial solar in Northern California without the PBIs are now being raised. Southern California PBIs are expected to run out in a few months. Will solar installation prices drop enough

### **Reid Rutherford**

Photon Energy Services  
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to make solar viable in light of reduced incentives?

4) Solar panel prices expected to drop in 2011- There's no clear guidance; however, several industry observers are predicting that solar panel manufacturers will be able to lower prices 10-20% in 2011. With reduced European and US incentives, this seems to be a reasonable and likely possibility.

5) Solar Developers Forced to Face Facts- Many solar projects over the last few years were announced and agreements signed. Developers, however, frequently overpromised what was either technically or financially possible. Failure to prove technical viability has caused several announced projects to be terminated or switched to different technologies. Also, projects quoted assuming steep declines in solar modules were priced so low that financing could not be obtained. Consequently, many announced projects are "on hold" pending technical and financial resolutions.

**We all know the world is focusing on sustainable strategies** and more-efficient energy solutions – a necessary and critical path. But because energy-consumers and energy-saving vendors have narrowed their focus to a few savings options, that focus is itself becoming a problem. While any savings are good, you can get more meaningful results for your dollar when you broaden your approach and

## Josh Masters

Gexpro  
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match energy solutions with your unique operations and plans for the future. There is no "one" answer. Taking the time to consider all the alternatives for investing your limited energy funds can save you more today and provide greater savings to fund future projects. Some savings aren't obvious, and others may entail changes you never thought possible for your organization.

For example, one of our customers, a major worldwide shipping and container company, saw lighting and heating/cooling as key to savings in their huge warehouse footprint. A closer look revealed that large footprint could also be the ideal platform for an efficient, faster-payback rooftop solar energy deployment. Now, in addition to savings, rooftop solar gives them the potential to generate revenue from the power grid. And they have the added security of on-site power that doesn't fall victim to grid outages.

Supermarkets and convenience stores are upgrading lighting while often ignoring their major energy wasters – refrigeration. Refrigerator and freezer motors that were purchased as recently as five years ago can be upgraded to deliver fast-payback, carbon-reducing savings. And that's another important lesson – an asset's drain on your energy profile should not be determined by age. Periodic feasibility exercises should be used to keep all your assets on the radar for savings.

A broad view and complete understanding of potential savings can also deliver synergistic savings. For example, crews that update supermarket refrigeration motors can upgrade displays from fluorescent to LED lighting and from outmoded anti-sweat/glass fogging devices to more efficient alternatives. You get more energy functionality per hour of labor, further improving ROI and payback.

Lighting is, in fact, a huge source of potential savings. But lighting upgrades become even more cost-effective when tied in with occupancy sensors and EMS technologies. While LEDs and other advances can slash lighting energy needs, we need to remember that the most energy-efficient light is one that's off.



**Dave Laybourn**

Lime Energy

[www.lime-energy.com](http://www.lime-energy.com)

**It is much easier to talk to executives about energy dollars** instead of BTUs and kilowatt-hours and we encourage our customers to value the benefits throughout their organizations. With competing and confusing messages about climate change, cap and trade, sustainability, green supply chain, etc., the simple message of saving money remains the compelling reason to save energy.

**The best time to make the switch to LED is always now.** I remember during a meeting with a South Florida enterprise we were able to offer savings of over \$1 million for the next 3 years at no out of pocket up-front expense. They chose to wait until the prices for the LED bulbs dropped. We were astonished by their response. I had to ask the director point blank, 'Are you willing to give away over \$1 million instead of keeping it on the books?' His response was "yes, we believe prices will come down in 3 years." It is this type of thinking that continues to stall the industry, but we are beginning to see a change in that train of thought.

**Rami Ovadia**

Lumenor Energy Services, LLC

[www.lumenorenergy.com](http://www.lumenorenergy.com)

**As a Belgian retail company we started two years ago** to put doors on our fridges. To prove that energy savings (- 40% less cooling and heating) were possible wasn't an issue. To prove that the customer was ready for this change was much more difficult. After very positive results, our stores can't wait to have doors on their fridges! And this year we went even further and used LEDs in the fridges and again we saved energy. Even our suppliers are following the trend. Conclusion: Taking small steps can have unexpected big impacts. But never hesitate to take that step.

**Martens**

Delhaize Belgium

[www.delhaize.be](http://www.delhaize.be)

**Look at energy efficiency projects just like any other investment:** What is the business case, what is the ROI? Our North American CEO, Chris Curtis, has said he will approve any energy efficiency project that has a 3-year or better return on investment – because it's good business sense and good for the environment.

Effective energy management practices start at the top: Companies showing excellent success have a C-level commitment.

Hold the entire company responsible for meeting metrics: Metrics needs to be on performance plans and reviewed regularly, just like quality, lean manufacturing or safety activities.

Energy bills should be considered an asset, not a liability: Leading companies driving energy efficiency in their enterprises use the subsequent savings to fund important tasks in the business.

**Paul Hamilton**

Schneider Electric

[www.schneider-electric.com](http://www.schneider-electric.com)

**From the thousands we trained last year, I offer just a few quotes to help readers get more projects approved in 2011...**

The cost of delay by not implementing a project is greater than the financing cost.

If the ROI of a project is greater than the company profit margin, then there is no excuse not to do the project, as the project will IMPROVE the profitability of the company.

### **Eric A. Woodroof, Ph.D.**

Association of Energy Engineers  
www.ericwoodroof.com

Instead of saying that a project saves \$\$\$/month, we can also say that if we do not implement the project, we will continue to LOSE \$\$\$ every month – people will do more to avoid penalties than seek a benefit, even if the value of the benefit = penalty.

**We've seen great returns** from our global behavior-based energy management (BBEM) system—a tool used to engage employees and integrate energy into daily actions to improve performance. It's led to the formation of several new efforts, including a robust leak tag initiative at our seven U.S. corn milling facilities that has resulted in the identification of water, compressed air and steam leaks and energy cost savings in the millions of dollars (USD). For companies hoping to employ similar efforts, Cargill offers these tips:

1. Get buy-in from the top. Starting a BBEM requires a commitment of people and systems resources to change the approach towards energy management. The payback may appear “soft” in comparison to project investments, but the returns are real and measurable over time.

2. Look beyond the obvious. Energy savings will come from a BBEM, but so can improved production from reliable operations as well as water savings.

3. It's a marathon, not a sprint. The benefits of a BBEM can come slowly at first but once they are ingrained in your operations, the sustainability and cost savings improvements will keep coming over time.

4. Look beyond the systems and processes. A great BBEM system should also feature elements such as assigning energy champions at each facility and putting in place employee communications and recognition to highlight milestones along the journey.

### **Pete Stoddart**

Cargill  
www.cargill.com

**We recently concluded our first ever energy incentive program** for Motel 6/ Studio 6. We challenged every property to reduce their electricity consumption over the course of 6 months. The property in each region which had the biggest reduction of electricity consumption won a break room makeover. The scope included new laminate wood flooring, granite counter tops, new appliances, flat screen television, new paint, and an updated employee bathroom.

### **Renee Swoger**

Accor North America  
www.accor-na.com

The competition, Phoenix My Break Room, was named after our Phoenix Project which was launched in late 2007 by Motel 6/Studio 6 to regain our chain's lead over our rivals. Phoenix refers to the mythical bird that rises from the ashes.

We developed an interactive monthly report in which properties could track their current ranking and see who was in the lead to win the break room make over. To level the playing field we adjusted each property's consumption for their actual weather and occupancy rates by using regression analysis.

The beauty of this incentive program is that it had a zero-cost implementation. We didn't install fancy energy saving devices; we simply targeted the people and process element of energy savings by incentivizing our employees. Throughout the course of the program, we communicated energy saving tips

to our properties to help them compete in the program. We placed a large emphasis on housekeepers correctly setting the PTACS in guestrooms to a temperature that maximizes energy savings.

A break room make over is something that incentivizes every person at the property; everyone from the property maintenance person to the housekeepers uses the break room on a daily basis. It is something that not only improves the value of the property, but something that can be enjoyed over and over again.

Over a period of 6 months we saved \$233,000 in avoided electricity costs. We are now using part of the savings to renovate the 10 winning properties' break rooms. Although the program is complete, we are confident that it has instilled new, energy saving habits in our employees- leading to future energy savings for Motel 6/ Studio 6.

**Visual communication that inspires friendly competition and creates accountability** can be a powerful tool for encouraging change. While the Director of Sustainable Programs at a global architecture and planning firm, I was working with firm leadership to encourage increased energy efficiency in projects.

### **Teresa Burrelsman**

Eco Via Consulting &  
the Sustainability Collaboration  
Network  
[www.ecoviaconsulting.com](http://www.ecoviaconsulting.com)

Dealing with a variety of clients around the world, with varying commitments to sustainability or energy savings, made "requiring" an energy efficiency target challenging. In order to celebrate our successes and explore our weaknesses, my team started to visually report energy progress on our major projects at quarterly leadership meetings. We created a graphic that listed each project, its energy performance, the related studio, and a photo of the project's Principal in Charge. The Architecture 2030 Challenge was used as the benchmark. The resulting image revealed in a visual way the firm's energy trends. Certain project

types were more challenging than others, such as retail. Some principals were repeatedly doing well, while others had little progress in energy savings. Using the visual tool, we could see when progress was likely halted by project type and when one or more principals had figured something out their peers might need to know. For those whose face repeatedly appeared above the energy target, we could investigate why and what tools or resources we needed to enable those Principals to create more efficient designs. As the building industry works to advance sustainability, getting creative with how we motivate and educate each other, and making it fun, is a critical aspect of achieving deep green projects.

**A major Midwestern state government's recent energy management initiative** linked its Building Automation Software's (BAS) HVAC alarms to its facilities management software -specifically, its building operations application. The integrated systems identify the location of the problem on building drawings and automate the issuance of work orders when energy management systems detect performance failures of heat traps and other system components.

The state has projected annual energy savings of \$3 million from all its energy management initiatives statewide, of which the BAS/ building operations integration is a key part. Plus, it reduced greenhouse gas emissions by approximately 1,000,000 pounds.

NASA Goddard Space Flight Center found that too many of its offices were receiving 24/7 HVAC

### **Bruce Forbes**

ARCHIBUS, Inc.  
[www.archibus.com](http://www.archibus.com)

support even though they operated only during a standard 9-5 workday and were vacant nights, weekends and holidays. In a variation on the hot/cold aisle concept at data centers, NASA's facilities management department is attempting to identify rooms and functions in need of 24/7 HVAC and co-locate them into clustered zones of their own.

Using its space management software and CAD drawings to reconfigure space and consolidate the HVAC-intensive data centers and other operations, NASA has reduced its after-hours electricity consumption by up to 13% in a test building.

**In 2003 we bought a contract winery service business** in an old apple processing plant, circa 1940. The facility is a rambling ten acre parcel of buildings of mixed construction and vintage that has been used for large scale beverage production from apple processing in the 1940s to fruit drinks, sparkling wine and hard apple cider to its current iteration, still wine production.

Our first task was addressing deferred maintenance along with an increase in our operating permit. These two goals were achieved through energy and water conservation, efficiency and reuse including an experiment with an innovative waste water treatment technology. Our ability to reduce our wastewater generation within the existing treatment system expedited the approval of our permit increase with the regulatory agency.

## Natasha Granoff

Sonoma Wine Company  
www.sonomawineco.com

Between 2005 and 2009 we reduced per case of wine:

- natural gas from .025 therms to .010 therms or 150%
- electricity from .75 kWh to .64 kWh or 19%
- wastewater generation from 3.81 to 2.16 gallons or 76%
- solid waste disposal by 35%

During the same time period, we reduced our greenhouse gas emissions by 436 metric tons, or 15%. From 2003 to 2009 we doubled our yearly winery production from 1.5 million cases to 3 million cases without increasing the existing refrigeration capacity until this year, 2010.

Over the years we have been approached by numerous solar PV companies with quotes for an installation, the most significant was a 726 kW system with a 25 year payback. Granted this was back in 2003 and the ROI for solar PV has much improved. The mantra with our company was and continues to be "don't solarize your inefficiency"; maximize your energy efficiency and then research a renewable energy system. For a winery using a significant amount of hot water, this could include solar thermal along with solar PV, an option that fell into our lap in 2010. We partnered with a company in California to install a cogeneration ground mount system providing both solar thermal and solar PV. We entered into a HPPA, heat and power purchase agreement with Cogenra Solar based in Mountain View, California. The system was commissioned in November 2010 so the performance metrics are pending. The estimate for the system is to offset 45% of our natural gas needs, 10% of our electrical needs, and 17% reduction on GHG emissions annually.

Our strategy as a company has worked: focus on resource conservation and efficiency by looking upstream at usage, then look at a renewable energy strategy. In our case, a highly efficient cogeneration system addressed multiple energy needs. To further sweeten the pot, the financial model of a power purchase agreement requires little if any upfront risk.

**Sharon Tinianow**

COSI  
www.cosi.org

We engaged an engineering firm to do a complete energy audit of our building. The results were surprising. Many retrofits that I assumed would be “no brainers” turned out to have a very long return on investment. This included things like the installation of photo sensors on overhead lights in an area of the building that has skylights. It always bothered me to see those lights on days when the sun is shining. Incorporating photo sensor technology on existing light fixtures would have been very costly and, because the fixtures already use an energy efficient fluorescent bulb, the energy savings would have been small. The easiest fix of all was something completely invisible – revising the humidity set point of our building. This single adjustment is estimated to save us \$45,000 on our utility bills in one year. We made the change and guess what? No one noticed! It was entirely painless. The moral of my story is to conduct an energy audit of your building. It will enable you to prioritize energy efficiency projects appropriately and put together proposals that are backed by sound science.

## marketing

**The last thing anyone needs right now is a ton of confusing facts** to pore through. Sure, it seems logical that if you say more you get more, but in sustainable advertising the reverse always holds true. More information and jargon is confusing and makes it harder for consumers to make a greener buying decision. (Case in point: Our research shows far fewer Americans today can name a source of renewable energy or a feature of a green home than they could three years ago. We’ve given them just enough information to confuse the daylight out of them.)

When everything is becoming increasingly complex for your targeted consumer, your message should become more and more focused. Making sure your benefits are relayed simply and clearly – and in a way that is creative enough to be remembered – will go a long way to creating a positive reaction. A complex message in complex times makes that message very easy to pass over.

We’ve all heard the KISS principle, Keep It Simple Stupid. Whether it’s wisdom on display or just a sneaky way to call someone dumb (as I’ve always suspected), it’s good advice. A simple, easy message will be much appreciated and embraced — especially in a down economy and especially in the sustainability world.

**Larry Washington**

Shelton Group  
www.sheltongroupinc.com

**If the FTC’s Green Guides are not clear** about what is considered to be deceptive in the context of environmental marketing, marketers will be reluctant to make environmental claims. I hope the FTC will revise its current draft Green Guides in accordance with several of the comments that were submitted on or before December 10, 2010, in order to make them more practical and clear.

For example, one of the biggest areas of concern is whether a life-cycle analysis is required for every environmental marketing claim, even those that are specific and qualified. The FTC has suggested that a LCA is not required for substantiation purposes. It has also suggested that a qualified single-attribute claim on an air conditioning unit like “Environmentally friendly – uses a non-ozone-depleting refrigerant” might be implicitly deceptive because air conditioning units still use a lot of energy to operate. Thus, there’s confusion as to whether one can use a qualified green claim, pointing out a single attribute and describing exactly why it’s an environmental benefit without considering whether the product as a whole delivers a net environmental benefit.

Another example would be the claim that an item “does not use chlorine-bleaching processing,” Assuming that normally this item is processed using chlorine bleach and that such processing is bad for the environment. The FTC has posited that if the marketer has substituted another environmentally damaging bleaching agent for the chlorine, then the claim would be deceptive. That follows because the consumer would reasonably assume that if the marketer claimed that it had improved the bleaching process from an environmental perspective then the bleaching process should be a net environmental benefit. If that’s not the case, then the consumer may be misled. But the FTC goes further in its current Green Guides. It would have the marketer consider whether the substitute bleaching process required increased fuel costs, which produce an overall net increase in the environmental impact of the product. This will impose a significant burden on the marketer and could cause the marketer to just continue using the same chlorine-bleaching process since he might be prohibited from touting the benefit unless he does an expensive LCA. Furthermore, it is not even clear that “does not use chlorine-bleaching processing” would be deceptive speech even if it did require shipment of the alternative ingredient from a more distant source.

## John P. Feldman

Reed Smith LLP  
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Thus, federal regulation and guidance can be an important aid to marketers as they seek to meet the environmental demands of today’s consumer. But, if the FTC is not clear in the way it presents its guidance or in fact imposes too high a standard for substantiation of environmental marketing claims, it runs the risk of squelching non-deceptive speech and possibly even discouraging environmental innovation in the marketplace.

**In 2010, I assisted a client facing a potential government investigation** addressing its green marketing claims. In many ways, the government was doing nothing more than an “audit” of the client’s records, to determine if it could substantiate its marketing claims. Unfortunately, because the client’s marketing team was not accustomed to this type of inquiry, we spent a considerable amount of time pulling information from different corners of the company, including specific scientific test data supporting the marketing claim.

Because nobody in the company had anticipated this type of “audit” there was a period of time when we were not even sure if there were data in hand that would fully support the claims. This meant that marketing specialists, scientists from research and development, and outside counsel had to spend a lot of time on the phone trying to connect the underlying science to the company’s marketing claims. Fortunately, the client was conscientious, and we were able to document evidence fully substantiating its green marketing claims.

After we submitted the complete response to government investigators, it occurred to me and the client that someone in the company should be tasked with collecting and organizing evidence to support the company’s environmental marketing claims. For one thing, this type of preparation should

## Joseph N. Eckhardt

Stoel Rives LLP  
www.stoel.com

save a client from future costs in legal fees. Instead of paying outside counsel hourly rates to collect and organize documents, it is much cheaper to have staff organize documents ahead of time. More importantly, being prepared for an audit of your green claims is critical because if you look ahead of time you'll have time to make sure you really have the data that you'll need – or you may find that you need to re-visit, or re-write your green claims. Now more than ever, green marketing claims are subject to challenge by state and federal regulators, as well as consumers and competitors, eager to stamp out “greenwashing.” No prudent company would be completely unprepared for a financial audit. By the same token, when it comes to green marketing claims, task a competent and responsible compliance officer.

**Even though times were tough in 2010**, our research showed that despite the abysmal economy, the same number of people who were buying green products two years ago were buying green in 2010. We also learned we still have a long way to go in the area of energy education: four in 10 Americans

## Valerie Davis and Kevin Tuerff

EnviroMedia Social Marketing

[www.EnviroMedia.com](http://www.EnviroMedia.com) / [www.GreenDetectives.net](http://www.GreenDetectives.net)

did not know the natural source of their electricity, and likewise, 40 percent did not know that coal was a nonrenewable resource. (Opinion Research Corporation, 2010) We also learned, when you least expect it, expect it. Expectations for Copenhagen (COP15) last year were sky high, and not much ended up happening. Expectations for COP16 in Cancun couldn't have been lower, so of course,

the UNFCCC made significant steps in the fight against climate change, with an agreement, albeit nonbinding, to limit global warming to less than 2 degrees C above pre-industrial levels and a “Green Climate” fund, in theory worth \$100 billion a year by 2020, to help poorer countries achieve emission reductions and adapt to climate change.

**While presenting the results of a survey on clients' perceptions** to the marketing board of a major insulation products company, one of the participants asked me, “If consumers perceive transportation as deeply impacting the environment, perhaps we should remove the name of the company from our transportation trucks?” Actually though, transport has minimal impact on these products as they are produced locally. However, the use of very performant products to insulate houses and buildings is highly beneficial for the environment. So my response as a marketing researcher specialized in sustainable marketing was to say: “If I may, you should do the contrary. Keep the name of your company on the truck and add, “This truck carries tons of energy savings.”

One month later, the trucks of the Irish subsidy, which had to be repainted, had this new inscription! By communicating about the relevant environmental impact of their products, proactive firms can reduce perception biases, while efficiently promoting sustainable efforts and innovations in the eyes of consumers.

## Ganaël Bascoul

Ernst and Young (Paris)

[www.ey.com](http://www.ey.com)

## green it

**Our largest sustainability initiatives are centered** in the work we do in developing advanced technologies to improving fuel economy and decrease CO2 emissions in our vehicles. But we also look for opportunities in all aspects of our operations, and this year found an interesting way to save energy and money. It all starts with our office computers. Under a new program called PC Power Management, the power settings on Windows laptops and desktop computers are centrally controlled to reduce energy waste and optimize software updates. A managed shutdown of computer systems not in use, especially overnight and on weekends, further reduces energy use. At the same time, the system ensures all computers connected to the Ford Intranet are awake and able to receive software deliveries during off hours, decreasing downtime during working hours due to software loads. The savings to the company on power cost alone is expected to top \$1.2 million annually when the system is fully implemented. By reducing PC power consumption, Ford also stands to reduce its carbon footprint by an estimated 16,000 to 25,000 metric tons annually.

### Jennifer Moore

Ford Motor Company  
[www.ford.com](http://www.ford.com)

**Yahoo!'s state-of-the-art Lockport, NY data center facility** is one of the most environmentally friendly, energy-efficient, and cost effective buildings of its kind globally. The combination of Lockport's cool climate, the cool prevailing winds, and an efficient data center design will help dramatically decrease the need for energy-powered chillers to operate the servers.

It will be the first implementation of a patent-pending energy efficient data center design called Yahoo! Computing Coop, aka Yahoo! Chicken Coop.

The YCC design emulates the long narrow design of a chicken coop to re-circulate outside air, and almost eliminates chillers to keep the servers cool. The facility will use free cooling 100% of the time. For every dollar spent on electricity, we're spending one cent to cool.

The configuration of the buildings was taken from the old manufacturing plants in Lockport, which took advantage of the cool, prevailing winds from Lake Erie. The YCC design emulates the long narrow design of a chicken coop to re-circulate outside air. The YCC design involves prefabricated metal 120 foot-by-60 foot buildings. The structures are oriented on the site to take advantage of prevailing west-to-east winds from Lake Erie.

### Christina Page

Yahoo! Inc.  
[www.green.yahoo.com](http://www.green.yahoo.com)

HP has developed an innovative data center facility in Wynyard, UK that minimizes energy use and overall environmental impact. Wynyard takes advantage of the cool North Sea climate, using marine air to cool servers and other IT equipment, instead of air conditioning. In a typical year, the facility is expected to reduce energy consumption by 40 percent, produce only about half the CO2 emissions of a standard data center, and save up to \$4 million a year.

### Engelina Jaspers

HP  
[www.hp.com](http://www.hp.com)



**In the past several years, we have transitioned to mobile computing** with notebook computers, which has led to 25- 35 watts less power consumed per notebook computer (compared to desktop computers). By replacing 6,400 desktops with notebooks, Intel has achieved productivity gains of \$26 million, and is now approximately 80% mobile. Along with mobile computing efforts, we practice Client Refresh, maintaining a regular refresh cadence, and deploying new machines with Intel vPro technology. More than 48,000 Intel vPro technology-enabled PCs have been provisioned through 2010YTD, reducing support costs through remote diagnosis and repair capabilities.

## Ilene Aginsky

Intel Corporation  
www.intel.com/IT/

Travel is also addressed by Intel's IT team. Reducing corporate travel reduces the company's carbon footprint. We have implemented IT solutions that help with travel avoidance and increase efficiency within the company. Using real-time office collaboration technologies, the experience of global technology enabled meetings is now closely comparable to the experience of meeting in person. Intel IT has continued deployment of its planned worldwide portfolio of video collaboration based on user needs including immersive video conferencing and standard HD rooms, E-whiteboarding for engineering collaboration, as well as basic video.

These solutions eliminated \$27 million in travel expenses while avoiding the emission of 25000 metric tons of Co2 into the environment. Over 8700 video enabled meetings were held within Intel during 2010. Internal studies show 75% of meeting attendees reporting video meetings are as effective as in-person meetings.

**At St. Joseph's Care Group the Greening Health Care Committee** is always looking for new and fun ways to spread awareness about environmental issues. This month, we focused on energy awareness, more specifically turning off computers at night. After an email advising staff to shut off their machines and an article about energy saving myths in our monthly Touch magazine we conducted an audit. At night the computers at seven of our facilities were checked. If the computer was off a candy cane was left with the message, "A Candy Cane. You've been nice! By turning off your computer you've helped save energy and costs." If the computer was left on a message was left behind with a picture of a lump of coal saying, "A Lump of Coal. You've been Naughty. By NOT turning your computer off overnight you've wasted energy and costs." The activity was fun and got everyone in the Christmas spirit, and we received some really great feedback too.

## Nadine

St. Joseph's Care Group  
www.sjcg.net

**The obvious first step for reducing any organization's energy use is to measure it** and find ways to lower it. So why is it that the overwhelming majority of CIOs—owners of their companies' information technology infrastructure and consumers of huge amounts of energy—never see a power bill?

As ludicrous as that sounds, it's quite common. The power bill goes to the facilities team. It's particularly unfortunate when you consider that at a large company, technology can consume as much as 40% or more of the power used.

Thankfully it's a problem that's easy and affordable to begin to tackle. Connecting the IT and facilities departments in any organization, from businesses to governments, can slash power usage and

increase efficiency with something as simple as using a few electric meters. In Dell's case, we managed to add 35% more computing capacity without using one additional watt.

Once the CIO knows how much power all those machines and their related cooling systems are consuming, it's hard not to find ways to be more efficient. For example, a server in one location is running a particular software program, has plenty of unused capacity and is burning electricity. Across the room, there's another server doing the very same thing. Introduce virtualization software, which lets one machine do the work of many, and you're immediately saving power and money while minimizing the environmental impact.

Now imagine a data center filled with server racks. They take cool air in through the front and blow hot air out the back. In an organization in which the CIO doesn't see a power bill, the data center isn't necessarily arranged for energy efficiency. You might have two server racks facing front-to-back, mixing hot and cold air and lowering the efficiency of the cooling process. In fact, most data centers are run far too cold—10 or 15 degrees cooler than necessary—just to keep a few hot spots from overheating. By rearranging your data center to keep the hot air hot and the cold air cold, you can reduce power bills and improve system efficiencies by 20% or more.

Simple solutions like this help minimize a company's environmental footprint. But this isn't green for green's sake. Most organizations need to think harder about their IT power use just to cope with the explosion of data in this digital era. Even if you could spend unlimited money on power and equipment

## Robin Johnson

Dell

[www.dell.com](http://www.dell.com)

for your data centers, the power grid where your facilities reside might not be able to provide any more juice—or you could simply run out of physical space in your data center.

That's what happened to us at Dell two years ago. We hit the space limit on our data centers in Austin. We had two options: build another data center, or squeeze more computing power out of our existing facilities using the same amount of energy. The difference between the two options in both expense and environmental impact was enormous. After all, the greenest data center is the one you never build. Through smart IT planning, we've postponed indefinitely the need for a new data center, avoiding some \$250 million in costs.

Think of the implications for taxpayers if government agencies linked their IT strategies to their power use and embraced the opportunities green IT holds. Every time a government agency issues a purchase order for hardware or software that isn't rationalized for its power use, taxpayers pay the bill. As with a data center on a grid that can't supply any more energy, public departments can't get any more tax dollars; they can only get more computing for the dollars already in their budgets.

At Dell we began thinking this way more than two years ago. The investment for organizations that want to do the same is relatively minimal and pays off quickly. The first step is to have power monitoring in the right places. Additional power monitoring is not expensive and is readily available. Second, look at the physical configuration of your data center. At Dell we've found that we can help cool our Austin data centers by drawing in ambient air from outdoors, saving hundreds of thousands of dollars per year.

Finally, make your future hardware and software purchases based on power efficiency and look for ways to take advantage of virtual computing to increase the efficiency of existing IT investments. Replacing existing hardware and introducing virtualization software can multiply your capacity by a factor of five or greater in the same power envelope.

The savings from even incremental changes will be significant and immediate, but not if you overlook the key component to any organizational shift: responsibility. It's great to show your CIO the power bill, but if he or she isn't invested with the authority and responsibility for lowering it, it's just another slip of paper.

**Being focused on the data center industry**, which contributes around 1-1.5% of global CO<sub>2</sub>, greenwash abounds. Every new data center must have a 'green story'. Today's success stories are the ones that can make it 'win/win' – linking sustainability issues with broader business goals. It can certainly be done – the most environmentally efficient new data centers could have a capex up to 50% below market average, with much lower opex. Tomorrow's success stories will be the ones who understand the holistic and lifecycle aspects to sustainability, and have a clear strategy on areas such as recycling and reusability.

## Steve Wallage

BroadGroup

[www.datacentres.com](http://www.datacentres.com)

**In designing the new Emerson global data center** in St. Louis, energy efficiency was a top concern. Everything was on the table – from HVAC to power distribution to lighting. With a clear view of the Midwest sky – and unobstructed southern exposure to the sun – solar power became a viable complementary energy source. Emerson designed a 7,800-square-foot rooftop solar array with more than 550 solar panels.

Since the facility's opening in August 2009, the energy-efficiency features are paying big dividends. The solar array is producing an average of 11,400 kW per month with a peak of 14,250 in sun-soaked July (and close to the same in August).

## Jack Pouchet

Emerson Network Power

[www.emersonnetworkpower.com](http://www.emersonnetworkpower.com)

**We virtualized our server infrastructure** using VMWare. We traded in our old servers, installed HP blade system server computers with VMWare virtualization software, and integrated the entire solution with the storage area network. The results so far have been:

## Jim Lynch

TechSoup Global

[www.techsoupglobal.org](http://www.techsoupglobal.org)

### IT Improvements:

- Reduced server room temperature from 85° F to 70° F (without changing our cooling infrastructure),
- 99% faster server deployment (30 minutes vs. 2 weeks), and
- 80% faster setup for QA and staging infrastructure (3 days vs. 3 weeks).

### Business Benefits:

- 18 servers were consolidated onto 4 in a collocation production environment,
- Soon we will be consolidating 60 servers onto 4 at our headquarters office,
- 72% reduction in power usage at headquarters data center,
- \$40,000 cost avoidance on HVAC upgrade, and
- \$24,600 annual savings in server administration time.

**Green IT is more than just technology investment.** To maximize the financial and environmental benefits from new hardware or software, IT professionals must also invest in people, process, policy and planning improvements. For example, the energy savings from server virtualization is limited without process and policy improvements that increase the virtual footprint and consolidation ratios. This is particularly true as the scope of green IT expands from green IT 1.0 ("green for IT") to green IT 2.0 ("IT

for green”), well beyond the data center into business operations, and the approach broadens beyond simply procuring more energy efficient hardware. As a result, green IT is more complex which makes proper planning even more important.

To that end, Forrester finds that 75% of organizations lack a comprehensive green IT strategy to deliver the consistent, repeatable, and measurable results. To turn this situation around, invest in the emerging role of the green IT manager, not more technology. Green IT managers deliver financial and environmental value — they determine scope, assess the current state, develop a project pipeline, justify and prioritize spend, document strategy and goals, and report successes. IT leaders can measure

**Doug Washburn**

Forrester Research

[www.blogs.forrester.com/doug\\_washburn](http://www.blogs.forrester.com/doug_washburn)

a green IT manager’s success by tracking cost and environmental impact reductions, productivity improvements, and revenue increases.

While the actual title varies, 32% of organizations globally – such as KPMG and Thomson Reuters – have full-time or part-time green IT managers to maximize the value from their green IT investments.

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