



IBM Center for  
The Business of Government

Conserving Energy and  
the Environment Series

# Best Practices for Leading Sustainability Efforts



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## Foreword

On behalf of the IBM Center for The Business of Government, we are pleased to present this report, *Best Practices for Leading Sustainability Efforts*, by Jonathan M. Estes.

In October 2009, President Obama signed Executive Order 13514, which outlines leadership efforts the federal government can make to reduce energy consumption and lower greenhouse gas (GHG) emissions. Federal agencies are required to develop strategies, implement and report on projects, and continuously improve their processes as a model for the country. The Executive Order significantly increased the visibility of sustainability as a strategic imperative for the federal government and beyond, while potentially saving energy and taxpayer money. Given the somewhat broad and vague definitions of sustainability, some agencies may check the compliance box rather than take advantage of the full array of potentially cost-saving and performance-increasing benefits.

This report:

- Examines the sustainability processes of three organizations, two private and one public
- Identifies three recommendations that demonstrate the critical success factors for meeting sustainability compliance

The purpose of this report is to provide practical, timely best practices for public-sector stakeholders and leaders based on independent research from representative organizations. The three case studies were selected because of their long history and continued commitment to sustainable practices and the relevance of their business model for federal agencies as they develop and implement their sustainability plans.



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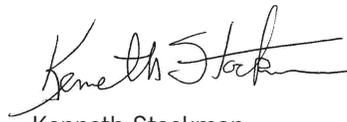
Jonathan Estes's report complements recent IBM reports and articles: *A Guide for Local Government Executives on Energy Efficiency and Sustainability*, by Nathan Francis and Richard Feiock, *Implementing Sustainability in Federal Agencies: An Early Assessment of President Obama's Executive Order 13514*, by Daniel J. Fiorino, and *Analytics and Risk Management: Tools for Making Better Decisions*, by Michael J. Keegan.

All of the above reports focus on using better measurement tools for making strategic decisions. These reports together provide a comprehensive spectrum of insights and practical steps derived from best practices in the development and implementation of sustainability strategic plans. They can help managers meet mission goals at the local, state, and federal levels.

We trust that government executives will find useful strategies here for their organization's sustainability efforts in the years ahead.



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# Introduction

Several statutes and executive orders guide federal agencies in pursuing their energy and sustainability goals. Most recently, President Obama's Executive Order 13514 mandates federal leadership in sustainability. It requires federal agencies to strategize, implement, measure, and report on their energy-efficiency and greenhouse gas (GHG) emission-reduction initiatives.

Across the federal government, sustainability initiatives are emerging with increasing prevalence. Some examples include:

- The General Services Administration's (GSA) promotion of green procurement (sustainable supply chains and sustainable suppliers) and high-efficiency green buildings
- The Department of Defense adoption of the term sustainability as a security and energy strategy
- The U.S. Navy's recent test flight of the Green Hornet, an F-18 powered by 50-percent bio-fuel in anticipation of the deployment of its "Green Fleet"

Given the number of sustainability projects and initiatives underway within most federal agencies, the key question becomes: How should managers in the federal government implement and measure the benefits of sustainable practices?

In the private sector, regardless of the type of sustainability initiative (energy efficiency, renewable energy, recycling, or buying green) the business case remains the most important document to justify strategies and report outcomes. In *Smart Green* (Estes, 2009), corporate leaders describe the difference between "adding green projects" to their business plan and "becoming sustainable." In analyzing over 64 different types of companies, one of the most important aspects of justifying the costs of sustainability is the degree to which leadership in the organization aligns the mission of the organization with sustainability objectives. Success in implementing sustainable strategies centers on keeping the organization's mission front and center—using it to inform sustainability decisions.

## What is Sustainability?

The term "sustainability" is usually associated with the relationships between what has been coined the "triple bottom-line" consisting of the economy, the environment, and social equity.

Largely undefined in its application from one organization or sector to the other, the term is generally used to describe the balancing of energy, resources and growth over time without detriment to future generations, as described in recent Presidential Executive Order 13514: "Sustainability' and 'sustainable' mean to create and maintain conditions, under which humans and nature can exist in productive harmony, that permit fulfilling the social, economic, and other requirements of present and future generations of Americans."

The goal of this report is to provide practical ideas on sustainability initiatives, drawn from representative organizations in both the public and private sectors. As part of the research design, two private companies, DuPont and CB Richard Ellis (CBRE), and one public organization, the U.S. Army, agreed to participate in interviews and data analysis to provide practical, timely recommendations on best practices for U.S. federal agencies.

The three case studies were selected because of their long history and continued commitment to sustainable practices, as well as what federal agencies could learn from them about implementing sustainability plans. Pursuing sustainability as a strategic endeavor has required these organizations to take incremental steps at a systems level.

The report is based on:

- Interviews with key personnel
- Overview of the historical context
- Analysis of sustainability strategic plans
- Results from a survey of sustainability managers in the public and private sectors
- Case studies

From the interviews, surveys, strategic plans, and case studies analyzed for this report, three recommendations emerge that can assist government executives and public managers to successfully lead sustainability efforts:

- Recommendation One: Connect sustainability to mission
- Recommendation Two: Adopt employee engagement strategies
- Recommendation Three: Implement performance measurement

# Case Studies



## Background

During the 1970s, long before many other companies were struggling to understand the implications and the business case of sustainability, DuPont set into motion efforts to open the dialogue about climate change, reduce greenhouse gas emissions, curb its energy use, and link its impact to societal benefits. During the 1990s, with climate change a growing concern, DuPont voluntarily committed to reducing its greenhouse gases by 45 percent through reduction of its point sources—nitrous oxides and fluorochemicals. By the end of 2003, the company had reduced its greenhouse gas emissions by 72 percent. Meanwhile, DuPont achieved its next goal of holding total energy use in 2009 flat versus 1990 despite a 35 percent increase in production, and committed to holding total energy use flat for the next decade, while saving the company an estimated \$6 billion.

Founded in 1802 and based in Wilmington, Delaware, DuPont is the third largest chemical company (based on market capitalization) and operates in approximately 90 countries, offering a wide range of innovative products and services for markets including agriculture, nutrition, electronics, communications, safety and protection, home and construction, transportation, and apparel. As stated on the company's website, its "vision is to be the world's most dynamic science company, creating sustainable solutions essential to a better, safer and healthier life for people everywhere."

Dawn Rittenhouse, DuPont's director of sustainable development, has been helping to shape the company's vision for sustainability. "About 20 years ago, we took the first steps toward reduction, establishing sustainability goals—a form of corporate environmentalism. Over time we began to focus on not just doing less bad, but figur[ing] out how to do more good—how we design products and bring solutions to the marketplace."

In 2006, DuPont established a new set of goals, with sustainability becoming the mission for the company. The goals were market-facing, investing in research and development for products with renewable resources. "We invested more into the growth aspect of sustainability, not just the reductions aspect," says Rittenhouse. The company also decided to increase its transparency through deploying an environmental management system at every site, obtaining ISO 14000 certification, and making public its third-party verified sustainability goals and results. "Even though we are not following the strict 'cradle-to-cradle' model for product development, we are utilizing the tools and approaches promoted by the Life Cycle Assessment Association and the Environmental Smart Assessment Tool which has helped the company develop the technology to take polyester all the way to the original material, for example."

DuPont's 2015 sustainability goals are expanded from its earlier plans to include the following:

- Reduce greenhouse gas emissions by 10 percent
- Reduce water consumption by 30 percent
- Increase fleet fuel efficiency for all vehicles
- Reduce air carcinogens by 50 percent
- Independent verification for all manufacturing sites

## Challenges

Linda Fisher, formerly of the Environmental Protection Agency (EPA), is DuPont's vice president and chief sustainability officer. Addressing the issue of company legacy, transparency, and open dialogue with the public—a key component of its recent goals—she says: “While we have made tremendous progress, we recognize that more remains to be done. As a 205-year old company, we acknowledge our legacy issues. The public expects us to deal with them forthrightly, and we are. Because of these issues, some members of the public may question the validity of our accomplishments and our progress against our goals. We expect outside groups to continuously examine our actions to ensure we are ‘walking the talk.’ We welcome their interest in our programs, and we are always prepared to show how we measure what we communicate.”

DuPont's sustainability leadership has been influenced strongly by the demands of customers. Its customers are located in 36 nations and purchase DuPont's products and services across multiple segments. As part of its market-facing sustainability strategy, DuPont completed a survey of its customers' attitudes on products with environmental benefits. The survey, conducted in April 2010, polled 800 customers around the world drawn from the food/agriculture, transportation, chemicals/manufacturing, plastics/packaging and electronics industries. The results offer a useful snapshot of how environmental needs are shaping business practices and ongoing demand.

Key findings from the DuPont customer survey include:

- 89 percent of DuPont's customers say that products with environmental benefits meet a long-term market need.
- 57 percent say that products with environmental benefits have high/moderate value at present. 82 percent believe that products with environmental benefits will deliver high/moderate value within 10 years.
- The environmental benefits most valued by DuPont's customers are safer materials (75 percent), reduced air and water pollution (69 percent) and reduced energy needs in the end product (64 percent).
- Drivers of business demand for products with environmental benefits include customer requests or requirements (96 percent), compliance with government regulations or standards (94 percent), desire to be an innovation leader (92 percent), and desire to increase market share (91 percent).
- Businesses expect that environmental needs will produce new hiring in their industries. 21 percent of respondents report that environmental benefits in products had led to additional job creation by April 2010; 62 percent expect that products with environmental benefits will create new jobs over the next five years.

DuPont's own financial results demonstrate the business potential in environmentally sensitive products. DuPont's revenues from products that enhance energy efficiency or reduce greenhouse gas emissions increased from \$63 million in 2007 to \$1.6 billion in 2010.

## Overcoming the Challenges

Ms. Fisher explains that the current sustainability goals continue DuPont's commitment to its shareholders, customers, and the public: "Today, a holistic approach to sustainability is fully integrated into our business models. We work to increase shareholder value while striving for a goal of zero safety and environmental incidents. Simultaneously, we are decreasing raw material and energy inputs into our products and reducing emissions at our manufacturing sites." While DuPont was ranked among the largest corporate producers of air pollution in the United States prior to 2004, the company has reported its progress of reducing air carcinogens by 49 percent since then.

Today, DuPont's continuing mission is sustainable growth—creating both shareholder and societal value while reducing its environmental footprint along the value chains in which it operates. Through its commitment to safety, health, and environmental excellence, the company affirms that it will conduct business with respect and care for the environment.



## Background

In the property management sector, sustainability has the potential to provide both enormous financial opportunities and challenges that are extremely sensitive to volatile markets like those of the past few years. C.B. Richard Ellis Group (CBRE), the world's largest commercial real estate services firm (2010 revenue of US \$5.1 billion) headquartered in Los Angeles, California, faced these opportunities and challenges while managing more than 2.9 billion square feet of commercial properties and corporate facilities with over 31,000 employees around the world. CBRE seeks to integrate sustainability with its mission to deliver superior results for stakeholders by:

- Putting the client first
- Collaborating across markets and service lines
- Thinking innovatively, but acting practically
- Providing a rewarding work environment

Peter Scarpelli, CBRE's vice president and global leader of energy services, leads the Energy and Sustainability practice for the firm. The practice helps clients develop energy and sustainability strategies, and executes and drives those undertakings. "CBRE actually has very little office space and owns almost nothing, with the vast majority of what we do focused on client facilities. As part of our corporate goals, CBRE tries to mold clients' existing sustainability plans into meaningful projects," Scarpelli says. The company's focus on sustainability is limited by its clients' own company charters, which tend to have a sustainability team in addition to the one from CBRE. "The primary driver for return on investment is through energy saving and cost reduction through LEED certification and other approvals," says Scarpelli.

The history of CBRE's sustainability efforts began in 2007. Most notably, CBRE is the first property management company to be carbon-neutral by 2010, having offset 50,600 metric tons of carbon emissions through implementing carbon mitigation programs, such as green leasing standards and sustainable operation protocols, and offsetting the remainder through carbon mitigation project investments. Moreover, the company has the largest LEED portfolio in the world where all of the sustainability initiatives are on behalf of the clients. Scarpelli reports that CBRE conducts economic/statistical tests to determine if green buildings save money, which most of them do, making cost savings a big driver for building decisions. "We

help clients see some things that they've already done that ha[ve] an impact, and then build from there making them proud of their achievements to date; and develop peer benchmarks with clients, comparing rankings and actions that have the best benefit and implement from there."

## Challenges

"At times," says Scarpelli, "financial impact has a certain weight in each project, while some of our clients are completely driven for sustainability. One bank client may emphasize carbon impact and not financial impact; but the market changed, making them more financially driven. We adapt by providing our client with a benchmark report and review of what other banks in the market are doing from a sustainability perspective."

## Overcoming the Challenges

In order to overcome its challenges, the company has adopted sustainability activities across its worldwide real estate services platform, serving to differentiate and expand its market offerings. CBRE demonstrates that sustainability initiatives can be used to drive business development.

As of November 2011, CBRE had benchmarked and registered 1,456 ENERGY STAR® buildings on behalf of clients, representing 248 million square feet of U.S. commercial space. By November 2011, CBRE had also provided consultation for the LEED certification of 117 existing buildings and 96 commercial construction projects.

CBRE has leveraged its sustainability initiatives to brand its suite of real estate activities and to develop new service offerings. Sustainability services offered by CBRE span services throughout the real estate product lifecycle.



## Background

With the vision of "a relevant, ready, and sustainable Installations and Environment community enabling the Soldiers' current and future missions," the U.S. Army offers compelling insights in its sustainability and energy management planning and implementation, especially because of the recent emphasis on integrating sustainability into the Army's mission. Until recently, sustainability was embedded in the Army Campaign Plan and the Defense Installation Strategic Plan. The recently released Army Installation and Environment Strategic Plan not only aligns directly to the goals of these plans, it "establishes a long range vision to support our Soldiers, their Families, Civilians, and our local communities, by focusing on three cornerstones to meet its goals: Leadership, Transformation, and Sustainability."

Richard Kidd, Deputy Assistant Secretary of the Army, Energy and Sustainability, implements three core initiatives in sustainability and energy within the Army:

- "First, there is a fundamental organizational, cultural change where the Army associates energy efficiency and sustainability with mission success, keeping forces properly supplied and positioned on the battlefield (sustainment), and connecting sustainability with future operational success.

- Second, comply with federal sustainability requirements such as Executive Order 13514, green procurement requirements, and reporting requirements.
- Third, implement the Net Zero Installation Initiative that includes 17 bases to reduce energy use, water use, waste or (at some locations) all three.”

According to the strategic plan, the mission for sustainability is to “Transform installations into ‘Flagships of Readiness’ to enhance the quality of life of our Soldiers, Families, and Civilians, while supporting expeditionary operations, joint missions, systems, and Communities in a cost effective, safe, and sustainable manner.” Within this plan, sustainability is the paradigm that focuses the Army’s thinking to address present and future needs while strengthening community partnerships that improve its ability to organize, equip, train, and deploy soldiers as a part of the joint force.

### The Net Zero Program

Net Zero is the US Army’s initiative that began in 2010 to appropriately manage natural resources with a goal of reaching net zero levels of use for not only energy, but also for waste and water for at least 25 of its installations by 2030. Long before the Net Zero initiative, many installations had already begun introducing similar sustainable projects. According to its own description of the initiative, the Army is creating a culture that recognizes the value of sustainability measured not just in terms of financial benefits, but benefits to maintaining mission capability, quality of life, relationships with local communities, and the preservation of options for the Army’s future. Key to its success, Net Zero and its implementation is linked to the Army’s mission: energy security as sustainability is operationally necessary, financially prudent, and essential to mission accomplishment.

According to a document released by the Office of the Assistant Secretary of the Army Installations, Energy & Environment (ASA IE&E), the Army’s Net Zero approach is a “force multiplier” comprised of five interrelated steps:

- **Reduction** includes maximizing facility energy efficiency, implementing water conservation practices, and eliminating unnecessary waste generation.
- **Re-purpose** involves diverting energy, water or waste to a secondary purpose with limited processes.
- **Recycling or composting** involves management of the solid waste stream, development of closed loop water system, or energy cogeneration.
- **Energy recovery** occurs by converting unusable solid waste or thermal energy from a waste water stream to energy.
- **Disposal** is the final step after the last drop of water, the last bit of thermal energy and all other waste mitigation strategies have been fully exercised.

In order to invest to improve energy, water, and waste on its installations, the Army must sufficiently fund the Net Zero initiative through leveraging available authorities for private sector investment, including using power purchase agreements (PPA), enhanced-use leases (EUL), energy savings performance contracts (ESPC), and utilities energy service contracts (UESCs) as tools to achieve these objectives. Current projects began in April 2011, when the ASA IE&E piloted this strategy with five net zero energy installations, five net zero water installations, and five net zero waste installations with one integrated net zero installation. These installations will work to achieve Net Zero by 2020. They will become the centers of energy and environmental excellence, showcasing best practices and demonstrating effective resource management. ASA IE&E will then identify an additional 25 installations in each category in FY 2014, who will strive to achieve net zero by FY 2030.

## Challenges

In practice, sustainability and energy policy in the Army have a direct impact on the home front and the battlefield. According to Richard Kidd, “We relate the sustainability mission to the combat experience—align change with work and mission. We’re losing soldiers in protecting and defending caches of fuel. When a soldier goes on patrol in Afghanistan, for example, success depends on access to energy: batteries, scopes, and fuel. More fuel use means more convoys, loss of operational flexibility, need to pay bribes to move convoys, and increased injury and loss of life. Also, if energy bills are higher, price volatility is higher or prices unpredictable, it can put at risk our military’s ability to perform its mission. As a sustainable principle, the Army of the future needs energy for those who follow us. What didn’t work failed to link sustainability to the mission.”

The transformation in the strategic plan outlines other areas of impact closer to home. If landfills are used up, land needs to be diverted from training in the future; for recruitment and retention of soldiers, it’s more appealing to have clean and sustainable places to live; and cleaner, safer bases, bike trails, and recreation help to reduce health care costs.

The history of using the terms of sustainability and energy efficiency within the Army began over 10 years ago on several Army bases including Fort Bragg. According to Wanda Johnsen, Coordinator of Net Zero for the U.S. Army, “Fort Bragg in 2000, for example, had water shortages and quality issues and was on the verge of being shut down as a training facility. We began to implement an environmental plan to keep the Fort operating as a training facility.” By 2004, the Army Plan for the Environment was released, which included the Net Zero Installation Initiative. In 2007, the Army began to develop strategic approaches for sustainability, broader than environment. Wanda Johnsen remembers, “When the vice chief of staff for Army led an investigation into more sustainable facilities reducing the need for convoys, he saw what could be achieved and became the best advocate. Net Zero goals achieved diverting 60 percent of materials from landfills Army-wide.”

As early as 2002, a core group at Fort Carson had launched a multi-day workshop to address environmental concerns shared by the base and the surrounding Colorado Springs community. When the Army asked for facilities to participate in its Net Zero Installation Initiative, “We just volunteered ourselves,” recalls Hal Alguire, Fort Carson’s director of public works from 2007–2011. As a Net Zero installation, Fort Carson must achieve net zero targets in the areas of energy, water, and waste by 2020. Project champions at Fort Carson were instrumental in obtaining Army pilot funds for the workshop. The goal was to preserve Fort Carson’s viability as a military training site by protecting it from incompatible local land uses, while buffering Colorado Springs from training exercises.

## Overcoming the Challenges

Today, the Net Zero approach addresses energy, water, and waste with installations such as Fort Carson achieving 85 percent reduction of solid waste and recycling. There are currently 17 Net Zero installations underway and the Army’s goal is to have 25 Net Zero installations by 2030. Hal Alguire, Director of Public Works, Fort Carson, heads the sustainability initiatives. “The origin of sustainability at Fort Carson began in 2002 with environmental workshops and information-sharing between a small core group from the Fort and the community. Today, the information-sharing with the community continues and we have leadership buy-in for the Net Zero Installation Initiative with our new garrison commander.”

The case of Fort Carson, one of the Army’s most advanced Net Zero installations, demonstrates the importance of encouraging sustainability champions at all levels of an organization’s hierarchy,

and at satellite locations as well as at headquarters. The broad engagement of personnel is especially important to developing and implementing sustainability initiatives in large, complex organizations. Alguire highlights the following critical elements in the success of Fort Carson's sustainability initiatives:

- **A committed core of sustainability champions.** "Sustainability has to be a passion, not just another program," he observes.
- **Buy-in from leadership.** The commander of Fort Carson has been trained on sustainability activities and promotes the program as a key priority.
- **Linkage of sustainability to Fort Carson's key missions,** including deployment training, combat readiness, and the health and well-being on base of personnel and their families
- **A strong business case.** Metrics need to show that sustainability saves resources and creates economic efficiencies at Fort Carson.

The Army strategic plan outlines how sustainability connects the Army's activities today to those of tomorrow with sound business and environmental practices. It supports the Army's ability to sustain its built and natural infrastructure to enhance capabilities for future mission requirements. "From the perspective of the Army and from the nation, our dependency on energy is a strategic weakness," says Richard Kidd. "The Army has its mission to fight and win the nation's wars and we can't do that if we are completely dependent on fossil fuels that are provided by other countries or a weak, vulnerable grid."

The next section provides recommendations based on patterns identified in a review of the literature, interviews with key managers in each organization, surveys from among 50 practitioners of sustainability in the public and private sectors, and a review of federal agency sustainability strategic plans.

# Recommendations

## Recommendation One: Connect Sustainability to Mission

Many organizations are discovering that unless sustainability initiatives are supported at the highest levels and included in the mission and strategic plan, these initiatives fall by the wayside. Given the time it takes to demonstrate some of the benefits of sustainability initiatives, many projects are not measured and therefore abandoned within a year or two. For example, in a recent survey of CFOs and accountants in both the public and private sectors (NCACPA newsletter, June 2010), over 85 percent indicated a belief that their role was critical for the success of sustainability initiatives, and an equal percentage indicated they were not consulted or informed about these plans.

### Challenges to Meeting the Mission

**Cost.** Beyond direct allocation, numerous funding mechanisms for sustainability initiatives are available to agencies. These include Energy Savings Performance Contracts (ESPCs) and Utility Energy Service Contracts (UESCs). Yet there remains a gap in realizing the real costs and benefits associated with reducing energy expenditures while lowering GHG emissions by introducing renewable energy sources.

In some cases, energy-efficiency projects have long payback periods and minimum engagement costs exceed \$1 million. Agencies will need to explore automating the creative commissioning and bundling of their projects, i.e., lower-cost/high-savings projects with high-cost/longer-term savings projects. Peter Scarpelli of CBRE indicates that for the company's clients, the value of sustainability can shift, depending on the circumstances, "Adapt to your constituents: For us, clients see it as having value—some want to be driven toward sustainability rather than profit. If markets shift, then the client preference shifts—clients with previously sustainable outlooks may have to change to more economically feasible paradigms." Dawn Rittenhouse of DuPont recommends taking a long view, "Focus on the risk reduction side because that is where a big piece of your footprint reduction is."

**Multiple priorities.** Within the Army leadership, both top-down and bottom-up approaches to sustainability are used. "As the Army is very hierarchical, this chain of command must be engaged and setting direction is important," says Kristine Kingery, director of Army sustainability policy. "The under secretary of the army is the senior sustainability official. High levels must set the overall direction. From the bottom up, pilot sites for initiatives such as Net Zero identify themselves for participation and ideas for implementing sustainability are generated from the installations. At the same time, the hierarchy must buy in, as with the Army as a whole." Hal Alguire says the challenge still remains of convincing military leadership in deployment of sustainability's value to deployment. Leadership in sustainability "needs to be a passion, not just another program. Needs champions."

## Understanding ESPCs and UESCs

### Energy Savings Performance Contracts (ESPCs)

Energy savings performance contracts (ESPCs) allow Federal agencies to conduct energy projects with no upfront capital costs, minimizing the need for Congressional appropriations. An ESPC is a partnership between a Federal agency and an energy service company (ESCO). The ESCO conducts a comprehensive energy audit for the Federal facility and identifies improvements to save energy. In consultation with the Federal agency, the ESCO designs and constructs a project that meets the agency's needs and arranges the necessary funding. The ESCO guarantees the improvements will generate energy cost savings sufficient to pay for the project over the term of the contract. After the contract ends, all additional cost savings accrue to the agency. Contract terms of up to 25 years are allowed.

**ESPC Quick Facts.** More than 570 ESPC projects worth \$3.9 billion were awarded to 25 Federal agencies and organizations in 49 states and Washington, D.C., as of May 2011. These projects saved:

- 32.8 trillion Btu annually; equivalent to the energy consumed by a city with a population of 893,000.
- \$13.1 billion in energy costs (approximately \$10.1 billion goes to finance project investments, leaving a net savings of \$3 billion).

### Utility Energy Service Contracts (UESCs)

Utility energy service contracts (UESCs) offer Federal agencies an effective means to implement energy efficiency, renewable energy, and water efficiency projects.

In a UESC, a utility arranges funding to cover the capital costs of the project, which are repaid over the contract term from cost savings generated by the energy efficiency measures. With this arrangement, agencies can implement energy improvements with no initial capital investment. The net cost to the Federal agency is minimal, and the agency saves time and resources by using the one-stop shopping provided by the utility.

### Memorandum for the Heads of Executive Departments and Agencies

On December 2, 2011, the White House issued a memorandum to the heads of executive departments and agencies committing the Federal Government to enter into a combined \$2 billion in energy savings performance contracts (ESPCs) and utility energy savings contracts (UESCs) by the end of 2013. This commitment will help agencies meet the goals set by Executive Order 13514 on Leadership in Environmental, Energy, and Economic Performance in 2009.

**Source:** U.S. Department of Energy website. <http://www1.eere.energy.gov/femp/financing/espcs.html>; and <http://www1.eere.energy.gov/femp/financing/uescs.html>.

Frank Pugliese, former GSA commissioner, has had a lot of experience in leadership, having worked with dozens of companies and government vendors. For him, leading in sustainability would not be just a project management exercise. “You need to find out what clients want and what they can’t reach. Listen to what the client goals are and assess projects based on their expectations. Make sure every stakeholder is present when decisions are made and pull opinions from multiple perspectives.” He also believes that leaders need to “get out and talk to people face to face and sell the sustainable process. It’s a lot easier to explain in person and with people that can understand the terms and advantages. You must be able to communicate your message. If you have individual conversations, nothing will get done, so you must have conversations in a group so there can be discussion and ideas thrown around. “

**Difficulty in maintaining momentum.** In meeting the requirement to develop and submit a sustainability strategic plan and periodic progress reports, many sustainability team members in

## Sustainability Strategic Performance Plans

According to the Council on Environmental Quality in the Office of the White House, federal agencies are required through Executive Order 13514 to develop, implement and annually update a plan known as a Sustainability Strategic Performance Plan (SSPP) that prioritizes actions based on a positive return on investment for the American taxpayer and to meet GHG emissions, energy, water, and waste reduction targets. Each year, agencies release their plans to the public to share highlights and challenges from the previous year, and, based on these results, how they will refine their strategies, expand on successes, and plan new initiatives to meet the Executive Order goals.

For more information on SSPPs, visit [sustainability.performance.gov](https://sustainability.performance.gov).

the agency are unfamiliar with the key concepts and are not aware of all the potential mission and performance benefits of an integrated sustainability strategic plan. Comprehensive training, mentoring, and support capacity for agencies is needed to improve the quality and outcomes of sustainability initiatives. In its SSPP, the Department of Health and Human Services indicated its intention to “promote a cross-functional, enterprise-wide approach to sustainability and facilitate interdisciplinary coordination in all decision-making.”

A complication is in the updating and improvement of the sustainability strategy with year-to-year changes. From a private company perspective, Peter Scarpelli at CBRE recommends “base the strategies off your competitor’s accomplishments as opposed to strictly government compliance issues.” In other words, the compliance requirements are meant as a guide and the innovation comes from the tension and dynamics in the marketplace. This is a creative approach in the review of new benchmarks or strategies.

In most of the agencies’ SSPPs we evaluated, senior management is personally committed to not only achieving the goals set forth in the Executive Order and statutory targets but also to leading the effort to “change the agency or department’s culture to integrate sustainability into all operational decisions” (DOE). Moreover, making senior-level managers, staff, and contractors accountable for results helps to ensure persistence.

At DuPont, “sustainability is the mission.” Growth is focused on creating societal value while reducing the environment footprint along the supply chain. Dawn Rittenhouse explains that the company defines its carbon footprint in terms of waste emissions and its use of water, depletable forms of raw materials, and energy. “Our sustainability goals are market-facing rather than simply internal reductions of waste, water, and energy. We measure our outcomes based on how we are investing in research and development for producing products with renewable resources and those that protect people.” The company takes a long view of its goals by also focusing on future risks such as loss of water and other natural resources.

At the U.S. Army, the mission drives all action. From its Sustainability and Energy Strategy: “The Army Strategy for the Environment is designed to strengthen the Army today and into the future. It establishes the long-range vision for a sustainable Army, and the goals upon which the vision is based. For the purposes of this Strategy, a sustainable Army simultaneously meets current as well as future mission requirements worldwide, safeguards human health, improves quality of life, and enhances the natural environment.”

When sustainability and energy gained acceptance as a security issue from higher command, they became part of the mission of the Army which was transmitted directly from the strategic plan to every operating unit and each rank-and-file soldier. Beyond energy, water, and waste,

the strategic plan also defined sustainability, implementing a fundamental change in the Army's current and future needs including partnering with the community: "Sustainability is the foundation for this Strategy and a paradigm that focuses our thinking to address both present and future needs while strengthening community partnerships that improve our ability to organize, equip, train, and deploy our Soldiers as part of the joint force." For logistics and in the battlefield, sustainability and energy are defined with greater granularity: Surety, Survivability, Supply, Sufficiency, and Sustainability are the core characteristics defining the energy security necessary for the full range of Army missions.

"Three key steps had to take place," says Wanda Johnsen, U.S. Army's Net Zero coordinator, "First, we defined sustainability in terms of the mission; second, we incorporated sustainability into the strategic plan; and third, we used the strategic plan to establish principles, integrate initiatives, and provide overall direction for major areas across the Army such as training, equipment procurement, and facilities." The Net Zero Initiative represents how the sustainability elements of the mission translated to the strategic plan at the level of stateside Army installations. Hal Alguire mentions that, "Once energy, water, and waste were linked to security, we had support from the base commander and it became clear we would volunteer to participate."

## Findings

### **Finding One: Creative financing is needed to overcome the high costs associated with sustainability initiatives.**

For the U.S. Army, energy financing through utilities and public/private partnerships was introduced for renewable energy contracts and new housing. Procurement practices for lowering costs through volume purchasing use energy efficient technology, which lowers energy costs and, in the case of CBRE, helps attract new customers seeking economical office space.

### **Finding Two: Defining sustainability in terms of mission is a critical success factor.**

For the U.S. Army, as sustainability became equated with energy security, the metrics began improving in the areas of cost reduction, saving the lives of soldiers by reducing fuel convoys in hostile regions, and improved battlefield capabilities with solar-powered tents and batteries. For CBRE, including sustainability in the mission statement was critical for its relevance in a changing marketplace where clients increasingly demand greener spaces with lower energy costs. DuPont seeks to inspire innovation from its employees for achieving its aggressive plans in reducing air and water toxicity, greenhouse gas emissions, and introducing renewable energy.

### **Finding Three: Successful sustainability efforts require commitment from the highest levels of the organization.**

For CBRE and DuPont, it was critical to establish clear goals and objectives that met industry requirements with a budget, timeline, and action plan. This fulfilled the intent of becoming thought leaders and innovators in their respective industries. Similarly, the U.S. Army considers its implementation processes to be a model for logistics and process, reflected in the scope and scale of its Net Zero initiative. Each organization considers its implementation plan to go beyond compliance with regulations and standards in order to inspire the innovations required to be successful.

## Recommendation Two: Adopt Cultural Change Strategies

Pursuing culture change is a significant low cost activity with potential for savings and return on investment. One example Wanda Johnsen mentions is the Army's definition of

green procurement in terms of lifecycle cost analysis rather than with the terms recycle or green: “With green jargon, people’s eyes glazed over.” For the Net Zero Installation initiative to be successful, the culture of green in the Army had to be redefined as helping the environment; switching out light bulbs with fluorescents was not seen as relevant Army activity since it was free until now. “Net Zero is intended to bring integrated, holistic design and an appreciation of all aspects of sustainability to the Army, but it has to be in a way the Army understands,” says Richard Kidd. “If people in the organization don’t think the change is aligned to what they do or what the organization does, it’s very unlikely that the change will be made.”

Wanda Johnsen emphasizes two key lessons learned in implementing the Net Zero Installation initiative on bases: “Talk in the employee’s terms, not in your own terms—don’t use environmental jargon, and identify success stories in what people are already doing such as case studies about cost-cutting.” From her experience, “people at the bottom are super-interested in making this happen. You don’t want to get lost in bureaucracy. Needs to be something executives are supporting and continually talking about. My superiors embraced this and gave me the cover to make changes. Executives need to walk the walk and talk the talk. Culture change takes a while. Have to start—can’t just wait to have everything in place. [You] need to have the program evolve as you go forward.”

A critical success factor lies in the management of cultural change. From the perspective of Dawn Rittenhouse at DuPont, “make sure a project is meaningful to your marketplace and customers.” This goes for staff and management as well. One way to ensure the initiatives are meaningful and have ubiquitous buy-in across the enterprise is to inspire the staff to come up with ideas in the first place. Kristine Kingery offers her insights about engaging staff on base: “Find different ways to interact and report results while still maintaining hierarchy. Ideas must be encouraged from the bottom: partnering and sharing ideas is the first step.” The atmosphere of openness and willingness to take risks cannot be underestimated. Many hierarchical organizations may inspire participation but don’t follow through on the commitment to accept the suggestions or fund initiatives that were inspired by the willing staff. Frank Pugliese suggests, “Make sure employees know that they can fail; [it] pushes the company to think outside the box and take chances—don’t be afraid of competition and make sure employers think creatively.”

SSPPs from many agencies suggest seeking the participation of all layers of the organization to engage in meeting the statutory and Executive Order goals through personal activities to reduce expenses such as changes in travel and commuting, education, an awards program, solid waste, and water reduction. The Department of Transportation plans to establish a web-based training, an agency-wide greening initiative, website for “interactive employee discussion, ideas and [to] provide a platform for a forum on the Department policies around energy and sustainable buildings.” Likewise, the Department of Health and Human Services plans to “link performance management elements and other incentives for positive and negative sustainability and health impacts cascaded from the Senior Executive Service-level throughout the enterprise.”

### **Challenges in Adopting Cultural Change**

The complexity of the SSPPs—mission, goals and objectives, metrics, data, and reports—demands a systems approach to sustainability. A systems approach views the organization as a unified, purposeful system composed of interrelated parts. None of these elements can be viewed discretely, especially as sustainability becomes completely integrated with the organization’s mission. What happens within one department significantly affects the other. These relationships and drivers must be understood and measured at the level of the whole organization. A respondent to the survey summarizes this concept clearly: “Use a systems approach that begins with an overall assessment of what sustainable best practices you have already

implemented for purely business case reasons and which next steps will most efficiently align business case and sustainability goals.”

For the Army, a systems approach for sustainability is critical. “We are seeking to change purchasing practices at headquarters to make it easier for our installation to pursue sustainable purchasing,” says Wanda Johnsen. “Hundreds of thousands of contracts per year, and green procurement tracking is burdensome.” Richard Kidd emphasizes the importance of a systems view for all 165 installations nationwide: “We have to introduce design installations in a holistic, integrated manner, a systems approach to be models for sustainability.”

Peter Scarpelli at CBRE says, “We operate in multiple systems with sustainability and [the] business branch on [the] same page.” For a system to work effectively, there needs to be the right infrastructure and sufficient funding to support it. Frank Pugliese describes the importance of making sure the system is in place before grandiose schemes can be introduced: “Make sure the infrastructure exists to support green initiatives. Things get driven by money and infrastructure. You can have all the grand plans and all executive orders and mandates, but plans won’t be implemented if there is no infrastructure. This is the shortfall of introducing alternative energy vehicles, for example. You must have the charging stations for electric vehicles. Change involves a number of externalities such as infrastructure.”

One agency SSPP addresses the systematic framework for process improvement: According to the Department of Defense (DoD’s) SSPP, DoD has “instituted many policies and practices to promote lifecycle thinking and long-term cost savings as a guard against short-term investments that often result in higher long-term operating costs. Applying a systematic framework for improving environmental performance involves a wide range of sustainability practices that span much of the Department’s day to day activities and military operations.”

## Findings

### **Finding Four: Communicating with the entire staff is a critical step in implementing cultural change.**

Once the dialogue with the entire staff is opened up to generate ideas and support, fewer barriers emerge to introducing the policies and procedures required to meet sustainability goals. The U.S. Army specifically recommends using language that is meaningful and relevant to the staff, with less jargon and fewer buzzwords, and most important, building on what the staff is already doing related to sustainability.

### **Finding Five: Providing opportunities for information dissemination and education about the proposed changes is critical.**

They meet directly with clients and staff to listen to their needs and learn to effectively convey their sustainability message. Moreover, the leadership personally commits to the goals and outcomes of the sustainability strategic plan and holds themselves accountable for its success or failure.

## Recommendation Three: Implement Performance Measurement

The business case has become the document of choice in most companies to demonstrate the value of any initiative. The basic elements of a description, approach, budget, risk, and return on investment are standard to justify the investment of cash or time. Sustainability initiatives are held to a higher standard since the outcomes may not always be clearly financial, i.e., good will for doing good, or because the return on investment is long-term, as with the installation of solar panels. There are essentially two aspects of the business case in sustainability:

- Building the business case itself to justify the investment
- Building the measurement model, which has to include an analytics approach to prove value

## Challenges in Implementing Performance Measurement

**Making the business case.** Peter Scarpelli from CBRE relates, “In corporate business, energy savings and cost reduction is a primary driver—reducing kilowatt hours or water use is a benefit for clients that they can be excited about—still driven by the savings and payback period. We are in the business of adding value to our clients. Moreover, our research studies have been able to assess increases in employee productivity when meeting sustainability standards.” Achieving both saving and return, savings on investment and return on investment (SOI vs. ROI) is a critical concept to understand the business case for sustainability.

Developing the business case for sustainability is not easy. There are hundreds of metrics and it’s not clear how to justify the investment into long-term payback periods for renewables vs. low-hanging fruit such as recycling and re-lamping. A different approach is to consider the benefits beyond cost savings. Dawn Rittenhouse at DuPont reports that the company uses the Life Cycle Assessment Association and Environmental Smart Assessment Tool. For DuPont, to please the shareholders with profitability, “the challenge remains: if you do a good job of the social and environmental part of the equation, then you can’t keep up with the profit part. If we do the environmental stuff right, then we are recognized as good citizens in the community which is important for effectiveness. Meanwhile, economics is a lagging indicator.”

For the Army, “We make the business case for our initiatives: all areas are being pursued including energy, water, waste for the Net Zero Installation Initiative. Financial concerns are proven before the business case is made. We show how sustainability saves resources and how money spent makes lives better. Initially, there was a concern that the cost was too high. A business case analysis proved that it was not too costly to undertake a green building or procurement. For financing, we look at public/private financing and beyond ESCOs (energy service companies) to identify other mechanisms.”

**Difficulty in measuring performance outcomes.** Measurement of performance outcomes is critical for the development of the business case. “There has to be a reason people say ‘this makes sense,’” says Frank Pugliese. “Point out the advantages of sustainability.” One survey respondent mentions the importance of measurement: “Implementation requires metrics and continuous improvement to be successful.” Another advises “implement[ing] an internal sustainability scorecard” which helps to align sustainability initiatives with the mission and the sustainability strategic plan goals and objectives.

For the Army, Hal Alguire states, “We need to convince military leadership that sustainability is valuable to deployment. Collecting, analyzing, and reporting on our metrics continues to be a challenge area. For us, measurement is a work in progress.” Kristine Kingery, from the Army, explains that measuring the business case is a relatively new initiative, so metrics are being developed. “For now, we are measuring energy intensity and use reduction; water use and reduction of use; recycling of building materials; developing scorecards, and tracking programs. Partnering and sharing ideas was the first step. We need to upgrade our IT systems to incorporate sustainability.”

A key consideration for fulfilling the statutory requirements and meeting the challenges and opportunities provided by sustainability strategies includes choosing the correct measurement approach. Peter Scarpelli at CBRE asserts, “Accessing information is number one. We need to

provide our clients with a benchmark study and review of what other banks in the market are doing from a sustainability perspective—a comparative analysis.”

**Using analytics.** Survey respondents from both the public and private sectors voiced their opinions about the importance of measurement with an analytics approach, “You need to actively analyze available usage data in order to make good sustainability related decisions. Simple baselining and reporting is not enough.” Analytics is a methodology for measuring business impact using the principles of “intervention groups” and “control groups” in statistical analysis to isolate the benefit from other possible inputs to the benefit being studied, information which interviews, surveys, and line item budgets will not reveal. In contrast with the cost orientation, the analytics approach relies on greater connectivity and communication between interacting departments—a systems view—demonstrating alignment with the strategic goals of the organization.

Departments and agencies may experience increased creative breakthroughs as they consider strategic outcomes and gain a better understanding of the business drivers for internal clients. Measurement of ROI is usually considered a historical look at the benefits of a current project. Using an analytics approach, through careful identification of intervention and control groups, departments can tease out additional information to optimize their strategies and deploy the projects across the enterprise for even greater return. Long considered too expensive, complicated, or impossible, measuring business benefit is not only possible, but it is fast becoming a business imperative.

The outcomes reflected in an analytics report are reported graphically, comparing the results of the intervention group and the control group; an ROI report that includes the ROI of the project, the cost/benefit ratio, and payback (break-even period); and a recommendations list based on the findings to describe the optimal deployment strategy of the project. The key to a successful analytics approach for a project is to distinguish between an analytics based on assumptions and one based on statistical analysis.

The following are prerequisites for an organization to have success with an analytics approach to demonstrate the business case:

- Solid support from management and other stakeholders
- A documented process flow and defined steps to measure performance outcomes for future projects and initiatives
- Project deliverables that meet stated strategic objectives

## Findings

### **Finding Six: Developing a business case and measuring impacts against the sustainability goals is important.**

To mitigate the risk of costs exceeding returns, the business case must guide the organization through each element of the investment, its potential benefits and risks, costs, and short- and long-term financial impact. DuPont, CBRE, and the U.S. Army consistently use the format of the business case as the guiding document for establishing the value of their sustainability plans.

### **Finding Seven: Using metrics that establish the performance is critical to the success of sustainability efforts.**

This requires an analytics approach that uses metrics from other systems such as human resources that will reveal greater impacts than just cost savings. Analytics reports will reinforce the impact of sustainability as a contributor to the success of the organizational mission as a whole rather than look at just a discrete project that may have a long payback period.

# Conclusion

Organizations in the public and private sectors began experiencing improvements in cost savings, employee performance, and increased sales due to sustainability being part of the culture of the organization. Many organizations are discovering that unless sustainability initiatives are supported from the highest level of the organization and included in the mission and strategic plan, these initiatives fall by the wayside and the organization suffers. Given the time it takes to demonstrate the benefits of sustainability initiatives, many projects are not measured and therefore abandoned within a year or two.

## The Way Forward

By planning long-term and demonstrating the value of the business case of sustainability through the lens of performance improvement, the participating case studies show the way forward for sustainability. There are, however, many additional pitfalls that still must be grappled with:

- **Funding.** Although there are numerous funding mechanisms for sustainability initiatives available to agencies beyond direct allocation, such as Energy Savings Performance Contracts (ESPCs) and Utility Energy Service Contracts (UESCs), there still remains a gap in realizing the real costs and benefits associated with reducing energy costs while lowering GHG emissions by introducing renewable energy sources. In some cases, energy-efficiency projects have long payback periods and minimum engagement costs exceed \$1 million. Agencies will need to explore automating the creative commissioning and bundling of their projects, i.e., lower-cost/high-savings projects with higher-cost/longer-term savings projects.
- **Standardized reporting infrastructure.** Federal facilities have been developing and deploying a variety of technology solutions for managing their facilities, with little or no guidance to meet current and upcoming compliance requirements in energy-efficiency and GHG emissions. In some cases, agencies may have several systems operating that may or may not be compatible. The increasing number of metrics and complexity of calculations and reporting requires an assessment of facilities management technology. Standards and guidance need to be established to ensure ease and cost-efficiency in reporting, as well as optimization of the technology investment.
- **Energy management and IT training.** The complexity of managing facilities and energy is expanding. In 2011, a bill was passed that would allocate funds to provide certification training for federal facility and energy managers on advances in technology, such as computer-assisted facilities management (CAFM) systems, and new approaches and technology for energy efficiency. To be compliant with statutes and executive orders, agencies must elect an “energy manager;” however, some agencies are assigning the role of energy manager to individuals who may not be qualified. There is an immediate need to develop and deploy a variety of core training materials, both online and in the classroom, to educate the facilities/energy managers who will manage the new complexities of energy-efficiency compliance, planning and measurement.

- **Sustainability strategic planning support.** Federal agencies are required to develop and submit a sustainability strategic plan, as well as submit periodic progress reports. Many of the sustainability team members in the agency are unfamiliar with the key concepts and are not aware of all the potential benefits of an integrated sustainability strategic plan in relation to its impact on performance and the organization's mission. Comprehensive training, mentoring, and support capacity for agencies are needed to improve the quality and outcomes of sustainability initiatives.
- **Analytics support for sustainability outcomes.** Most agencies collect data and report energy-efficiency outcomes as energy savings and cost savings. They may also seek to determine the savings to investment ratio (SIR), and an adjusted internal rate of return (AIRR) that requires additional calculations. As the complexity of reporting and data types increases, agencies will need to use more sophisticated analytics models and tools, not only to meet statutory requirements but also to demonstrate improvement of their own processes and duplicate the most productive efforts throughout the organization.

## Appendix: Survey Results

The purpose of the research done for this report was to discover specific activities and drivers of business success and agency mission achievement. During October and November 2011, surveys were conducted among sustainability executives in both the public and private sectors. Twenty-five respondents each from the public and private sectors participated in the survey, for a total of 50 respondents. Question topics included:

- Sustainability strategic planning in terms of regulation and certification compliance and competitive advantage
- Cost savings
- Return on investment
- Corporate social responsibility
- Marketing
- Risk mitigation
- Long-range resource planning

### **Question One: In your opinion, what will be the impact of sustainability initiatives on your organization's ability to meet its mission goals?**

The vast majority of respondents from both sectors believe sustainability's contribution to the organization's mission will increase in both the short and long term. A much smaller percentage indicate that there will be no change; however, none of the respondents expect a decrease in the value of sustainability to their mission.

One respondent's advice is to "consider sustainability as a tool to achieve improved mission capabilities and performance in the future." Another respondent thinks there is an opportunity to also include employee actions as a means of fulfilling the mission: "Have personal sustainability and community practices map to business achievement. This could demonstrate commitment to both growth of individuals and company brand."

In interviews at all three of the case study organizations, connecting sustainability goals to company mission as the measure of success was considered critical for effective management, buy-in from stakeholders, and increased participation from employees. Moreover, they all believe it is necessary to include sustainability in the corporate mission statement itself.

### **Question Two: What do you believe are your greatest barriers to implementing sustainability initiatives?**

All respondents share a concern that cost and prioritization are the greatest barriers to implementing sustainability initiatives. The only difference is that the public sector faced significantly more barriers: the difficulty in maintaining the effort, having no buy-in from upper management, and having no tools to implement the strategy. The private sector emphasizes issues of cost and priorities.

Even with the federal government's primary focus on implementing sustainability initiatives through statutory requirements and executive orders, the barriers to implementation are that federal agencies are left to establish their own priorities and funding approaches. The U.S. Army has taken on the challenge by instituting public/private partnerships in the use of its vast land holdings and leasing capabilities to inspire the private sector to invest in renewable power plants such as geothermal facilities and solar or wind farms.

**Question Three: As a sustainability or energy management leader of your organization, what is the most important thing that you need in order to improve your ability to initiate successful sustainability initiatives?**

The public sector emphasizes dashboards and accounting more than anything else—reflecting the need for greater visibility and access of the data they need to report for sustainability compliance. The private sector emphasizes the need for dashboards and coaching/mentoring—indicating a need for a system to collect, measure, report on the data as well as assistance in interpreting the data and making better business decisions. One respondent comments: “The implementation of simple systems and policies can have significant benefits on the sustainability of a company which in turn can result in long-term financial benefits.” Below are steps organizations can take.

**Dashboards.** Federal agencies have been developing and deploying a variety of technology solutions for managing their facilities, with little or no guidance to meet current and upcoming compliance requirements in energy efficiency and greenhouse gas emissions. In some cases, several different systems are operating throughout the agency that may or may not be compatible. The increasing number of metrics and complexity of calculations and reporting requires an assessment of facilities management technology. For all of the participating case study organizations, standards and guidance need to be established to ensure ease and cost-efficiency in reporting, as well as optimization of the technology investment.

**Accounting and Analytics.** Most agencies collect data and report energy-efficiency outcomes as energy savings and cost savings. They may also seek to determine the savings-to-investment ratio (SIR), and an adjusted internal rate of return (AIRR) that requires additional calculations. As the complexity of reporting and data types increases, agencies will need to use more sophisticated analytics models and tools, not only to meet statutory requirements but also to demonstrate improvement of their own processes and duplicate the most productive efforts throughout the organization. Each of the case study organizations indicated an increase in the use of analytics to measure the business or financial impact of sustainability, especially lifecycle cost accounting for its products and projects.

**Coaching/Mentoring.** There is an increasing need for coaching and mentoring to apply sustainability to process improvement, strategic planning, and an analytics process of measurement. Efforts must address not only the environmental social issues but the business case for going green and answer these critical questions, most of which have been key discussion points for the case study organizations:

- How do you define sustainability?
- What difference did it make on your strategic goals? How do you know?
- What are your key metrics for measuring sustainability?
- What could the potential benefit of sustainability be for future years? For other regions?
- What more needs to be done to ensure buy-in from stakeholders and project participants?

**Question Four: What kinds of sustainability actions has your agency taken recently? Please check all that apply.**

Most of the recent activity was reported by the public sector with greatest emphasis on:

- Energy (renewable energy and efficiency)
- Recycling
- Reducing greenhouse gases
- Using renewables

All of the above items tend to be capital-intensive. In comparison, the private-sector respondents list fewer activities with some indicating no recent activity. The emphasis in the private sector is on energy, behavior change, reducing materials, recycling—each of which tends to be lower in cost. Whereas the public sector has increased spending and had stronger regulatory compliance enforced for investment in energy, reducing greenhouse gas emissions, and introducing renewables (the greatest discrepancy), the private sector has been finding ways to cut costs, seek low-hanging fruit, and gain the additional benefit of cost savings from employee behavior. One comment: “Concentrate on culture change first.” In addition, “all facility processes must be “greened” and “embedded” in the culture/staff/managers—get everyone involved all the way to the top.

Consistent with the survey results, the two corporate case study organizations reported that their focus is primarily on saving energy to save money, and on implementing strategies to encourage employee behavior change. The U.S. Army also focuses on energy efficiency and renewables as part of its Net Zero initiatives to a much greater extent because of its “beyond compliance” strategy and emphasis on energy security.

**Question Five: What do you believe are the main reasons/motivations for sustainability actions in your agency/company?**

Responses of “very relevant” and “somewhat relevant” were combined to compare the public and private sectors. The public-sector respondents place more emphasis on regulatory compliance, cost savings, and meeting mission goals, which aligns with directives in Executive Order 13514. A respondent advises: “Don’t expect immediate returns, and expect trade-offs. Look for the simple things first rather than investing in cutting-edge technology. For example, add insulation before you invest money in a solar panel system. Don’t get caught up in media hype about alternative energy, rather focus on reducing energy consumption from existing sources of energy. Meet with the people who actually work in the energy industry rather than dealing with consultants. Above all, always balance sustainability goals with a payback in cost savings.”

The private-sector respondents, on the other hand, place more emphasis on corporate responsibility, cost savings, and sustainability being the right thing to do. One respondent says, “Look for the low-hanging fruit first, such as energy-saving initiatives and waste reduction, which are just good business anyway to help build buy-in and grow financial resources for the capital investments needed for the larger goals.”

The greatest discrepancy between the public and private sector respondents is in their attitudes about the relevance of compliance with regulation. In the private sector, more than half the private sector indicates compliance with regulation is not relevant but they do consider environmental responsibility to be a strong motivation for them. In direct contrast, the public sector respondents consider compliance with regulation to be important but environmental responsibility is not a strong motivation. All of the respondents were very clear in expressing a belief that sustainability saves money and makes operations more efficient: “For our firm,”

wrote one from the private sector, “we focus on making sustainability pay for our customers. Our customers are interested in making their businesses more efficient and saving money.” For a public sector respondent: “Sustainability is important, but principally as a good business practice. Extensive energy data allows us to see inside of a building. Our technology goes way beyond requirements for ENERGY STAR and LEED.”

In the case study interviews, CBRE and DuPont emphasize cost-savings and corporate social responsibility, while the U.S. Army appears to be driven more by regulation and a core mission imperative to improve the quality and effectiveness of the fighting force capabilities.

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**Jonathan Estes** has worked with leaders in all sectors on how to develop a business case and implement the triple bottom-line outcomes of sustainability for themselves and within their organizations. Since receiving his BA in International Development from the University of Massachusetts-Amherst, Jonathan has worked over 20 years as an educator, business owner, analyst, and sustainability expert. Jonathan brings together the importance of effective training for behavior change, entrepreneurial experience and innovation, and developing an actionable business case for sustainability. He is currently Director of Sustainability and Analytics for Facilities Solutions Group, LLC ([www.fsg-llc.com](http://www.fsg-llc.com)) located in Reston, VA.



In his book, *Smart Green: How to Implement Sustainable Business Practices in Any Industry and Make Money* (Wiley & Sons, 2009), Jonathan outlines the key sustainability issues and processes leaders in all sectors need to be aware of to be both sustainable and successful. In U.S. and international settings, he has worked as an expert in sustainability.

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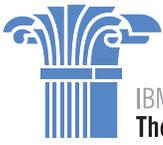
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