The Executive's Guide to Global Climate Change

An Executive White Paper by Jeff Ladner & Dorney Douglass

Global climate change is a phenomenon that is creating unprecedented business challenges that are being felt from the production floor to the boardroom. Top-line and bottom-line growth can be threatened by new risks while growing interest in corporate eco-efficiency by both consumers and investors is creating new business opportunities. Broad-based interest in the potential impact of global climate change highlights the need for complete, accurate, and comparable data in order to make effective business decisions. The criticality and complexity of the information dictate that a comprehensive information management strategy will be required to address the increasingly critical nature of global climate change.

Social, economic and political concerns regarding increasing levels of greenhouse gases (GHG) in the atmosphere have led to a wave of voluntary and mandatory proposals — including international directives, mandatory GHG reporting, energy efficiency policies, supply chain initiatives, sustainability goals and regulations — that will impact companies of all sizes and across all industry sectors. In some cases, organizations will be impacted by regulated emissions mandates for the first time.

GHG regulations and reporting requirements are driving more complex reporting processes that could eventually drive higher costs and risks to businesses and brands.

Investors, non-governmental organizations (NGO), boards of directors, corporate stakeholders and other external groups are taking a hard look at businesses' GHG production data. Those

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"A Call to Action,"
U.S. Climate Action Partnership

groups are monitoring emissions for purposes ranging from investment decisionmaking to conducting detailed evaluations of how organizations are managing environmental risk exposure.

In response to these challenges, corporate executives, including Chief Information Officers (CIO), are being mobilized to lead organizationwide initiatives to evaluate how existing and proposed GHG reduction measures ultimately will affect their business operations and the bottom line.

Global organizations are now taking the lead in addressing climate change issues by proactively adopting measures designed to slow, and eventually reduce the production of carbon emissions. Businesses are also joining partnerships with leading NGOs to adopt consensus policies for addressing climate change. One such organization, the U.S. Climate Action Partnership (USCAP) has called for Congress to adopt market-based carbon regulation.

In its report "A Call for Action," USCAP described its objective as reducing "global atmospheric GHG concentrations to a level that minimizes large-scale adverse impacts to humans and the natural environment. The group recommends Congress provide leadership and establish short- and mid-term emission reduction targets."

"Each year we delay action to control emissions increases the risk of unavoidable consequences that could necessitate even steeper reductions in the future, at potentially greater economic cost and social disruption. Action sooner rather than later preserves valuable response options, narrows the uncertainties associated with changes to the climate, and should lower the costs of mitigation and adaptation." [i]

Jeffrey Immelt, Chairman and CEO of General Electric, a founding USCAP member, went further, saying, "The time has come for constructive action that draws strength equally from business, government and non-governmental stakeholders." [i]

The prospect of GHG regulation creating a carbon-constrained economy presents both risks and opportunities for businesses.

Growing demand for eco-friendly, green products is creating opportunities to differentiate brands and serve new market segments. In addition, savvy corporate executives have discovered that climate change can offer a golden opportunity for organizations to drive down costs and risks by increasing efficiency in product lifecycles and supply chains and create new opportunities for business growth.

In order to meet these objectives, an organization must be prepared to efficiently capture, organize and communicate GHG emissions data – including its carbon footprint – and measure the data against a myriad of standards, directives and regulations. Equally important, the organization must also be able to verify the accuracy of its data and the effectiveness of its management systems.

A "carbon footprint" is a surrogate for measuring risk exposure and a function of energy intensity of operations. The larger the number, the greater the organization's exposure to environmental risk.

Organizations currently use a wide variety of methods and tools to collect and process data to calculate their carbon footprint. Many organizations are managing GHG data with a multitude of spreadsheets or disparate legacy systems, none of which can produce verifiable greenhouse gas estimates required for cap-and-trade legislation, international protocols or investor-driven Corporate Social Responsibility (CSR) reporting requirements.

In today's regulatory environment, only broad-based, integrated information systems can provide the capability to monitor and manage GHGs at every level of the organization and across the enterprise. With operations spread across multijurisdictional or multinational enterprises, carbon management plans must be prepared to efficiently comply under a variety of mandatory and voluntary GHG measures. Using manual or legacy-based systems to support your organization's carbon management plan is a prescription for disaster.

That's why a growing number of organizations are adopting new, holistic Environmental, Health, and Safety (EH&S) software platforms. These enterprise platforms enable executives and managers to effectively assess current conditions and develop forward looking business strategies that transform these business challenges into opportunities for a competitive advantage. In order to compete and prosper in this new business environment, organizations need to adopt a comprehensive GHG management strategy that enables efficient emissions monitoring and management. An integrated EH&S software platform is an essential component of that strategy.

This paper will discuss a variety of issues for CIOs to consider as organizations look at information technology solutions to support a GHG inventory management plan. To effectively manage costs and risks associated with GHG management, organizations must first:

- Identify climate change-related reporting objectives.
- Evaluate their GHG inventory management plan and reporting efforts today.
- Determine whether accounting and reporting systems stand up against future requirements, using current financial accounting and reporting standards as a reference.
- Consider implementation of a comprehensive EH&S system to support future needs.

Eight Steps to Build a Corporate Carbon Management Strategy

The process of building a program for evaluating, monitoring and measuring GHG emissions should begin with the development of a carbon management strategy. Managing climate risk in a corporate business strategy starts with understanding the company's operations. Executives need to identify which practitioners or business units need to use the data and for what purpose. Answers to these questions will provide critical direction that will determine which methodologies and best practices should be used to collect, process and deliver GHG information.

According to the Pew Center on Global Climate Change, there are eight steps to developing effective climate strategies. [ii]

- **Step 1: Assess Emissions Profile** - Develop a complete inventory of direct and indirect GHG emissions from operations and supply chain (based on World Resources Institute/World Business Council on Sustainable Development GHG Protocol Corporate Accounting standards).
- **Step 2: Gauge Risks and Opportunities** - Establish a benchmark to assess the organization's current situation. First focus on risk reduction, and then shift to potential for competitive advantage. See what risks are posed by GHG emissions from your operations and how you may be able to optimize climate-friendly or risk-reducing business lines.

- **Step 3: Evaluate Action Options** - Identify ways to reduce the organization's footprint, while supporting core business objectives. Identify options to reduce emissions, especially "low-hanging fruit" opportunities.
- **Step 4: Set Goals/Targets** - Address business drivers, including potential cost savings and enhanced brand reputation. Also, there may be an opportunity to influence future regulation. Establish efficiency targets and implementation time frame. Identify how targets can be connected to business strategy.
- **Step 5: Develop Financial Mechanisms** - Define costs associated with meeting (or not meeting) emission goals as well as the pros and cons of emissions trading (internal and external), carbon shadow pricing, lower hurdle rates, and special capital reserves.
- **Step 6: Engage the Organization** - Communication, motivation and performance management are all required. Find a way to get buy-in from the senior management and the workforce. Identify sources of support (or resistance) that can elevate GHG concerns from peripheral to core business issue.
- **Step 7: Formulate Policy Strategy** - Industry leaders agree that more regulation is imminent with market trading and sequestration credits. In the U.S., federal regulation may supersede a growing patchwork of state laws. Evaluate how new policies will impact your business and how to influence policy formulation.
- **Step 8: Communicate to Community Constituents** - Outreach is critical to success. Outside groups may be sources of resistance that must be overcome OR they can provide knowledge and avenues for advancing business objectives. Develop plans and systems to reach your organization's external constituents.

The Pew Center's recommendations highlight the need for effective information management. They show that climate risk and GHG reporting are not issues to be addressed on a solitary basis. They

are issues that will require comprehensive data management and iterative evaluation for years to come.

Reporting Objectives and the Need for Verification

Many national jurisdictions, including the United States, do not currently regulate carbon. However, social and political pressures are prompting legislators worldwide to consider adopting laws that mandate businesses to limit GHG production. Organizations are being driven to develop complete, accurate and comparable accounts of their performance in order to evaluate both internal operations and facilitate performance comparisons against their peers.

Many companies are not waiting for those mandates to be adopted. They are proactively devising strategies for GHG monitoring and management in anticipation of new voluntary or mandatory proposals. Or they may want to understand the obligations and costs associated with facilities in jurisdictions where such GHG-related legislation has already been implemented.

As organizations gain experience with GHG reporting, they find ways to reduce costs, improve accuracy and reduce uncertainty. The Pew Center for Global Climate Change suggests that companies can calculate GHGs from readily available information. [iii]

Many organizations initiate voluntary emissions control measures based on emissions inventories. Typically, inventories are annual measurements of GHGs for an organization; they may be defined based on geographic boundaries, business units or an entire business entity. There are three common objectives for facility related GHG data and the implications for developing a GHG inventory.

Reporting for Internal Use Only

Early GHG management programs often serve as a foundation to establish an organization's broader climate strategy. GHG inventory data are often gathered as a precursor to championing a more formalized approach to managing climate risk and environmental sustainability.

In these early efforts, publicly available GHG inventory guidelines and internal corporate assurance standards will dictate the methodologies and best practices to

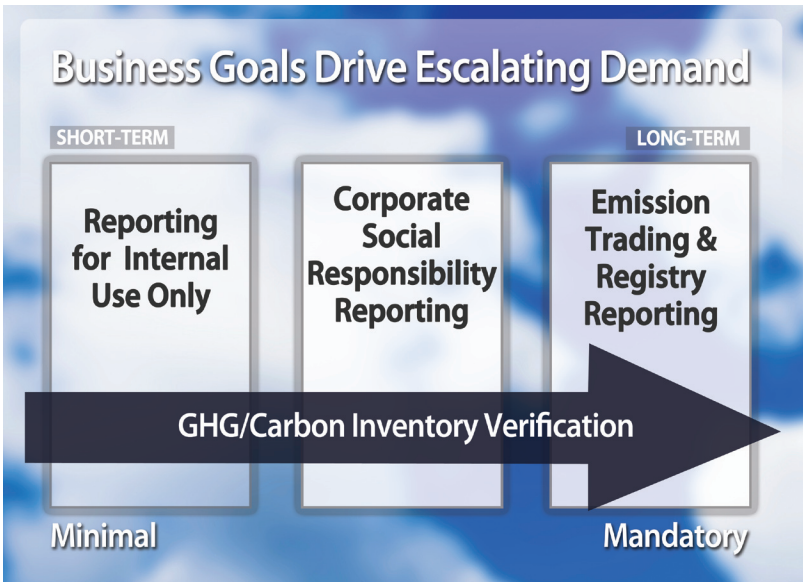
follow. There are no specific mandates or regulatory standards that your company must meet when simply using the information internally. However, use of published reporting and verification protocols provide an opportunity to develop experience with the requirements as a first phase of a more formal program. The processes to collect, process and report the information are likely manual and ad-hoc, and the experience will start to highlight the need for a robust information management system going forward in order to simplify the data management tasks, drive best practices and improve transparency and auditability.

As a climate strategy develops, anticipate that the pressure to publicly disclose key performance metrics will grow. Future participation in registries, voluntary carbon markets or regulatory programs may require reporting of historical GHG performance data in order to establish a baseline against which future corporate performance will be measured. Keep this in mind: The information developed for internal use today will likely become part of your external reporting tomorrow, so it may be wise to consider a more robust approach to managing GHG data.

Corporate Social Responsibility Reporting

Although there are currently no regulations that require verification for Corporate Social Responsibility (CSR) reporting, investors, NGO's, shareholders and communities demand carbon production information that is accurate and verifiable.

Publicly reported information must represent a full and fair account of corporate activity for investor decision making, which is why the Securities and Exchange Commission is now requiring all public companies to warn investors of any serious risks that global warming might pose to their businesses. Reporting and verification protocols are required for GHG registries, voluntary markets and regulatory programs and additional assurance standards are currently



under consideration by the International Auditing and Assurance Standards Board (IAASB) 3000 and the AA1000 Framework. Collectively, these standards set benchmarks for the verification of information and management systems related to corporate CSR programs. Unlike environmental data reported under purely regulatory programs, GHG data reported under marketbased mandates, as well as CSR reporting, will likely be subject to standards on par with current financial accounting and reporting standards.

An organization may need to address the collection of both statistical data and non-statistical measures depending on how its CSR program is structured. To be efficient and assure trust, managers must collect data using a process that limits opportunities for human error during calculations while making sure variables like inappropriate units of measure, missing data, or forgetting to enter data are identified and corrected. In addition, changes in the organizational structure due to realignments, divestiture or acquisition need to be tracked in order to adjust base year reports for the purposes of comparison. Verification program may also look for the documentation of internal data approval reviews.

The benchmark program for Corporate Social Responsibility reporting is the Global Reporting Initiative (GRI).[iv] The GRI standards include the collection of

both direct measurements (statistical) along with written responses (non- statistical). To meet the GRI standards, data must be collected and, depending on your program, external assurance is required. Assurance is designed to assess whether the report provides a reasonable and balanced presentation of performance, taking into consideration the veracity of data in a report as well as the overall content selection.

Emission Trading or Registries

For those organizations that will become part of a voluntary or regulatory driven cap-and-trade program, the design of data management infrastructure must stand up to rapidly evolving verification standards. Carbon data will be subject to the highest degree of scrutiny for accounting and reporting that typically is associated with financial reporting. Emission trading schemes and registries require annual, third party verification, and typically accuracy within +/- 5 percent of reported emissions data. Expect the ease with which GHG data can be audited to directly correlate to annual verification expenses.

Many multinational organizations are also working with voluntary registries to help develop consistent global standards for GHG management. Voluntary GHG registries protect and promote early actions to reduce GHG emissions while a credible inventory may also help ensure that voluntary emission reductions are recognized in future regulatory programs. Registries provide leadership on climate change by developing and promoting credible, accurate, and consistent GHG reporting standards and tools for organizations to measure, monitor, and third-party verify their GHG emissions consistently across industry sectors and geographical borders. If your organization is enrolled in a registry, you will need to follow the verification standards of that registry.

Ultimately, each of your facilities that meet local criteria for reporting will need to meet country-based regulatory reporting standards. Organizations like the World Resource Institute (WRI), USEPA Climate Leaders, and The Climate Registry (TCR) have developed best practices to support a common approach to reporting and verification. Following those standards is a safe bet to meet or exceed local regulatory verification standards.

In addition to voluntary registries, governments are developing frameworks for GHG and energy reporting by industry to meet the current and prospective reporting needs. These frameworks provide streamlined governmental reporting for GHG emissions and energy data. Data reported through these systems are the underpinning of existing and developing country based emission trading schemes. The ability to monitor, report and verify businesses' emissions data will be essential for maintaining the environmental and financial integrity of the trading system.

Complex Challenges Require Integrated Information Management

For more than a generation, concerns about air emissions have been addressed solely as a regulatory matter, with compliance accountability falling to plant managers or environmental managers. Noncompliance risk to the enterprise was limited to fines levied by government regulators. This was especially true in the United States.

Today, environmental reporting standards are much more rigorous. Market-based mechanisms are frequently being used to enforce environmental policy that transforms carbon, a measure of equivalency used to report on all GHGs, into a financial asset or liability. Organizations need to produce GHG inventory information that is both accurate and verifiable to operate in this environment. That is why a comprehensive, integrated information technology platform is essential to an effective carbon management program. Companies that fail to effectively manage GHG emissions now face daunting risks such as damage to corporate brand and potentially steep costs associated with purchasing emission credits.

For organizations doing business in today's global marketplace, the consequences for noncompliance are

much greater than ever. GHG management is no longer merely a regulatory matter. A growing number of organizations view GHG emissions and climate risk as a matter of material concern to the enterprise, and investors are evaluating corporate performance and structuring their portfolios to leverage the long term performance of sustainable assets.

GHG reporting is now regarded as one of several key EH&S measurements that are used by investors and analysts to evaluate an organization's ability to manage operational risks. In fact, GHG reporting and verification protocols are adopting financial accounting standards and processes and systems. In today's compliance environment, GHG reporting must be verifiable in order to substantiate corporate performance claims.

Developing a GHG/carbon inventory and management plan is a complex task, no matter what level of reporting an organization chooses to implement: internal reporting; for CSR reporting; or emissions trading or an external registry. Here's why:

- Dynamic organizational structures present both data collection challenges and accounting and reporting challenges as organizations change through mergers and acquisitions;
- Data must be collected from sources across the organization, with unique information often required from each location;
- Data quality is difficult to verify as individuals rely on different sources for the same type information, not all of which are current;
- Data may not be available on a timely basis or with the desired frequency, if the organization uses manual collection processes and data is aggregated from sources at a number of locations;
- Aggregation and reporting are burdensome and often require manual processing to service each unique information request;
- Auditing and verification is a challenge as information is distributed across systems, documents, and email;
- In the absence of specific direction, information silos are likely to result as different stakeholders attempt to aggregate and report information for their unique needs.

Information management systems are vital tools for organizations to overcome these challenges and capture, manage and communicate their carbon data effectively and efficiently. An information management system provides a platform to improve the consistency, timeliness, quality, completeness and traceability of GHG information. They also support:

- Centralized implementation of best practices and standardized accounting and reporting protocols promote consistency throughout the organization;
- Role-based data entry, semi-automated data capture, and system integration improve both data capture and quality while also providing more timely information enabling more frequent reporting and analysis;

- Consistent data capture and analysis along with QA/QC protocols promotes improved data quality;
- A consolidated information repository with more immediate access to data enables people to focus on analysis rather than data collection and processing;
- Structured accounting provides the ability to easily and accurately report updates to historical data to reflect organizational change or evolving regulatory and reporting requirements;
- Documenting the inventory management plan policies and procedures, not just the data, provides the evidentiary information required to support third party verification;
- Tasking, alerts, notifications, and auditing based on the documented protocols can facilitate execution of an inventory management plan;
- Key performance indicators, scorecards, and executive roll-ups provide the ability to regularly monitor the performance of the organization and make corrections at the earliest sign of deviations.

A GHG inventory and management plan is one component of broader environmental sustainability and stewardship initiatives. Based on the Global Reporting Initiative's sustainability reporting guidelines, environmental sustainability includes aspects related to materials, energy, water, biodiversity, emissions, effluents and waste, products and services, compliance and transportation. Climate risk and GHG reporting are one component of this overall environmental performance. A complete picture of environmental performance will require a comprehensive view of all EH&S related topics. So as the information management needs for GHG accounting and reporting are considered, the bigger picture of overall environmental performance should be evaluated with an eye towards a comprehensive EH&S information management system capable of addressing the full breadth of environmental compliance and reporting activities.

A Critical Business Issue with Growing Stakeholder Impact

Pressure is mounting from corporate directors, stakeholders and customers for organizations to understand the risks and the opportunities associated with the emergence of a carbon constrained, global economy. Numerous initiatives highlight this growing interest in GHG risk disclosure, including:

- CERES, a coalition of investors, environmental and political organizations, reported that investors filed a record 54 global warming shareholder resolutions with U.S. based corporations, which is nearly double the number of resolutions submitted just two years ago. [v]
- The Carbon Disclosure Project (CDP), a non-profit organization representing more than 315 institutional investors with $57 trillion in assets, is seeking information on business risks and opportunities presented by climate change and greenhouse gases from 3000 of the world's largest companies in 2008, up from 1300 respondents in 2007. [vi]
- CalPERS, the California state employees' pension fund and the largest U.S. public pension fund, has joined with other leading institutional investors to petition the U.S. Securities and Exchange Commission (SEC) to require corporations to fully and fairly disclose all facts about emissions management performance and operations that would be material to a reasonable shareholder's investment decision.

In response, businesses are adopting aggressive measures such as greenhouse gas reduction, energy efficiency, and renewable energy initiatives to address investor and stakeholder concerns. Today, most organizations report GHG information as part

of a corporate social responsibility program, with information published on sustainability and environmental reporting sections of corporate web sites.

Shareholder and NGO requests for GHG information are typically processed by corporate investor relations or public relations personnel. Requests for GHG information have expanded. Sales and customer service teams may now be receiving requests directly from customers about GHG and energy performance of your products and supply chain. Supply chain and product initiatives are broadening the impact of GHG and climate risk reporting across broad segments of business supply chains and product lifecycles. Requests for supply chain information are being driven by corporate efficiency programs and a move towards "green products," with organizations looking to take advantage of consumers' interest in products that minimize impacts on the environment.

Regulation-driven carbon markets will require more disclosure than ever. Several reporting proposals are under consideration in the U.S. as well as many overseas jurisdictions to expand the scope of mandatory carbon constraints. Voluntary carbon markets play a less significant, but still legally binding, role in the transformation of carbon into a financial asset. Voluntary GHG registries are playing an instrumental role in helping companies develop credible GHG inventories as a precursor to regulation and emissions trading.

Future Developments: Product Lifecycle and Supply Chain GHG Management

The majority of GHG reporting today is focused on direct emissions and indirect emissions from energy consumption, Scope 1 and Scope 2 respectively under the World Resource Institute GHG Protocol.

Environmental NGOs are developing guidelines regarding product, supply chain and product lifecycle GHG accounting. The CDP Supply Chain Leadership Collaboration (SCLC) is leading the way on supply chain reporting, with Wal-Mart, Proctor & Gamble, Unilever, PepsiCo, Cadbury Schweppes, Hewlett-Packard, Dell, Intel, Imperial Tobacco, L'Oreal, and Reckitt Benckiser as early participants that are monitoring suppliers' emissions. As part of Wal-Mart's Sustainability 360 initiative, the company seeks to reduce GHGs by 25 percent in its most energy intensive products within 3 years. Wal-Mart is engaging its supply chain in a product-level analysis of GHGs. Ultimately, Wal-Mart plans to use a carbon scorecard as a tool to reward suppliers that demonstrate superior environmental performance, and as a business development tool. [vii]

New guidelines will build on the existing frameworks to include supply chain and lifecycle accounting, which fall into the "Scope 3" or indirect greenhouse gas emissions category in the existing standards but need further guidance and standardization. The project is underway, and CDP is inviting more companies to join SCLC.

The Carbon Trust is championing the effort to develop a global standard for carbon labeling products. Carbon Trust, in coordination with the UK's Department for Environment, Food, and Rural Affairs (DEFRA), is working with the British Standards Institute (BSI) to develop publicly available standards for how lifecycle greenhouse gases should be measured known as PAS 2050. A parallel effort is focusing on a product related emissions reduction framework (PERF) which established requirements for making credible emission reduction commitments and achievements under the PAS 2050 standard. This effort is being overseen by a steering committee comprised of Arup, OneWorldStandards, the Pacific Institute and E4Tech. [viii]

In response to demand created by these recent initiatives, WRI and World Business Council for Sustainable Development (WBCSD) are moving forward with development of new guidelines on supply chain and lifecycle greenhouse gas accounting and reporting. [ix] The net effect is that the increased scope of accounting

> "Companies that persist in treating climate change solely as a corporate social responsibility issue, rather than a business problem will risk the greatest consequences"
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> **Harvard Business Review, Oct 2007 – A Strategic Approach to Climate by Michael E. Porter and Forest L. Reinhardt**

and reporting will broaden the scope of data to be managed, expand the number and type of information sources to be probed, and generally increase the complexity of accounting and reporting. Most importantly, the boundaries for collecting information will move outside the organization to include upstream and downstream sources. The inclusion of data from outside your organizational boundaries is intended to understand not just direct and indirect GHG associated with production or material use, but the ultimate fate of GHG emissions embodied in products and materials themselves. It will dramatically complicate the information management issues as the scope of information needed expands beyond those sources under your direct control.

Conclusion

Global climate change presents both opportunities and risks for top-line and bottom-line growth. Organizations worldwide are now bracing for anticipated changes that will affect how carbon emissions are managed and reported. Going forward, it is likely that carbon will be regarded as a financial commodity, instead of a regulated substance, because of legislative climate change proposals that have been adopted – or are being considered in many federal and regional jurisdictions. As a result, carbon information will be subjected to verification standards unprecedented for reporting environmental performance data.

Businesses are taking proactive measures to develop comprehensive corporate carbon management strategies to monitor GHG performance and make corrections when deviations occur, reducing risks of noncompliance and limiting financial exposure.

An integrated information management solution — a comprehensive software platform that enables organizations to collect, analyze and report data, manage compliance, assess outcomes based on established benchmarks and more across the organization — is the backbone of a corporate carbon management strategy. It is the best tool available to help CIOs develop a complete, accurate, and comparable base of information to prepare for these widely anticipated changes.

References

I. http://www.us-cap.org/ClimateReport.pdf, U.S. Climate Action Partnership, January 19, 2007, "A Call to Action"; http://www.us-cap.org/media/release.pdf U.S. Climate Action Partnership, January 22, 2007 "Leaders Unite to Take Swift Action on Global Climate Change."

II. http://www.pewclimate.org/global-warming-in-depth/all_reports/corporate_strategies

III. http://www.pewclimate.org/policy_center/analyses/ghg_feasibility.cfm, Pew Center on Climate Change

IV. http://www.globalreporting.org/Home

V. http://www.ceres.org/NETCOMMUNITY/Page.aspx?pid=854&srcid=705

VI. http://www.carbondisclosureproject.com/

VII. Wal-Mart Supply Chain GHG Reporting Initiative By Katherine Jennrich October 2007 http://dukespace.lib.duke.edu/dspace/bitstream/10161/422/1/MP_klj8_a_200805.pdf

VIII. http://www.carbontrust.co.uk/carbon/briefing/developing_the_standard.htm

IX. http://www.ghgprotocol.org/new-guidelines-on-supply-chain-and-lifecycle-greenhouse-gas-accounting-and-reporting-in-planning-process

About the authors

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About the *IHS Carbon Management Solution*™

IHS offers integrated software solutions that reduce the complexity, risks and costs of GHG information management. It offers tools to assess an organization's situation by creating verifiable emissions inventories; develop an effective carbon business strategy; and execute that strategy using performance management and communications best practices. For information, visit www.ess-home.com or call 800.289.6116.

About IHS

IHS has been in business for over 50 years, providing critical information and insight to governments and companies in a broad range of industries in 180 countries. IHS offers an integrated platform with powerful tools to help your business manage and communicate GHG data for products, supply chain and facilities from the plant floor to the boardroom. IHS software helps organizations to maintain total compliance with EPA regulations by accurately tracking refrigerant usage, leaks, and disposal. It enables organizations to support data collection and reporting for a verifiable carbon emissions inventory; enable strategy development with powerful business intelligence and analysis tools; and helps users execute carbon strategies with performance metrics, tasking and communications.

Resources

Listed below are selected references that may be useful as you evaluate your approach to GHG accounting and reporting.

Global Standards Organizations

Global Reporting Initiative (GRI)	http://www.globalreporting.org/Home
World Resource Institute (WRI)	http://www.wri.org/#
World Business Council for Sustainable Development (WBCSD)	http://www.wbcsd.org/templates/TemplateWBCSD5/layout.asp?MenuID=1
World Economic Forum	http://www.weforum.org/en/index.htm
International Audit and Assurance Standards Board (IAASB)	http://www.ifac.org/IAASB/ http://www.ifac.org/IAASB/ProjectHistory.php?ProjID=0008
AccountAbility (AA)	http://www.accountability21.net/default.aspx?id=228

Institutional Investors Focusing on Climate Change

CERES	http://www.ceres.org/NetCommunity/page.aspx?pid=705
Investor Network on Climate Risk (INCR)	http://www.incr.com/NETCOMMUNITY/Page.aspx?pid=198&srcid=-2
Institutional Investors Group on Climate Change	http://www.iigcc.org/

Emission Trading Schemes and Regulatory Agencies

European Union ETS	http://ec.europa.eu/environment/climat/emission.htm
United Kingdom ETS	http://www.defra.gov.uk/environment/climatechange/trading/eu/operators/phase-2.htm
Australia National GHG / Energy Reporting System	http://www.greenhouse.gov.au/
Climate Leaders (USEPA)	http://www.epa.gov/stateply/index.html

GHG Registries and NGOs

The Climate Registry	http://www.theclimateregistry.org/
California Climate Action Registry	http://www.climateregistry.org/
Carbon Disclosure Project (CDP)	http://www.carbondisclosureproject.com/
Carbon Trust	http://www.carbontrust.co.uk/default.ct

Publications and News

Wal-Mart Supply Chain GHG Reporting Initiative By Katherine Jennrich October 2007	http://dukespace.lib.duke.edu/dspace/bitstream/10161/422/1/MP_klj8_a_200805.pdf

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