

MANAGING BUSINESS RISK & OPPORTUNITIES: LEVERAGING CLIMATE CHANGE ACTION

There are many steps that your company can take to leverage climate change action. These include measuring your organization's greenhouse gas (GHG) emissions and evaluating the business risks -- and opportunities -- that climate change presents. These steps provide business benefits in the form of identifying cost savings opportunities and improving competitive positioning. They also reduce risk via the management of market, regulatory, asset, and supply chain risks.

There are a multitude of business risks and opportunities associated with climate change and the impact of increasing GHGs in the atmosphere. For companies involved in the building industry concern has increased significantly about the relationship between climate change and the built environment. The same is true for organizations in the supporting services, including property management, real estate transactions, lending, or insurance. This is a direct result of the fact that residential and commercial buildings account for 38% of U.S. carbon dioxide emissions.

Many companies throughout the world are convinced that emissions reduction is necessary to maintain long-term competitiveness. Clients, regulators, civic leaders, and other stakeholders are asking questions about the climate change impacts of products (including buildings) and services, and showing a desire to reduce their environmental footprint and the associated risks. The time is ripe to save money, demonstrate leadership on climate change, increase competitiveness, and develop new client relationships while bolstering existing relationships.

Please take a moment to consider the following examples:

Competitive Positioning: As a client of Carbon Advantage, Realty Trust Group is establishing its reputation as the leading green real estate agency by training its agents in residential green building and energy efficiency. Realty Trust also provides value added services, such as neighborhood brochures describing the sustainability features of neighborhoods, and provides value added information and services to clients. Additionally, the company's internal efforts to measure and manage its GHG impact has helped engage its staff and agents as well as guide its business decisions around asset purchases. Realty Trust has

competitively positioned itself by demonstrating a commitment to pursuing sustainability.

Cost Savings: Costs savings achieved by large businesses as a result of efforts to address climate change are well known. Consider that just one Owens Corning plant saves \$252,000 annually in energy costs through energy efficiency. Following a sustainability assessment, the U.S. Postal Service decreased total energy use by 9% from 2005 levels, which translated into millions of dollars saved. The opportunities for small- and medium-sized businesses are also significant, but receive less attention. The relatively small Redmond Oregon

Airport, for example, achieved a 36% reduction in energy use for its ventilation system through the implementation of a displaced ventilation system. Earth Advantage staff assisted in ensuring energy bill savings of approximately \$110,000 per year as a result of this measure, and in obtaining approximately 25% of the project costs in Energy Trust of Oregon incentives.

Business Opportunities: According to a 2009 McGraw-Hill Construction report, the green building market will double by 2013, adding \$554 billion to U.S. gross domestic product. Positioning your business to benefit from this growth is imperative.

Climate Risks: Did you know?

Rules issued in 2010 by the General Services Administration will give preference to suppliers that are tracking and reducing their GHG emissions. This means that organizations that do not track their emissions will be at risk of losing business opportunities.

REALIZING THE BENEFITS OF CLIMATE CHANGE ACTION

Given the high level of stakeholder education on environmental issues, particularly in the Pacific Northwest, it is absolutely imperative that companies avoid *greenwashing*, or false claims of environmental stewardship. This can be done by taking deliberate measures to assess your organization's climate change risks and opportunities. Transparency about your efforts in this area is key to increasing credibility and demonstrating a solid commitment to responsible business practices. A climate change assessment and disclosing your company's carbon footprint have many benefits (see attached).

"The road to sustainability has lead Realty Trust to many significant milestones, including being named one of Oregon Business magazine's 100 best green companies to work for in Oregon. Addressing climate change is an important imperative as we move forward."

– Mitchell Jacover, Strategic Business Manager, Realty Trust Group

EARTH ADVANTAGE INSTITUTE: CLIMATE CHANGE EXPERTISE

Our organization's expertise in energy efficiency, green building planning and design, sustainability, behavior change, organizational development, and efficient technologies positions us to address the climate change impacts of your buildings and operations. The Carbon Advantage program offers a customizable set of solutions to addressing climate change risks and opportunities:

- Greenhouse gas inventories, including third-party verification and analysis (providing rigorous data for decision making)
- Climate change risk and opportunity analysis (creating the framework for further action)
- Reporting (adding transparency and credibility)
- Climate action plan (capturing opportunities)
- Reductions (realizing cost savings)
- Neutrality (leveraging leadership and commitment)

We believe that an organization preparing to address climate change in a comprehensive and holistic manner must use a tiered approach: identify risks and opportunities, then measure, reduce, and offset emissions. Our service packages are designed specifically for clients and are tailored for their business objectives, organizational size, and business activities.

The time is opportune to address climate change issues in your business. A greenhouse gas inventory will uncover business risks and cost saving opportunities while strengthening your organization's leadership position.

Please see the enclosed document, which includes more about our program expertise and the benefits associated with a greenhouse gas inventory.

How Is a GHG Inventory Useful?

Consider a GHG inventory as analogous to an accountant's annual financial reports. An accountant identifies each instance that a business' money has been spent or acquired, then arranges, organizes, and analyzes these numbers into usable data to inform future decision making. Such information adds value to a business because it can be used to identify possible inefficiencies, facilitate public reporting, and measure effectiveness of new approaches. Any inventory, whether of expenses, widgets, or emissions, offers decision makers important information about the current situation and how best to proceed. Without proper measurement, there is significantly less ability and incentive to manage GHG emissions.

The Carbon Advantage

BENEFITS OF A COMPLETE GHG INVENTORY

There are many benefits associated with developing a complete Greenhouse Gas (GHG) inventory. A complete inventory allows for the accurate calculation of emissions (and associated risks and opportunities), potential reduction benefits and the opportunity to quantify the success of projects undertaken. There are also other benefits:

Risk Management. By measuring emissions, you will have a tool to prepare for a carbon-constrained future and to document early actions to reduce GHG emissions. Further, there is strong agreement that those organizations that have already demonstrated a commitment to action on GHG mitigation will weather the transition to a carbon-constrained economy much better than those that have not.

Identifying Inefficiencies and Cost Savings Opportunities. Accounting for emissions enables us to identify opportunities to improve efficiency by reducing materials and energy inputs, as well as waste and emissions. The benefits of these opportunities can be cost savings, emissions reductions, and future cost control for activities that have high carbon intensity.

Recognition as an Environmental Leader. By completing a full GHG inventory and voluntarily reporting GHG emissions, your company will be a leader in its industry. While a majority of fortune 500 companies already report their GHG inventories, there is a great opportunity for small- and medium-sized businesses to demonstrate their leadership.

Stakeholder Education. Completing an annual GHG emissions inventory and communicating the results internally and externally will inform and engage stakeholders. This can lead to increased awareness and engagement on sustainability issues with measurable outcomes, including cost savings and employee morale. Success in reducing overall sustainability impacts, and climate change impacts in particular, has proven to be very motivating, as well as financially compelling.

ABOUT THE CARBON ADVANTAGE PROGRAM & EARTH ADVANTAGE INSTITUTE

Indigo Teiwes is the director of the Carbon Advantage program for Earth Advantage Institute. Teiwes has 10 years of strategic analysis, advisory, and program management experience. Her work includes investment opportunity analysis related to environmental sustainability and climate change issues, carbon footprint/emissions inventories, energy efficiency and renewable energy company analyses, and designing and developing tools for evaluating carbon offset providers who sell verified emissions reductions (VERs). Relevant projects include two white papers, *Carbon Offset Provider Evaluation Matrix* and *Ecological Limits and Economics: Investing in a Full World*, as well as a carbon mitigation plan that received a City of Portland BEST Award. Prior to joining Earth Advantage Institute, Teiwes directed the Sustainability Research Program at Portfolio 21, a global mutual fund identifying and investing in companies positioned to outperform their competitors due to their proactive approach to sustainability issues. During her tenure with Portfolio 21, the fund not only outperformed its benchmark (the MSCI World Equity Index), but also grew assets under management from less than \$2 million to over \$273 million. Teiwes graduated summa cum laude from the University of Oregon with a double major in business administration (concentration in management) and environmental studies. She also has an MBA in sustainable business from Bainbridge Graduate Institute.

Earth Advantage Institute (EAI) began nearly a decade ago as a utility-based energy conservation program of Portland General Electric. In the spring of 2005, EAI became an independent 501(c)(3) nonprofit corporation. Since then, the organization has become the Northwest's premier service provider of green building programs in the residential market. Earth Advantage certifies homes as a third-party verifier for both the ENERGY STAR® and LEED for Homes® programs, as well as for its proprietary residential, commercial, communities, and remodeling programs. In addition, Earth Advantage Institute provides green design and consulting services, conducts education and training seminars, and is a key contributor to the development of green building standards and carbon services for the built environment. The Carbon Advantage Program was launched in 2008 to serve the carbon related needs of business and governmental clients.

SELECTED PROJECT AND CLIENT WORK

Climate Change Strategy, GHG Footprint, and Integrated Data Collection Solutions: Working with an Oregon business with approximately 1,000 employees, EAI provided a risk and opportunity analysis for activities and impacts associated with climate change. The project included auditing carbon footprint data, developing a comprehensive methodology and guidance document for the organization's carbon footprinting efforts, integrating carbon data collection with the business' accounting software, and performing a carbon footprint analysis. Results included identification of numerous cost saving measures.

Greenhouse Gas Inventory, Reporting to Registry, and Emissions Verification: Working with several small businesses, the Carbon Advantage program has provided services to measure Scope 1, Scope 2, and a selection of Scope 3 GHG emissions associated with business activities. These emissions were then reported to The Climate Registry, the leading national registry for GHG reporting. Earth Advantage Institute coordinated the verification process to ensure a smooth and successful completion of transparent emissions reporting according to rigorous protocols.

Climate Change Road Map: EAI worked with a Washington tribe to produce a community-specific Climate Change Roadmap that integrates the community's efforts around GHG emissions reductions. Included was an analysis of the community's carbon footprint (utilizing the ICLEI protocols), an evaluation of policy conflicts (with GHG emissions reduction goals), and a tool for evaluating and prioritizing potential GHG emissions reduction projects.

Residential Home Life Cycle Assessment to Prioritize Building Construction Methods and Materials that Reduce Waste and Greenhouse Gases from the Building Industry: In association with the Oregon Dept. of Environmental Quality, EAI provided the climate change and building science expertise for this study that utilizes life cycle assessment to identify and quantify the impacts of different building practices. The goal of the study is to identify options that reduce GHG emissions and solid waste, and that improve human and ecosystem health. The report is available at <http://www.deq.state.or.us/lq/sw/wasteprevention/greenbuilding.htm>.

Carbon Offset Provider Evaluation Matrix: This work included tool creation, research, and the study of carbon credit offset providers. Teiwes developed a unique method (Carbon Offset Provider Evaluation Matrix or COPEM) to compare offset providers and their carbon credit products using variables that included offset standards, transparency, project location, traceability, third-party evaluation, education, and social benefit. Carbon credit purchasers and providers can use this tool to compare carbon credit products based on the criteria. The report has been utilized internationally.

Education Class Offerings: *Communicating the Case for Action on Climate Change: Science, Risks and Opportunities.* EAI offers this class that covers the fundamental concepts related to global climate disruption and the associated risks and opportunities. Through webinars, readings, and discussion forums, EAI examines the current science of climate change including anthropogenic and natural contributors to greenhouse gas emissions. The class explores the ramifications of climate change on ecosystems and ecosystem services, the human and social impacts, and the business risks and opportunities. It also examines several case studies around the challenges of climate destabilization.

Carbon Advantage VERs: EAI is the developer and manager of an emerging program to monetize carbon emission reductions into carbon credits for trade on the voluntary carbon market. The program uses energy efficiency and renewable energy measures in new and existing building construction to mitigate carbon emissions that are quantified and monetized into carbon credits (also called voluntary emission reductions or VERs).