



An Electronic Newsletter
of EEA's Environmental
Consulting Activities

Environmental Consulting

INSIGHTS

PREPARE TO INVENTORY YOUR GREENHOUSE GAS EMISSIONS

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In his State of the Union address earlier this year, President Barack Obama re-iterated his administration's pledge to develop legislation this year that will establish a *cap-and-trade* mechanism with intent to reduce United States emissions of greenhouse gases (GHG's) (1). The view of insiders is that the United States Environmental Protection Agency's (EPA's) recent announcement proposing regulation that would require thousands of businesses to report on GHG sets the process in motion (2). What this should signal to U.S. business, and many publicly-operated and privately-owned organizations, is that the time to start "counting carbon" has arrived.

In the years leading up to this, the U.S.'s leaders have failed to ratify the international Kyoto Protocol (3) and resisted mandating any efforts to quantify or reduce GHG emissions. Voluntary initiatives to report GHG emissions did occur however involving the public-sector as in the *Cities for Climate ProtectionTM (CCP) Campaign* for example, run by the *International Center for Local Environment (ICLE)*, Local Governments for Sustainability (4) and the private-sector's Carbon Disclosure Project (5).

Regional attempts to reduce greenhouse gas emissions through market-based cap-and-trade were initiated between states including the *Regional Greenhouse Gas Initiative (RGGI)* (6) involving Northeast and Mid-Atlantic power generators and the *Western Climate Initiative*, a collaboration of seven western states and Canadian provinces. (7) While the *California Global Warming Solutions Act of 2006 (Assembly Bill No. 32)* was the first multi-sector cap-and-trade legislation, its implementation was blocked by the federal government in the waning days of the Bush administration (8).

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[EPA 2009 Greenhouse Gas Inventory Report](#)

Along with these initiatives we also find several international standards to guide us. Inventory and reduction mechanisms, protocols for the accrual of emissions information and registries to track, record and facilitate carbon transactions have all undergone development. A number of these are likely to be put into use as GHG legislation, following California's delayed "AB 32" considered the presumptive model for the forthcoming

federal legislation, is re-introduced. The application of these standards, protocols and registries likely represent significant knowledge gaps within the targeted industries in the regulated community.

GHG's and the Pending Requirements

What should those targeted industries understand about GHGs and the pending requirements? Beyond the history of efforts to control GHG is the unknown. While awaiting announcement of the regulatory drivers and their deadlines, evaluating registries, the inventory protocols and verifiers that will need to be utilized, there are two very important considerations to quantify and report-out GHG emissions (the so-called "carbon footprint"):


- A.) How to develop and package GHG data; and
- B.) Managing to address the pending caps (and implicit costs) in GHG emissions.

Regarding the former, the key will be to understand a little-known member of the ISO 14000-family of international standards, the three-part *ISO 14064, Greenhouse Gases* providing Specification and Guidance:

Part 1: At the organization level for quantification and reporting of greenhouse gas emissions and removals

Part 2: At the project level for quantification, monitoring and reporting of greenhouse gas emission reductions or removal enhancements and

Part 3: For the validation and verification of greenhouse gas assertions



Major Definitions:

Greenhouse Gas (GHG)

Gases in an atmosphere that absorb and emit radiation within the thermal infrared range.

Cap-and-Trade

An administrative

approach used to control pollution by providing economic incentives for achieving reductions in the emissions of pollutants. Also called Emissions Trading.

Count Carbon

Measuring, reporting and managing CO₂

Kyoto Protocol

A protocol to the UN Framework Convention on Climate Change (FCCC), an international environmental treaty produced at the 1992 Earth Summit. The treaty is intended to achieve "stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system. The Kyoto Protocol establishes legally binding commitments for the reduction of four greenhouse gases (carbon dioxide, methane, nitrous oxide, sulphur hexafluoride), and two groups of gases (hydrofluorocarbons & perfluorocarbons) produced by industrialized nations and general commitments for all member countries.

ISO

The ISO 14064 standard establishes the accounting principles that will guide the verification of GHG inventories and the validation of emission reduction credits (9).

Included in the standard are important considerations for setting organizational boundaries within which GHG emissions must be quantified. For most companies this will be straightforward – emissions occurring from on-site combustion activities and related to the provision to the utilities of electrical power, will be quantified at a single manufacturing site. But for larger business organizations or municipal entities these considerations will require more analysis. And for those that wish to tackle the so-called “scope 3” emissions – items related indirectly to an organization’s activities, such as emissions that occur when raw materials are purchased and shipped to a facility by truck – setting the boundary can be very complex.

Included in ISO 14064 are principles more common to financial accounting required in the preparation and presentation of GHG data with – *Relevance, Completeness, Consistency, Accuracy and Transparency* the operative words. Each of these has ramifications related to the means of emission monitoring, data collection, and data reduction. And while it is expected that the forthcoming cap-and-trade legislation may utilize *The Climate Registry* (10), the principles and methodologies for GHG data collection in their *General Reporting Protocol (GRP)* have undoubtedly chosen their model to be entirely consistent with ISO 14064.



A Management System Approach

The second important consideration is the management strategy employed for GHGs. For those companies preparing to respond to ‘carbon counting’ and its ancillary baggage this should be the time to look at a management system for energy. Combustion is the primary source of GHGs as well as the primary means of energy generation and provision to municipalities, manufacturers and service organizations. In recent years, energy has become a significant cost to all organizations. Yet typically energy management is an opportunistic “treasure hunt” – motivated by high energy costs, companies embark on various short-term efforts to

Stands for International Organization for Standardization. The world's largest developer and publisher of International Standards.

Climate Registry

A nonprofit collaboration among North American states, provinces, territories and Native Sovereign Nations that sets consistent and transparent standards to calculate, verify and publicly report

identify obvious, wasteful energy situations or practices and correct them, hopefully realizing some financial relief. This knee-jerk approach offers no consistency or sustainable method to achieve goals about to be written into law.

[Energy & Environmental Analysts, Inc.](#), (EEA) along with its subsidiary [ISO Environmental Consultancy, Inc.](#), have extensive experience in the adoption and application of ISO-modeled management systems that will help a company evolve beyond regulatory compliance by taking a systemic approach to energy conservation as well as GHG reporting and reduction.

Following the plan-do-check-act approach that is the common underpinning of ISO 9001 (quality), ISO 14001 (environment) and OHSAS 18001 (safety), organizations should make themselves aware of the American National Standard, *ANSI/MSE 2000:2008* which provides the structure and process integration necessary to sustain energy conservation. (11) More than familiar with MSE 2000, EEA and ISO Environmental Consultancy presented with Mr. Michael Brown, a primary author of MSE 2000 at the Enterprise Innovation Institute at the Georgia Institute of Technology (Georgia Tech). Mr. Robert Clifford, Jr. Vice President of ISO Environmental Consultancy lectured on MSE 2000 implementation with special attention given to organizational benefits in the system. This approach has taken on global importance with the announcement in September 2008 that an international standard for energy management systems, *ISO 50001*, has been commissioned for development next year in 2010 (12). With development of ISO 50001, organizations will manage several critical business issues – quality, environment, safety and energy – within a single methodical (plan-do-check-act) approach.

Of course, the benefits to an organization in managing energy are a true “win/win” – the reduction in GHG emissions is complemented by a reduction in costs associated with energy generation or purchase. Certainly the message to business is clear. GHG emissions will be a regulated commodity and forthcoming requirements to inventory and report on them will require study, understanding and a start-up cost. The companies and organizations adopting the strategic approach to meeting this challenge will do well by incorporating management-systems thinking as they go forward.

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Footnotes & References:

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3. [The Kyoto Protocol -
http://unfccc.int/kyoto_protocol/items/2830.php]
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<http://www.iclei.org/>]
5. [Carbon Disclosure Project <http://www.cdproject.net/>]
6. [Regional Greenhouse Gas Initiative -
<http://www.rggi.org/home>]
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9. [International Organization for Standards -
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<http://innovate.gatech.edu/Default.aspx?tabid=2005>].
12. [ISO Management System for Energy -
http://www.iso.org/iso/energy_management_system_standard]

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Internet Links:

[Greenhouse Gas Protocol](#)

[Cap and Trade](#) | [Clean Air Markets](#) | [Air & Radiation Home](#) | [US EPA](#)

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[E.P.A. Proposal Calls Greenhouse Gases a Danger to the Public - Green Inc. Blog - NYTimes.com](#)

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