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▶ **Managing Greenhouse Gas Emissions through Environmental Management Systems**

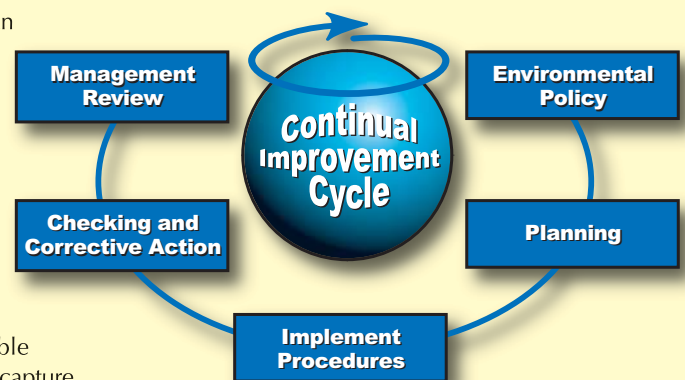
Increasingly, organizations are viewing greenhouse gas (GHG) emissions accounting and management as a requirement, not an option. GHG emissions are rising to the top of the list of an organization's impacts with significant potential to adversely affect the environment. Many are incorporating GHG reporting and mitigation practices into their everyday business processes through their existing Environmental Management Systems (EMS).

The International Organization for Standardization (ISO) Standard 14001 sets forth an EMS framework for use in proactively managing environmental impacts. The process is based on a continuous cycle of improvement in which the user defines goals and targets, documents controls and metrics, and regularly reviews and checks progress. The program is driven by 16 documented procedures that structure a Plan-Do-Check-Act continuous improvement model, and ensure that environmental impacts are considered in business processes and decisions. In addition to these management procedures, programs are established to ensure that activities that have a significant impact on the environment are properly managed so that they do not become a liability to the organization's license to operate.

If you are thinking about using your EMS to manage your GHG emissions, here are some key points to facilitate GHG integration into the continuous improvement cycle:

Tips for Integrating GHG Management into your EMS

- Adopt a *Greenhouse Gas Management Policy* to demonstrate organizational buy-in.
- Include GHG Management as an aspect during the *aspect identification and prioritization process*.
- Establish a GHG Management *Objective and Target*: commit to reducing GHG emissions by a percentage (or a fixed amount) within a given timeframe.
- *Develop the Program*: inventory GHG emissions, identify opportunities for emissions reductions, implement reduction strategies, measure reductions, repeat!
- *Document the Program*: use an Inventory Management Plan to document how your GHG tracking program works.
- Develop a *Communications and Training* program to educate employees about the importance of reducing GHG emissions.
- Develop and implement *Operational Controls* using a transparent and auditable reporting system that helps capture data associated with annual emissions and incorporates changes in protocols and reporting requirements as they occur.
- Provide regular briefings to senior leadership for *Management Review* to ensure their engagement and leadership.



An EMS provides a flexible foundation for GHG management and ensures that a rigorous quality process is maintained in GHG management efforts. If you would like assistance developing an approach to GHG Management for your organization, please contact carbonchronicle@westonsolutions.com.



The Carbon Chronicle Newsletter

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Proposed Mandatory GHG Reporting Requirements for Landfills

In March 2009, the U.S. Environmental Protection Agency (EPA) released a proposed rule on mandatory GHG reporting, laying the groundwork for federal oversight of large GHG-emitting entities. This rule is designed to collect emissions data as a basis for future policy decisions. The regulations call for reporting of the six traditional GHGs—carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), hydrofluorocarbons (HFC), perfluorocarbons (PFC), and sulfur hexafluoride (SF₆)—while allowing for varying reporting methodologies depending on the industry.



EPA has identified 20 source categories subject to the proposed rule, including municipal and industrial landfills that generate greater than 25,000 metric tons of CO₂e per year. (Hazardous waste, construction, and demolition landfills are not considered a part of this reporting category.)

At this time, the legislation does not include GHG emissions reduction goals for reporting entities, but rather focuses on data collection at the facility level. Landfill GHG reporting requirements include:

- Annual CH₄ generation and CH₄ emissions
- Annual CH₄ destruction for landfills with a gas collection system in place
- Annual CO₂, CH₄, and N₂O from stationary combustion sources
- Annual CH₄ and N₂O from the combustion of landfill gas and other fuels used in a flaring system
- Annual CO₂ emissions from the combustion of non-landfill gas fuels used in a flaring system

The data collection related to the proposed legislation, along with recordkeeping and compliance obligations, will have far-reaching implications. Landfills will need to report modeled annual CH₄ generation based on several detailed operational characteristics, such as waste disposal quantities and fraction of degradable organic carbon. For landfills that collect and control landfill gas, there are requirements to use two different methodologies for calculating CH₄ emissions and to also report both results. The main difference between these two approaches is how adjustments are made for soil oxidation and other operational variations.

The starting point for collecting data is January 1, 2010, with the first emissions reports due to EPA on March 31, 2011. Through the implementation of this rule, owners and operators of landfills will be contributing toward the development of a low-carbon economy. Factoring the cost of carbon into future business planning and building a strong GHG inventory that goes beyond the proposed requirements are leadership approaches that organizations can use to adapt to the changing carbon regulatory environment.

For more information please see:

<http://www.epa.gov/climatechange/emissions/downloads/Landfills.pdf>

GHG Reporting Now Mandatory in California

In December 2007, the California Air Resources Board (CARB) approved a final regulation for the mandatory monitoring and reporting of GHG emissions. The regulation applies to major industrial facilities (such as retailers, marketers, cement plants, oil refineries, and hydrogen plants) within California and power-generating facilities that import or export electricity across California borders. Such entities had until 1 April 2009, or 1 June 2009, to submit emission data reports summarizing their 2008 GHG emissions and must continue to report annually.

California intends to use the mandatory reporting requirements to assist in the development and implementation of future strategies to reduce GHG emissions under the California Global Warming Solutions Act of 2006 (the Act), also known as California Assembly Bill No. 32 (AB 32). For more information, <http://www.arb.ca.gov/cc/ab32/ab32.htm>.

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