GHG Auditing: Emerging Implications for Audit Professionals & Industry

Presentation to:

CEAA 2001 Technical Conference

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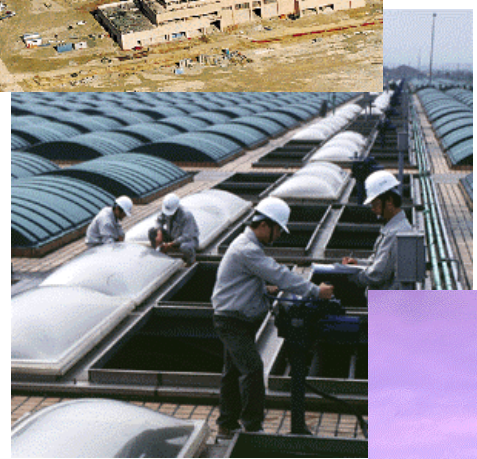
Our Vision: Responsible solutions for a sustainable future

Industrial Facilities

Energy, Environment, and Systems



Transportation

Operations and Maintenance

Water

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GHG Management Services

GHG Inventories & Reduction Plans

Inventory Tracking

Emissions Management

Industrial Process Redesign

Energy Efficiency Improvement

Monitoring and Verification

GHG Trading & Brokerage Support

Energy, Environment, and Systems

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Presentation Outline

- **Why audit GHGs?**
  - Evaluate & verify performance on meeting commitments to Kyoto & Climate Change
  - Provide credibility for emissions trading
- **Key audit requirements**
  - what are the evaluation criteria?
- **Implications for audit professionals and Industry**

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Climate Change on the global radar screen since early 1990s

- Most significant environmental issue to face Canada today and into the future.
- Negotiations of the 2nd part of 6th COP in Bonn in July,
  - delegates (178 countries) from around the world (exception: USA) agreed to key Kyoto Protocol implementation issues on climate change.
- Reduce GHG Emissions to 1990 levels less 6% by 2010

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Implications for Industry & Auditors

- Puts increased significance on Canada and Industry to meet commitments.
- With this heightened climate change policy arena and converging consensus on the scientific impact of GHGs:
  - organizations are developing approaches to address & reduce environmental risks through GHG reduction, energy efficiency, renewable technology & emission offsets.
- Implications for auditors & the work we do

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Why Audit GHGs?

- **Measure GHG emission performance**
  - relative to organizational goals, objectives & targets
- Companies & municipalities have **different strategies for tracking GHG emissions**
  - proactively positioning for emerging regulations
  - banked emission reductions as elements of their financial portfolio
  - stakeholder sustainability interests/requirements

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3 Common Inventory Goals

- Responding to government requirements
- Participating in voluntary reporting programs
- Engaging in emission markets

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Inventory Goals: Government Required

- Future consequence of federal regulation (creating either mandates or incentives) requires **baseline protection to enable companies to get *credit for early action* (CEA)**
- companies undertake early emission reduction activities to **claim credit against future government obligations**
- GHG reductions portfolio evolve along with government regulation
  - i.e. different regs may exist for different GHGs (CO_2 vs CH_4) so GHG managers will want to track these separately

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Inventory Goals: Voluntary Reporting Programs

- Establish a public knowledge base
- Inform government programs
- Establish baseline for potential early action credit
- Respond to public demand for sustainable practices and products
  - Canada Voluntary Challenge and Registry Program
  - USA Dept of Energy 1605b
  - EcoLabelling - Climate Neutral products...

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Voluntary Reporting Programs...

- Inventory goals may be
  - to demonstrate a company's overall GHG efficiency
  - demonstrate to regulators and the public that reductions are achievable through a variety of mechanisms
  - inform decision makers and qualify that type of reduction in the future

Inventory Goals: Emissions Trading

- BC Hydro, TransAlta, Seattle City Light, the Climate Trust ... have RFPs to procure GHG offsets
- Maximizing revenue from near-term or long-term contracts or option sales is a burgeoning opportunity
  - Companies can engage in the market only if they know own cost of generating in-house GHG reductions
  - Behooves entities to build inventory of their offsets in a fashion that optimizes their opportunity to go to market

Regardless of the purpose for building an inventory,

- …the fundamental process of documenting emissions reductions remains the same
  - the level of detail and focus of the inventory may change
  - ultimately as rules develop & emission reductions are properly defined - a standard of practice will emerge

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GHG Emissions Inventory

- "An inventory should include enough documentation and supporting data to:
  - make transparent the underlying assumptions and calculations for all of the reported results."

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The Importance of Robust GHG Measurement & Reporting

- **Accurate & comprehensive GHG Inventory**
  - enables clients to plan and meet reduction goals and capitalize on trading
- **For credibility, flexibility & maximum value**
  - tracking must be complete, consistent, accurate, practical, transparent, integrated and verifiable

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GHG Inventory Protocols in the Making...

- PERT
- GERT
- VCR
- CAPP Government agencies
- ENGOs
- World Business Council for Sustainable Development
- World Resources Institute
- many others...

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GHG Audit Criteria

- **ISO 14K audit methodology**
  - consider Plan, Do, Check, Act/Review elements
  - particular focus on Monitoring, Measurement, Audit methodology & Corrective Action
- Legal and Other Requirements associated with **Industry standards and/or Guidelines**
  - e.g. VCR, GHG Protocol Initiative, CAPP...

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GHG Audit Issues

- Scope
- Management system versus data
- Maintaining consistency
- Need to establish technical criteria and verification methods
- ...Include abatement and corrective actions
- Data control for indirect emissions
- Establishing Materiality
- Consider options/levels of verification
- Selecting Auditors

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Other Scope Issues

- What GHGs to include in the inventory
- Define baseline
- Determine boundaries & where emissions occur within those boundaries
- Emission Tools and Factors
- Reporting: meet regulatory & stakeholder requirements

Scope: Greenhouse Gases

- "Kyoto basket of 6" in CO2 equivalents
  - CO_2, CH_4, N_20, HFCs, PFCs, SF_6

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Scope Boundaries

- Focus on operations that the organization has **control over**
- Can only **claim reductions** for operations that fall within ‘declared’ boundary” - otherwise, an **offset**
- **Direct GHG Emissions**, company owned (physical emissions including manufacturing processes, company owned transportation) + net emissions from energy imports and exports
- **Direct & Indirect** should be clearly differentiated
  - combustion devices, point sources, non point sources, non routine activities, and indirects.

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Inventory Data Factors

- Standardize measurement methodology and units of measurement across audit entity
- Use of direct measurement and maintenance of calibration
- Assign confidence levels
- Maintain list of assumptions
- Document measurement methodologies

Inventory Reports

- Absolute Emissions,
- Description of any facilities added or excluded to inventory
- Summary of methodology
- Reconciliation
- Calculations report
- Roll ups to entity totals

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Auditing & Verification

- Guarantee existence of quality & retention of documentation to create audit trail of how inventory was compiled
- Accounting standards
- Describe internal audit process, who is responsible for data
- 3rd party verification

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Pre-Audit activities

- Scope of audit effort
- How data is collected, aggregated, recorded
- How calculations are performed
- How emission sources & energy uses are identified
- How emission sources & energy uses are measured & reported

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Site Audit Activities

- **Identify data types:** documented, observed, interviewed
- **Audit method:** testing computations, checking supporting data, inspecting for omissions, direct measurement, monitoring

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Is Verification Required?

PERT, GERT: not yet

International Protocols:

Australia's GHG Challenge: requires agreement to submit to verification at random

UK Emissions Trading Scheme: will require 3rd party verification

A few American registries require 3rd party verification

Key Features for Industry

- Cost effective
- Simple
- Documented
- Replicable
- Information accuracy & completeness
- Corrective Action, investment in GHG performance improvement
- Verification Statements

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Competency of an Auditor

- Understands the company, it's processes and emissions characteristics
- Experienced in auditing
- Understands relevant GHG program and goals
- Independent
- Credible

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- Thank you

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