



Helping Organizations Manage their GHG Portfolio

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Overview

- Context: why do ISO and CSA care about climate change?
- Why standardize?
- Newly released ISO standards can help organizations manage their GHG portfolio through:
 - GHG Inventory
 - GHG emission reducing projects resulting in GHG credits
- Raising awareness of the uses of the standard is key
- Potential benefits of using ISO standards for managing GHG portfolio.

ISO was born out of a market need

- The International Organization for Standardization (ISO) established in 1947 - based in Geneva, Switzerland
- A federation of the national standards bodies of 157 countries and 500+ international/regional liaison members
- Mission to “to facilitate the international coordination and unification of industrial standards”
- Over 16,000 international standards published
- Designed to be implemented world-wide
- Develops standards by transparent, consensus-based procedures based on national input
- 3,000+ technical groups that develop standards with the broadest possible base of stakeholder groups
- ISO meetings attract some 50,000 experts a year

In Canada, CSA makes standards work for people and business

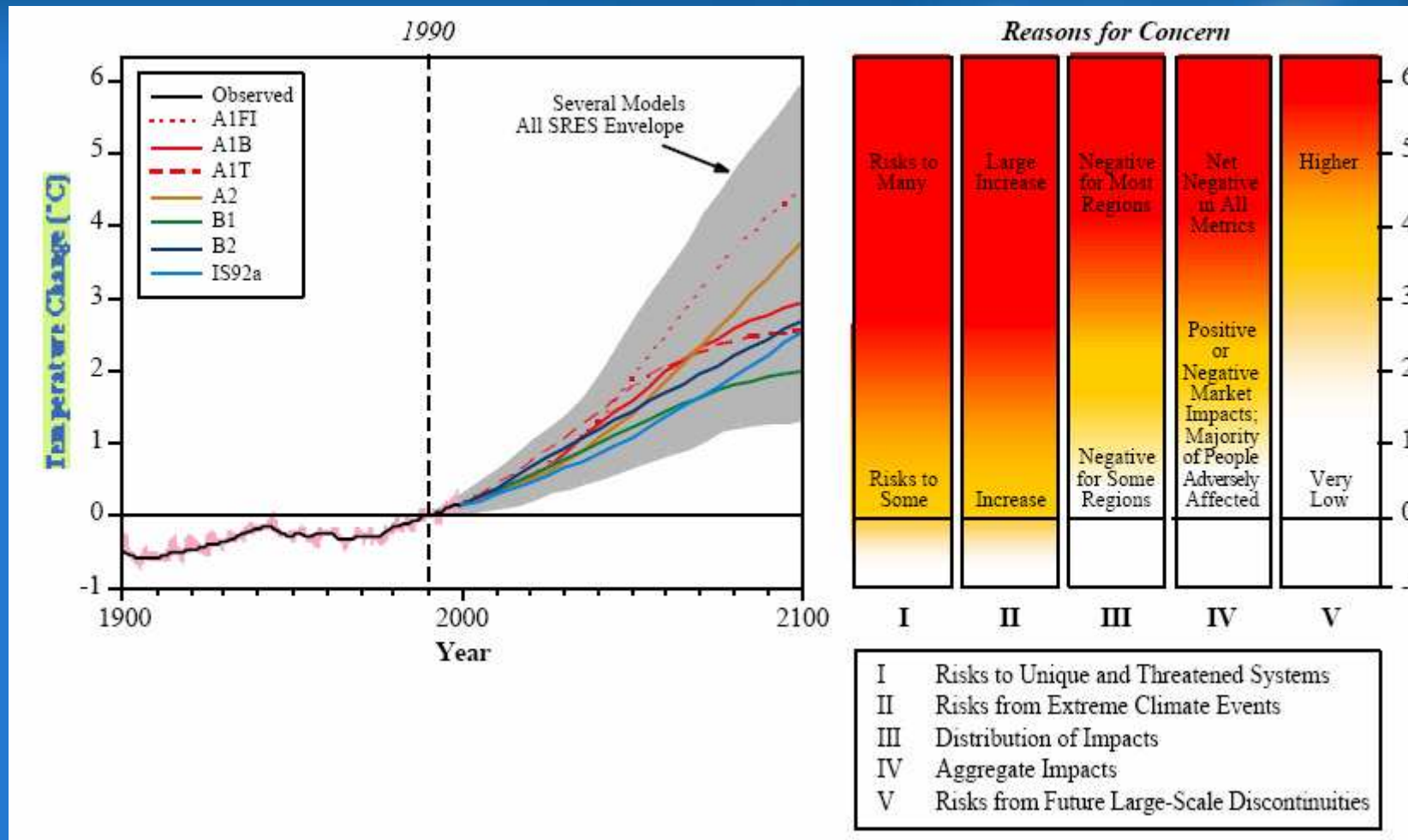
- CSA is a national, independent, not-for-profit organization established in 1919
- It maintains over 2,600 standards, including the electrical and gas codes
- Over 40% of CSA standards are referenced in government regulation
- CSA relies on the expertise of 9,000 volunteer members to:
 - Enhance public health and safety
 - Improve quality of life
 - Preserve the environment
 - Facilitate trade
- CSA is part of the CSA Group

CSA Climate Change

- Adaptation of infrastructure to a changing climate.
- Mitigation strategies:
 - Emerging Renewables
 - Distributed Generation
 - Green Fleets
 - Fuel Cells
 - Cleaner Fossil Fuels
 - Buildings and Infrastructure
- GHG Accounting and Management:
 - Quantification Protocols
 - ISO 14064
 - GHG Registries



The risks from a changing climate can be severe



Source: Intergovernmental Panel on Climate Change, Third Assessment Report, 2001

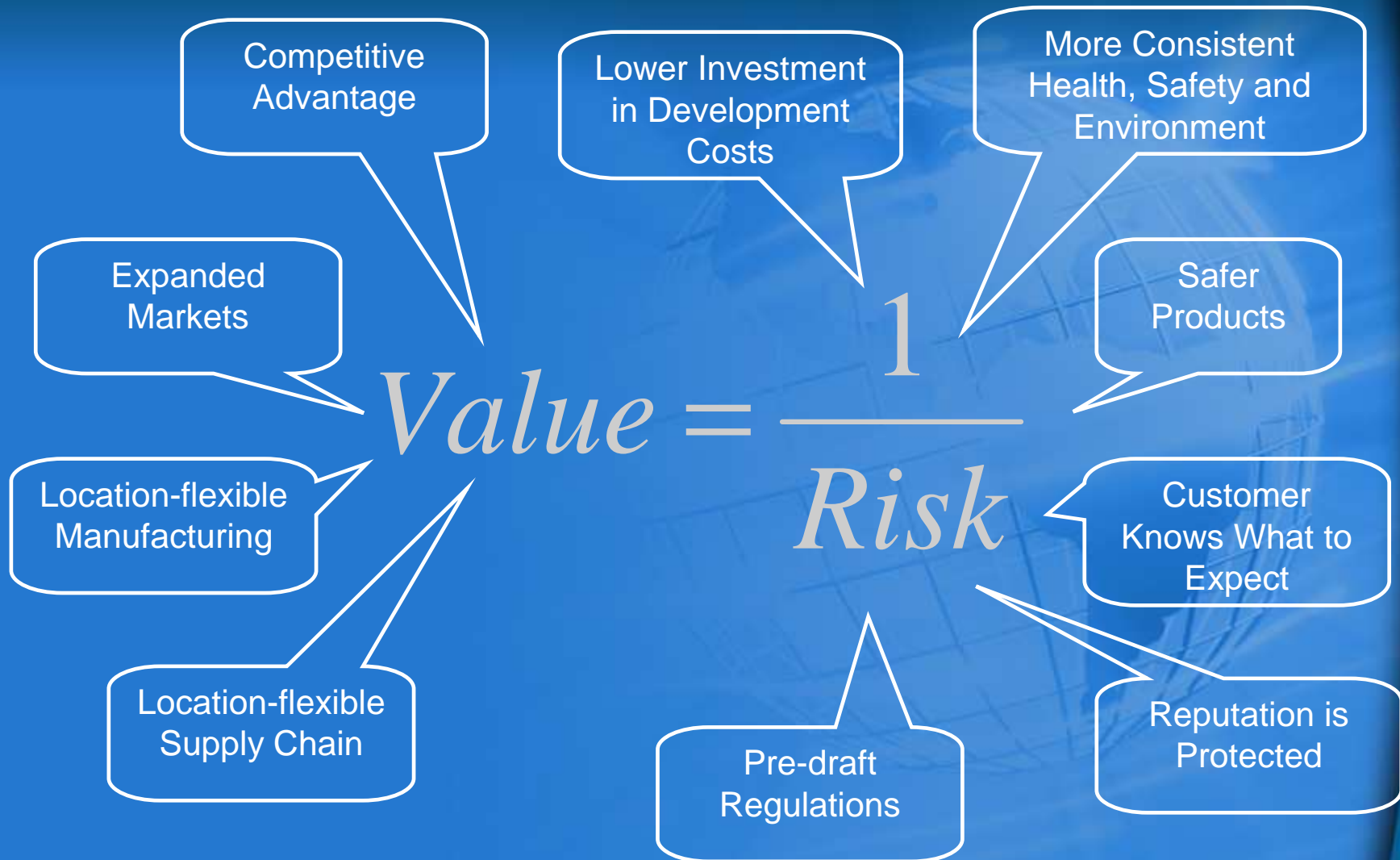
Insurance companies are worried...

- Munich Re Foundation (a reinsurer), said 2005 was the costliest year for weather-related disasters, with \$200 billion in economic losses.
- The World Health Organization has assessed that the world's warming climate is contributing to 150,000 deaths per year and 5 million illnesses due to increased rates of malaria, malnutrition and diarrhea throughout the world.
- University of Arizona and Scripps Institute of Oceanography said the length of the fire season in the US has increased almost 2 and a half months compared with climate normals between 1971 and 1986.
- U.S. National Association of Insurance Commissioners (NAIC) voted unanimously to form a task force to examine the impact of climate change on the insurance industry and on insurance consumers.

...and investors are worried.

- The Investor Network on Climate Risk (INCR), managing over \$3 trillion in assets, was formed to promote better understanding of the financial risks and investment opportunities posed by climate change;
- In June, 2006, 28 institutional investors, managing \$1 trillion in assets, called on the US Securities and Exchange Commission (SEC) to require publicly traded companies to disclose the financial risks of climate change in their securities filings.
- The Carbon Disclosure Project, representing 211 institutional investors with more than \$31 trillion in assets issued its 4th report in September. 72% of companies surveyed in the report responded to the questionnaire. More than half of the companies who identified that they were at risk didn't have a plan to manage their GHG emissions.

...but why should businesses standardize?



ISO Climate Change Chronology

ISO/TC 207 Climate Change Task Force

- **Purpose:** ISO's initial consideration of climate change issues, focusing on the linkage to existing ISO 14000 standards.
- **Timeline:** Pre-2000

ISO Technical Management Board – Ad Hoc Group on Climate Change

- **Purpose:** Research market needs for ISO climate change standards and provide strategic advice to the Technical Management Board
- **Timeline:** January 2000 – February 2002

ISO/TC 207 Working Group 5 on Climate Change

- **Purpose:** Develop standards for GHG quantification, monitoring, reporting and verification.
- **Timeline:** June 2002 – present

Joint ISO CASCO/TC 207 Working Group 6 on Validation AND Verification Bodies

- **Purpose:** Develop standards for the accreditation of GHG validation and verification bodies.
- **Timeline:** September 2004 – present

Who is Doing the Work?

**ISO TC 207 –
Environmental Management**
Managed by CSA (Canada)

**Working Group 5 (ISO 14064) –
Climate Change**
*Managed by CSA (Canada) &
DSM (Malaysia)*

- Started work in late 2002.
- 175 experts, 45 countries.
- Liaisons/observers include:
 - World Business Council on Sustainable Development (WBCSD)
 - World Resources Institute (WRI)
 - World Bank
 - Intergovernmental Panel on Climate Change (IPCC)
 - United Nations Framework Convention on Climate Change (UNFCCC)

**Working Group 6 (ISO 14065) –
Recognition of GHG V/V Bodies**
*Managed by CSA (Canada) &
SSA (South Africa)*

- Started work in late 2004.
- 75 experts, 30 countries.
- Liaisons/observers include:
 - International Accreditation Forum
 - United Nations Framework Convention on Climate Change (UNFCCC)
 - International Emissions Trading Association (IETA)

New International Standards for GHG Inventory, Projects and Verification

- In March 2006, ISO announced the approval of ISO 14064 standards by all countries participating in their development.
- Approvals include:
 - The US and Australia
 - China, India, Brazil, South Korea, Indonesia, South Africa
 - Russia, Venezuela, Libya, Norway
 - EU members (including UK, Germany, France, Italy)
 - Canada and Japan
- ISO standards can be adopted “as is” by national standards organizations, or with deviations:
 - Canada adopted without deviations in April, 2006.

Four Distinct Standards

Scope	Standard
Organizations	Greenhouse gases - Part 1: Specification with guidance at the organization level for quantification and reporting of greenhouse gas emissions and removals (ISO 14064-1).
Projects	Greenhouse gases - Part 2: Specification with guidance at the project level for quantification, monitoring and reporting of greenhouse gas emission reductions and removal enhancements (ISO 14064-2).
Validation and Verification	Greenhouse gases - Part 3: Specification with guidance for the <i>validation and verification</i> of greenhouse gas assertions (ISO 14064-3).
Accreditation	Greenhouse gases - Specification for greenhouse gas validation and verification bodies for use in <i>accreditation</i> and other forms of recognition (ISO 14065).

Key Features

- Voluntary and regime/program neutral
 - focused on the technical aspects of GHG accounting.
- Different from management systems standards (such as ISO 9000 and ISO 14000):
 - Do not require registration/annual third party audits/conformity assessments.
- But compatible with ISO management system standards
 - For example: verification standard considers the types of controls that are in place for data management
- Written in a language compatible with requirements from the financial and accounting sectors.
- Compatible and complimentary with other widely used GHG accounting standards (GHG Protocol, CDM)
- Could form the architecture of an international, liquid, GHG market.

ISO 14064-1: Organizations

- 1 Scope**
- 2 Definitions**
- 3 Principles**
- 4 GHG inventory design and development**
 - 4.1 Organizational boundaries
 - 4.2 Operational boundaries
 - 4.3 Quantification of GHG emissions and removals
- 5 GHG Inventory components**
 - 5.1 GHG emissions and removals
 - 5.2 Organizational activities to reduce GHG emissions or increase GHG removals
 - 5.3 Base year GHG inventory
- 6 GHG inventory quality management**
 - 6.1 GHG information management and monitoring
 - 6.2 Document retention and record keeping
- 7 GHG reporting**
 - 7.1 GHG report planning
 - 7.2 GHG report content
 - 7.3 GHG report format
 - 7.4 GHG report dissemination
- 8 Verification (1st party)**

ISO 14064-2: Projects

- 1 **Scope**
- 2 **Definitions**
- 3 **Principles**
- 4 **Introduction to GHG projects**
- 5 **Requirements for GHG projects**
 - 5.1 General requirements
 - 5.2 Describing the project
 - 5.3 Identifying GHG sources, sinks and reservoirs for the project
 - 5.4 Determining the baseline scenario
 - 5.5 Identifying GHG sources, sinks and reservoirs relevant to the baseline scenario
 - 5.6 Selecting GHG sources, sinks and reservoirs for regular monitoring and quantification
 - 5.7 Quantifying greenhouse gases
 - 5.8 Managing data quality
 - 5.9 Monitoring the GHG project
 - 5.10 Documenting the GHG project
 - 5.11 Validating or verifying the GHG project
 - 5.12 Reporting the GHG project

- 1 **Scope**
- 2 **Definitions**
- 3 **Principles**
- 4 **Validation and Verification Requirements**
 - 4.1 General
 - 4.2 Competence of the validator or verifier
 - 4.3 Validation or verification objectives, scope, criteria and level of assurance
 - 4.4 Validation or verification approach
 - 4.5 Assessment of GHG information system and information system controls
 - 4.6 Assessment of GHG data and information
 - 4.7 Assessment against validation or verification criteria
 - 4.8 Evaluation of the GHG assertion
 - 4.9 Validation and verification statement
 - 4.10 Validation or verification records

Potential benefits of ISO 14064

- Presents a complete architecture for GHG accounting (inventory and projects) at the organization level that is verifiable
- Will provide the infrastructure for organizations to become accredited verifiers (14065).
- Focused on technical requirements, therefore can be made compatible with jurisdictional reporting requirements.
- Can support new, non regulatory requirements for GHG reporting:
 - SMEs not covered by mandatory reporting can account for a significant portion of GHG emissions

Potential benefits of 14064 (cont.)

- GHG Inventory is essential to identify opportunities for:
 - Energy and other costs savings on site or throughout the supply chain
 - Identifying new product lines to take advantage of new market opportunities
 - Establishing market and product differentiation (i.e. going carbon neutral)
 - Identifying regulatory or other risks the organization may face
- GHG projects are an important component of organizational action plans to reduce emissions:
 - Can create a new revenue stream (i.e. credits)
 - Can demonstrate the GHG performance of new products or technologies to the marketplace

Benefits for the investment and banking community

- Provides a framework for global compatibility of voluntary and mandatory GHG programmes;
- Can help improve the consistency and transparency of GHG accounting and reporting to global initiatives (e.g. CDP, GRI, etc.);
- Improved decision making on carbon risk and value for investors;
- Credible architecture to support the evolution of GHG markets;



CANADIAN STANDARDS
ASSOCIATION

Thank you

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