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Association canadienne de l'électricité

Sustainability and Risk Management in the Canadian Electricity Sector

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Inspiring Generations—Managing Risk
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Outline

- About CEA
- Sustainable Electricity™ program
- External Verification
- Risk Management
- CEA Brand Designation on Sustainability

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CEA Corporate Utility Members

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ATCO Electric
ATCO Power
BC hydro
Brookfield
Capital Power
City of Medicine Hat Electric Utility
COLUMBIA POWER CORPORATION
ENMAX
EPCOR
FORTIS ALBERTA
FORTISBC
horizon UTILITIES Looking beyond
hydro One
HydroOttawa
Hydro Québec TransÉnergie
Manitoba Hydro
MARITIME ELECTRIC A FORTIS COMPANY
OAKVILLE HYDRO CORPORATION
Énergie NB Power
Hydro Québec Distribution
nalcor energy
NOVA SCOTIA POWER An Emera Company
Saint John Energy The Power Commission of the City of Saint John
NEWFOUNDLAND POWER A FORTIS COMPANY
NORTHWEST TERRITORIES POWER CORPORATION
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SaskPower
SASKATOON LIGHT & POWER Reliable . Responsive .
toronto hydro corporation
TransCanada In business to deliver

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CEA Corporate Partner Members

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Role of CEA in Risk Management and Sustainability

- **CEA recognizes the value of enterprise risk management, adherence to relevant standards and external verification of performance**
- **CEA has numerous issue groups organized by risk areas**
  - **(e.g. climate change mitigation/adaptation, human resources, security and infrastructure protection)**
- **First major association to mandate its members to implement ISO 14001 Environmental Management System (EMS) - under the Environmental Commitment & Responsibility Program (1997)**
- **Sustainable Electricity™ program (2009)**

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Sustainable Electricity™: An Electricity Sector Commitment to Continual Improvement

- **Goal: continual improvement of overall environmental, social and economic performance of the sector, minimization of adverse impacts, and enhancement of positive aspects of sustainable development**
- **Drivers: social license to operate, regulatory pressures, reduce impacts, promotion of best practices, standards, and innovation**
- **Standards: members are required to have ISO 14001 conforming Environmental Management Systems**
- **Participation: a condition of membership for Corporate Utility members**

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Core Elements of Sustainable Electricity™

- A Policy for Sustainable Development – Corporate Responsibility
- Performance Indicators and Reporting
  - Annual Report
  - Sustainable Development Index (SDI)
- Public Advisory Panel
- External Verification

Sustainable Electricity™

A Policy for Sustainable Development - Corporate Responsibility

CEA member utilities to improve their overall sustainable development performance by committing to the following principles:

Environment: Minimize the adverse environmental impacts of our facilities, operations and businesses

Stewardship and Biodiversity: Manage the environmental resources and ecosystems that we affect to prevent or minimize loss and support recovery

Climate Change: Manage greenhouse gas emissions to mitigate the impact of operations on climate change, while adapting to its effects

Health and Safety: Provide a safe and healthy workplace for our employees and contractors

Workplace: Support a fair, respectful and diverse workplace for our employees and contractors

Sustainable Electricity™ SD–CR Policy (Cont'd)

Communications and Engagement: Communicate with and engage our stakeholders in a transparent and timely manner

Aboriginal Relations: Communicate with and engage Aboriginal people in a manner that respects their culture and traditions

Economic Value: Provide economic benefits to shareholders, communities and regions in which we operate

Energy Efficiency: Produce, deliver and use electricity in an efficient manner while promoting conservation and demand side management

Security of Supply: Provide electricity to customers in a safe, reliable and cost effective manner to meet current and future needs

The CEA member utilities are accountable for implementing this policy within their organizations

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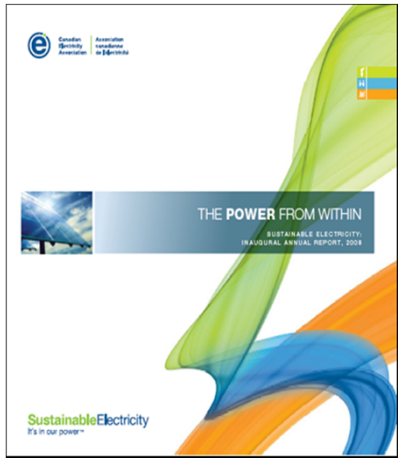
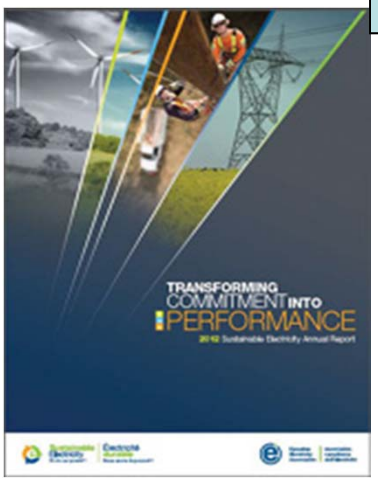
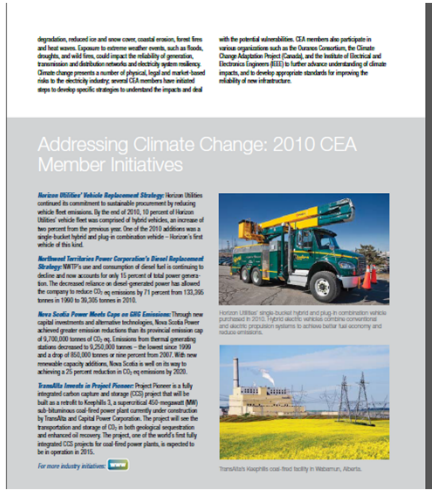
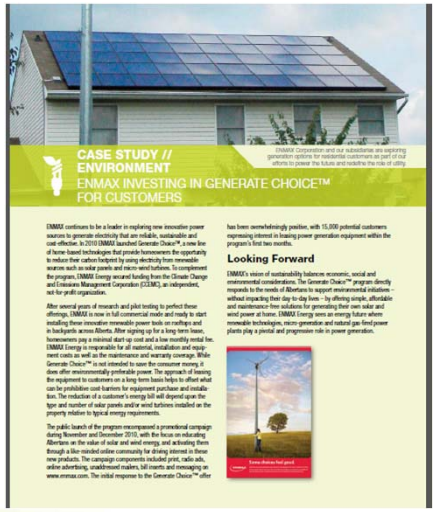
Sustainable Electricity™ Annual Reports





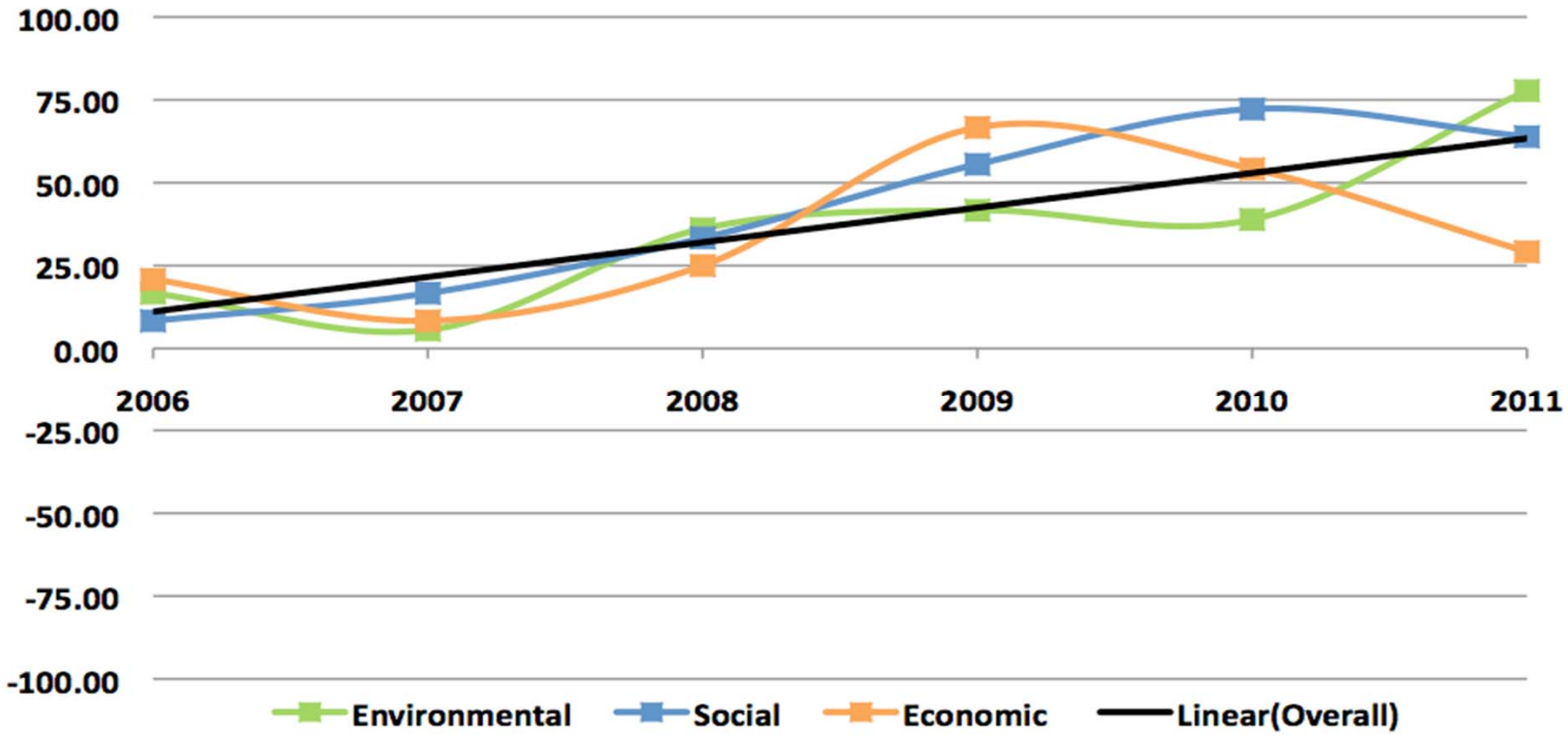




Performance Reporting: Sustainable Development Index (SDI)

- The SDI introduces a new innovative method to measure and communicate sustainability performance – a first for a major Canadian industry association
- It enables stakeholders to determine if the CEA membership is collectively trending "better or worse" in reference to SD
- It includes nearly 24 indicators of environmental, social and economic performance, and each category is given equal weighting regardless of the number of metrics per category

SDI: CEA Member Performance Relative to 2004/2005



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Sustainable Electricity™ Public Advisory Panel

Hon. Mike Harcourt

David Oulton

Ken Ogilvie

Yves Bouthilier

Judith Sayers

Darrell Bishop

Sustainable Electricity™ External Verification

- The external verification process is conducted by an independent, qualified auditor, in accordance with CEA independent verification protocols
- Verification review is primarily focused on conformance with the program's sustainability policy, consistency and accuracy of information provided to CEA, and implementation of ISO 14001 Environmental Management System (EMS)
- The CEA's verification program was created with input from certified auditors (members of AAC) and is executed by Duerden and Keene (members of AAC)

External Verification Processes
Lends Credence to Published Performance

- **All members are externally verified every 4 - 5 years**
- **Major non-conformities must be verified closed by an independent 3rd party**
- **Escalation process for non-conformance**

Climate Adaptation and Risk Management

- **Climate change adaptation is a growing issue of concern**
- **The issue of resilience of the current electricity system is an Enterprise Risk issue for many companies**
- **CEA member organizations are undertaking evaluations of whether the existing design and risk management processes need to be modified to address future extreme weather scenarios**
- **The work of the adaptation working group is guided by the principles of risk management**

Addressing Risks through Innovation (Workshop)

CEA Sustainability Brand for Companies

The Sustainability Seal of Approval for Utilities

- **The Sustainable Electricity Company™, launched in November 2010, is a voluntary sustainability designation provided by CEA**
- **The designation is primarily based on ISO 26000 (Guidance on Social Responsibility)**
- **Companies wishing to use the designation must commit to the "applicable" core subjects, issues and related actions and expectations contained in the standard and go through an external verification process**
- **This designation provides external validation of company sustainability practices**

Questions?

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Annex - Current SDI Indictors

TABLE 1: SDI INDICATORS

Environment	Social	Economic
• NO_x emissions (tonnes) • NO_x intensity • SO_2 emissions (tonnes) • SO_2 intensity • CO_2 eq emissions (tonnes) • CO_2 eq intensity • Priority Spills • Sulfur Hexafluoride emissions (tonnes) • Implementation of Environmental Management Systems (percent)	• All Injury/Illness Frequency Rate • Lost-Time Injury Frequency Rate • Lost-Time Injury Severity Rate • Total value of annual company charitable donations ($) • Companies producing sustainability reports (percent) • Companies with public education programs (percent) • Companies with Aboriginal Relations group or positions (percent) • Companies with partnerships with Aboriginal Peoples (percent) • Companies with procedures for training and employment of Aboriginal Peoples (percent)	• Total capital expenditures on generation infrastructure ($/yr) • Total capital expenditures on transmission infrastructure ($/yr) • Total capital expenditures on distribution infrastructure ($/yr) • System Average Interruption Duration Index (hours) • System Average Interruption Frequency Index (per customer) • Total Energy saved through external energy conservation initiatives (MWh)

Sustainable Development Index Scoring System

2010 SDI Score Card										Average Score 2010	
Environment	-100	-75	-50	-25	0	25	50	75	100	Score	58.33333
Nox Total	> 18% increase relative to base yrs	> 12% increase relative to base yrs	> 6% increase relative to base yrs	< 6% increase relative to base yrs	0% relative to base yrs	< 6% decrease relative to base yrs	> 6% decrease relative to base yrs	> 12% decrease relative to base yrs	> 18% decrease relative to base yrs	75	
Nox Intensity	> 9% increase relative to base yrs	> 6% increase relative to base yrs	> 3% increase relative to base yrs	< 3% increase relative to base yrs	0% relative to base yrs	< 3% decrease relative to base yrs	> 3% decrease relative to base yrs	> 6% decrease relative to base yrs	> 9% decrease relative to base yrs	75	
SO_2 Total	> 30% increase relative to base yrs	> 20% increase relative to base yrs	> 10% increase relative to base yrs	< 10% increase relative to base yrs	0% relative to base yrs	< 10% decrease relative to base yrs	> 10% decrease relative to base yrs	> 20% decrease relative to base yrs	> 30% decrease relative to base yrs	75	
SO_2 Intensity	> 24% increase relative to base yrs	> 16% increase relative to base yrs	> 8% increase relative to base yrs	< 8% increase relative to base yrs	0% relative to base yrs	< 8% decrease relative to base yrs	> 8% decrease relative to base yrs	> 16% decrease relative to base yrs	> 24% decrease relative to base yrs	100	
CO_2 eq. Total	> 21% increase relative to base yrs	> 14% increase relative to base yrs	> 7% increase relative to base yrs	< 7% increase relative to base yrs	0% relative to base yrs	< 7% decrease relative to base yrs	> 7% decrease relative to base yrs	> 14% decrease relative to base yrs	> 21% decrease relative to base yrs	75	
CO_2 eq. Intensity	> 9% increase relative to base yrs	> 6% increase relative to base yrs	> 3% increase relative to base yrs	< 3% increase relative to base yrs	0% relative to base yrs	< 3% decrease relative to base yrs	> 3% decrease relative to base yrs	> 6% decrease relative to base yrs	> 9% decrease relative to base yrs	100	
Spills	> 45% increase relative to base yrs	> 30% increase relative to base yrs	> 15% increase relative to base yrs	< 15% increase relative to base yrs	0% relative to base yrs	< 15% decrease relative to base yrs	> 15% decrease relative to base yrs	> 30% decrease relative to base yrs	> 45% decrease relative to base yrs	-75	
SF6	> 36% increase relative to base yrs	> 24% increase relative to base yrs	> 12% increase relative to base yrs	< 12% increase relative to base yrs	0% relative to base yrs	< 12% decrease relative to base yrs	> 12% decrease relative to base yrs	> 24% decrease relative to base yrs	> 36% decrease relative to base yrs	25	
ISO Consistent EMS	> 15% decrease relative to base yrs	> 10% decrease relative to base yrs	> 5% decrease relative to base yrs	< 5% decrease relative to base yrs	0% relative to base yrs	< 5% increase relative to base yrs	> 5% increase relative to base yrs	> 10% increase relative to base yrs	> 15% increase relative to base yrs	75	

Scoring for any given metric is determined through a combination of variance of historical data and percent change in annual performance relative to the base years 2004/05