

Canadian Energy Partnership for Environmental Innovation

A CRESTech Strategic Innovation Collaboration

Joint Government – Industry R & D Forum

Facilities/Compression/LNG

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Topics for Discussion

- The Partnership
- The Program
- Results
- Path Forward



Genesis of the Partnership

- Originally started as Gas Technology Canada (GTC) in early 1990's;
- Environmental program part of a wider technology research-funding program;
- Evolved to Gas Research Institute Canada (GRIC) with some supporting financial and administrative services provided by GRI; and
- Now moved to CRESTech, a division of Ontario Centres of Excellence Inc.



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Mission/Mandate

- Fund, oversee and manage the development of credible research to support the Canadian natural gas industry.
 - increase understanding of environmental impacts of natural gas;
 - enhance management of environmental risks and liabilities;
 - position industry with information to address current or emerging regulation; and
 - support collective environmental positions, policies and practices of Partnership members.



Participating Companies

- Enbridge Gas Distribution*
 (Tim Adamson, Chair)
- Duke Energy Gas
 Transmission Canada*
- Gaz Metro, Inc.
- TransCanada Corporation*
- Terasen Gas
- AltaGas Utilities Inc.
- ATCO Gas
- ATCO Pipe Lines



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- SaskEnergy
 Incorporated/TransGas
 Limited
- Environment Canada
- Foothills Pipe Lines Ltd.
- Manitoba Hydro (B.Gill, Vice Chair).

(Jasmine Urisk, Environmental Program Director)

* Major contributors due to size

Climate Change Program Area

Over 20 projects - a shared investment of over 1.5 million \$ Cdn.

- GHG Inventories for 1990, 1995, 2000 and 2002;
- Measurement studies;
- Two industry handbooks and other tools (e.g., GHG Calc Canadian version);
- Emissions factor improvement studies;
- Uncertainty analyses; and
- Audit



Rewards

- Persuaded Environment Canada to adjust 1995 national inventory
- Ontario emission reporting regulation adopted industry's recommendations re: facility definitions and thresholds for GHGs
- Canadian GHG inventory commissioned by Environment Canada and NRCan incorporated entire 2000 Inventory and Audit report without adjustment
- Audited 2000 inventory data have been and continue to be invaluable:
 - in LFE negotiations
 - in development of the national mandatory reporting regulation (facility definitions, thresholds, exemptions)

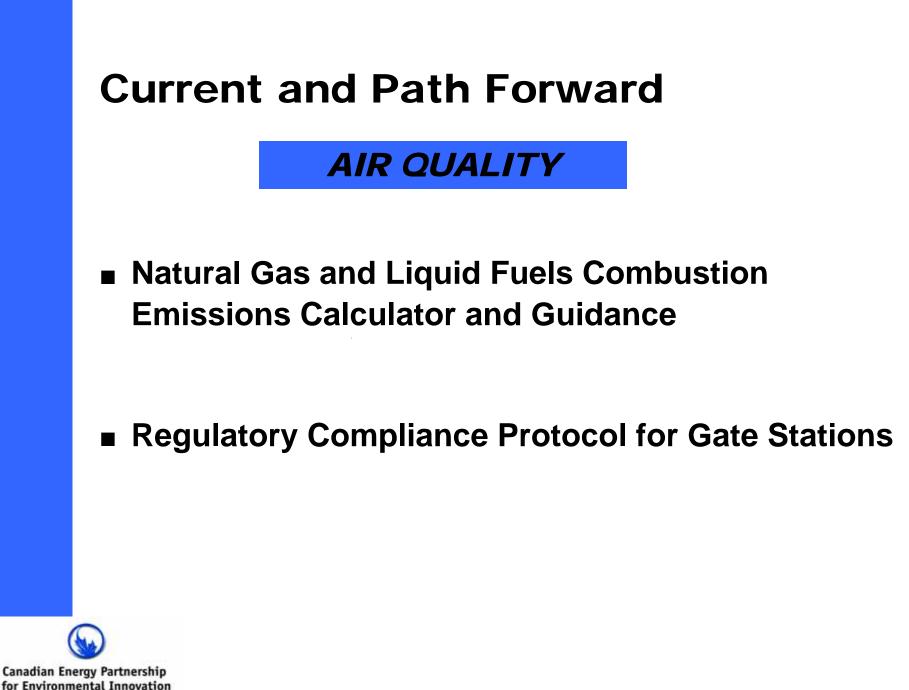
Path Forward

CLIMATE CHANGE

- Annual GHG Inventory Roll-ups
- Fugitive Emissions Measurement Program
 - Field measurement protocol
 - Updated fugitive emission factors
 - Updated uncertainty analysis
- North American GHG Protocols and Inventory
- Emission Factor Comparison Study
- Emission Reduction Credits (offsets) from Demand Side Management



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Past, Current and Future Projects

PIPELINES – AIR/LAND/WATER PROGRAM AREA

Supported and participated in GRI studies (e.g., wetland revegetation, drilling muds, sediment and erosion control manual)

PCB Management

- Driven by pending new regulation and public reporting
- ➢ Risk assessment study
- Best practices manual

Trace toxics sampling program

Effects of hydrocarbon contamination on PVC_{in} Canadian Energy Partnership for Environmental Inno appendix A CRESTech Strategic Innovation Cellabo

Current and Path Forward

NEW TECHNOLOGIES/RENEWABLES

Gas-Solar Hot Water Heater Pilot Project

Evaluation of Gas-Based Technologies for Deriving Energy from Waste



Measurement of Financial Benefits to Participating Companies

Project	Value spent by EGD	Estimated Savings
Handbook for Estimating Methane Emissions	\$10,000	\$15,000 annually (to date \$60,000)
GHG Audit	\$25,000	\$100,000's due to incorrect data
PCB Risk Assessment	\$10,000	\$500 million (from first draft of regulation)
Airborne Contaminants Guidance Document	\$4,000	\$10,000 annually as need consultant plus load retention



for Environmental Innovation A CRESTech Strategic Innovation Collaboration

Summary

- The Partnership is a "success collaborative research story"
- Its reports are credible and widely referenced;
- Each project must meet strategic agenda and exacting requirements; and
- Provides a technical base for other lobbying efforts by industry associations.



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