



## **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.



# 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
- 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**





# Current and Path Forward

## *AIR QUALITY*

- **Natural Gas and Liquid Fuels Combustion Emissions Calculator and Guidance**
- **Regulatory Compliance Protocol for Gate Stations**



# 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 pipes**



# 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

<u>Project</u>	<u>Value spent by EGD</u>	<u>Estimated Savings</u>
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



# 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.

