LDCs and Sustainable Development

Sustainability = Energy Efficiency

Two avenues to advance sustainability:

1. Altering consumption behaviour - education, economic incentives and feedback
   - relatively less expensive
   - non-permanent
2. Building higher efficiency into energy infrastructure
   - an “intrinsically efficient” method
   - more expensive
   - durable

Gaining Efficiency Through Infrastructure Investment

- Both methods are equally important and complimentary
- Local energy delivery companies are uniquely positioned to advance these programs
- This presentation is focused on the second aspect of sustainability advancement process – infrastructure-based projects

Examples of infrastructure-based programs to enhance sustainability through energy efficiency:

- Energy Generation from renewable Sources
  - Solar
  - Biomass
- Energy from cleaner and more efficient sources:
  - District Energy and
  - Tri-Generation
  - Community-based geothermal systems

Characteristics of Infrastructure-Based Programs

These programs typically have:

- High capital cost and technology content
- Long life
- Difficult to abandon and replace if fail
- Large number of users and stakeholders
- Need stakeholder acceptance of unusual or newer technologies

Hard to sell, hard to deliver

The above means there needs to be a committed champion who is:

- Known and responsive to stakeholder community
- Long-term player
- Able to come up with long-term capital
- Technically sophisticated, able to build and maintain

Local Distribution Company

OHC Experience

- Electricity from Landfill Gas
  - Operational, 2MW first stage
  - Partner – Region of Halton
  - Key enablers – OPA, Hydro One
  - 5 years to complete, development costs ~ $450K
- Summary of Experience
  - Long development process
  - Multiple stakeholders makes for a complicated undertaking
  - Challenge in forecasting facility output
  - Landfill-specific operational issues

Looking Ahead

- Cogeneration
  - In the development stage, eminently doable projects
  - Partner - Existing MUSH and Industrial sector hosts
  - Key Enabler – OPA, Province (CESOP)
- District Energy and Tri-Generation
  - At preliminary development stages
  - Partner - Planned MUSH sector host and new community
  - Key Enablers – Provincial agencies, municipality
- Community-based Geothermal Systems
  - A concept