North American Cities

Bridging the Gap Between Community Energy Goals and Scale DHC Implementation

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Bridging The Gap Between Community Energy Goals and Scale DHC Implementation
Leaders of 700 US & Canadian Cities

Energy & Climate Goals

- “Commit to reduce greenhouse gases 80% by 2050”
- “Increase resilience and spur economic growth”
- “Reach carbon-neutrality by 2050”
- “Slash energy use by 50% city-wide”
- “Commit to 100% clean energy by 2050”
- “Reduce 2050 emissions by 50%...”
- …

Do Their Plans Match the Goals?
Brief Introduction

What we do…

- Develop Community Energy & Climate Plans
- Meet City’s Economic & Environmental Goals
- Collaboratively developed
- Analytically Robust
- Institutional, Marketing, Policy and Technical Measures
- US-Canadian-EU Associate Team
- Globally Benchmarked
Example of One City!
City of Brampton

- In Ontario’s “Golden Horseshoe”
- Population 614,00 growing to 930,000 by 2051
- Major industries – Fiat-Chrysler, Amazon, Canon…
- 2016 Energy Profile
  - $1.8 Bn / €1.2 Bn Cost
  - 3.5 tonnes GHG
  - 92 M Gigajoules

Committed to Sustainable Future
Brampton’s Energy & Climate Plan

Integrated Solution

- Efficient Buildings
- Efficient Homes
- Efficient Construction
- Efficient Industry
- Mixed Use Densification
- Efficient Vehicles
- Transport Mix
- Net-Zero Districts
- Renewable Energy
- DHC Districts
- Local Supply

GHG Emissions to 2050

CITY

“PARIS”
High Growth Neighbourhoods
Efficient Heating & Cooling

- DHC serve 80% of property
- Global standards
- Create DHC Utility
- Property guidelines
- Competitive, reliable, comfortable
- Local employment
- Predictable performance
- Path to zero-emission HC
- Neighbourhood plans

High Quality Efficient Service
“European” Energy Neighbourhood
Sheridan College – Local Example

- Efficiency Retrofit
- Energy Centre
- Advanced Control
- German A-Rated
- Solar Power
- Track Performance
- EU District Energy
- Possible Growth?
Current DHC Market

- Many Cities understand DHC Benefits

*But…*

- Limited implementation scale

- Recent Canadian Study Example
  - 217 systems
  - Total Network length 310 km
  - ~ 60% legacy steam

- USA comparable relative scale

- Compare Mannheim ~ 570km network

Vast Untapped Potential
Understand Barriers
Key Step to Market Transformation

- Lack of robust DHC Business Plans
- Limited expertise to create DHC utilities
- Limited expertise to create DHC policy
- Role confusion between DHC supplier and consumer
- Perceived complexity and risk exacerbated by industry marketing approaches
- Misunderstanding of simplicity, reliability and cost of global norm technology
- Lack of relevant local municipal references

Are We Focusing on Clearing Barriers?