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- Overview of MEEP
- Green Thermal Utility or Community Energy System (CES)
Mission Statement

(MEEP)

We are the Centre of Excellence of the Corporate Sustainable Energy Management. We promote, advise, develop and implement energy efficiency programs and initiatives on existing and new infrastructures, to lessen the effects of energy use on the environment and operating budget, and to showcase the City as a leader in Sustainable Energy Management.
Objectives & Goals of the MEEP

- Reduce total energy use and GHG emissions
- Help other municipalities, community and business sectors with the lesson learned
- Advise council and Senior staff on Energy Policies, Standards, Guidelines and procurement of environmentally sound equipment
- Raise energy efficiency awareness among staff
Background & Data

Program Started in 1999

- Over 152 buildings
- 1.5 Million Area ft²
- Commissions 5 Buildings
- $7.3 million (2001)

Background & Data

- Over 152 buildings
- 1.5 Million Area ft²
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Accomplishments as of 2014

- **Energy Reduction**: 27%
- **Energy Savings**: 8M KWH and 35,000 GJ
- **GHG Reduction**: 8,600 Tons or 24%
- **Energy Audits/Retrofits**: 90+
- **Energy Savings**: $2.0M
- **Grants & Loans**: $21M
Accomplishments (contd.)

- **Premier’s Award For Energy Efficiency** 2011- Commercial Energy Efficiency Champion
- Top 13 in North America for **Best Energy Management Practices**
- **Milton F. Gregg Conservation Award**
- **FCM-CH2 M Hill Sustainable Community Award** 2008: Energy
- Canadian Association of Municipal Administrators (CAMA) 2004: **Environmental Award**
- **LEED Buildings**
- **GNB Community Recognition Award**
Future Goals and Objectives 2020

- Develop CEP
  - Reduce Energy Consumption and GHG emissions by 38%
  - Reduce Annual Energy Cost by approximately $3 Million
- Develop a Community Energy plan
- Develop and implement an energy management plan for the City fleet including transit
- Continue to work with City staff, Developer, Community and other government levels
Green Thermal Utility (GTU)

Energy Sources Option

- Sea water cooling
- Raw Sewage Energy
- Industrial Waste Energy (Irving Refinery, Irving Pulp & Paper)
- Waste Heat from buildings
Accomplishment

- Visit sites in Toronto, Markham and Halifax
- Pre-feasibility Study Completed in March 31, 2009
- Environmental Trust Funding: $100,000 (awarded)
- FCM Green Municipal Funds: $149,000 (awarded)
- Funds Toward Project Implementation. $9.8 Million in GIF
- Complete Detailed Conceptual Design
- Complete Business and Technical Analysis
- Negotiation with Energy Supply
- Complete Environmental Assessment
Energy Sources and Design Recommendations

- Industrial waste heat
- 30 MW
- $35 Million
- Biomass Plant
- 200 F/95 C Loop Temperature
- Hot Water and Low Steam Heat Exchangers
- Backup plant
- Good payback
- DPS Bridge Connection
- DPS Route
- European Standard EN253 – Insulated Steel Pipe
Buildings and Load Profile

- Hydraulic System
- Two KM
- 150,000 MWH
- Multi-phase Development
  - Phase 1&2 - Energy Integration of the Saint John Anchor tenants (3.5 million ft²) Includes:
    - Market Square including the expansion and Hilton,
    - Canada Games Aquatic Centre,
    - Peel Plaza Law Courts,
    - Peel Plaza Police Station, and
    - Harbor Station Arena
    - New Development at the Coast Guard location
    - City Hall
    - Other Buildings
    - 25 Buildings
Proposed Piping Diagram
Thank You!