Waste partnerships in sustainable communities

Presented by:
Mirka Januszkiewicz
Director, Waste Management Services
Regional Municipality of Durham

November 2009
What is sustainability…

Sustainability is meeting the needs of the present generation without compromising the ability of future generations to meet their needs.

(Source: Our Common Future, Brundtland Report 1987)
Bringing together Durham’s waste strategy

- Education
- Reuse and recovery
- Organics composting
- Recycling
- Energy-from-waste With energy recovery
Regional Municipality of Durham

- Approximately 2,535 square kilometres in area.
- Population of 621,000 across eight local area municipalities.
- The upper level of a two-tier government; Regional and municipal.
- Responsible for residential waste collection for six municipalities and disposal for two other.
- Responsible for blue box collection, waste disposal, processing and composting for eight local area municipalities.
Evolution of waste management in Durham Region

- Durham Region was established in 1974. It relied on neighbours for waste disposal. Landfill locations included:
  - Brock West - Pickering: Late 1970s to mid 1990s.

- Regional Council made the decision not to consider a “new” landfill for the Region.

- Closing of US border announced in 2004; will end transport of residential waste to Michigan effective December 2010

Conclusion → Find a local solution for waste management for Durham Region
Durham Region’s Long Term Waste Management Strategy: 2000 to 2020

1. Divert at least 50 per cent of residential waste from landfill by 2007 or earlier
   * 70 per cent by December 31, 2010

2. Secure an alternate source for disposal of residential waste when the City of Toronto’s Keele Valley Landfill site closes. Michigan until December 31, 2010

3. Develop integrated residential waste management system:
   • Blue Box recyclables,
   • Food and Yard waste compostables,
   • Residential garbage waste,
   • Special wastes

4. Consider an energy-from-waste facility for processing residual garbage waste after at-source recycling and composting.

* New diversion rate target as directed by Durham Regional Council in January 2009.
Material Recovery Facility (MRF) opened 2008
$14.5 million

Organics Processing facility opened 2006

Remediation of old landfill sites started 2007:
- Brock $10.5m complete 2014 approx.
- Oshawa $2.2m complete 2013 approx.
- 5 small landfill sites in Region $1.7m ongoing
Durham Region’s Integrated Waste Management Strategy

- At curbside, weekly blue box collection residents are asked to divide recyclables into two separate blue boxes - one for containers and the other for paper.
- Materials are sorted at the Regionally operated Material Recovery Facility, then baled and sold to buyers.
- Weekly green bin and seasonal yard waste material is collected curbside at all residential homes and processed at two sites in Durham.
- Operating three local transfer stations, material is sorted for recovery and reclamation before sending residuals to landfill.
- June 2009, Regional Council approved the EA for the Energy-from-waste proposal, moving project forward to the Ministry of the Environment for approval.
Blue box – what makes it successful

- Durham’s MRF is equipped with state-of-the-art optical sorters. Facility capacity is up to 115,000 tonnes of recyclables per year.
- Source separation at curbside ensures efficient operation within two-stream MRF, resulting in a better quality end product.
- Educational and promotional material is consistent across the Region.

Yearly compost events provide free compost back to residents.

Durham Region’s compost has been tested (verifying its Grade A quality) making it suitable for unrestricted use.
Waste Transfer Stations – what’s left over can be handled too

- Household hazardous waste
- E-waste
- Metal and Bulky Goods
- Renovation material – drywall, wood
- White agricultural bale wrap

Final total after all is recycled, composted, re-used, and safely removed from the waste stream in 2008 = 48%

Sustainable waste management means dealing directly with our waste within our borders – so what else can we do?
70% Diversion by 2010

- Exploration of new waste diversion opportunities is ongoing, based on securing recycling markets for more products (e.g. mattresses, textiles, polystyrenes).
- Expansion to include multi-residential organic waste is under investigation.
- Increased promotion and marketing is ongoing to encourage greater diversion within the existing programs, as well as education of what goes where.
What is Energy From Waste (EFW)?

- Initial size to process approximately 140,000 tonnes per year.
- Mass burn.
- Metals recovery.
- Landfill disposal of bottom ash, as well as exploration of reuse options.
- Sale of electricity to provincial grid.
How is EFW being paid for?

Total project costs = $272.5 million
- Durham Region $214.7 million (78.6%)
- York Region $57.8 million (21.4%)

How is Durham Region’s share being financed?
- $100 million from Federal Gas Tax Reserve Fund.
- $1.6 million revenue from the sale of surplus land.
- $113.1 million will be financed through debentures over 8 years.
- Remaining debt will be paid using Future Federal Gas Tax revenue to retire Durham’s share of the project cost.
How the small benefit from the large-

- Durham Region is made up of 85% rural and 15% urban areas.
- Waste management service level standardization became reality in 2009 with a fully integrated collection program. All of residents receive the same Green bin, Blue Box, Yard waste and Garbage collection services regardless of their location.

**Urban/Rural Population in Durham, 2006**

Source: Municipal Property Assessment Corporation. Durham Region Planning Department.
Region wide, a uniform tax rate for waste was implemented in 2009 that is being phased in over 3 years.

Similar approach is used for other Region wide services including police, social services, and water, enabling a balancing of service across the Region for residents.

For rural areas, this cost savings is significant.
Sustainable waste management in Durham Region

- Local solutions
- Environmentally sustainable
- Utilizing new and innovative technology
- Integrating waste management processes in a consistent, well executed and well communicated plan