



The Regional Municipality of Durham: Winds of change in Ontario's Municipal Solid Waste Management

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On June 24, 2009 the Region of Durham Council approves the Energy From Waste EA

- Why we had to do it?
 - How did we do it?
- What is the estimated cost to do it?
 - What are the challenges?



Regional Municipality of Durham



- ***Located in the highly developed and populated centre of Ontario east of Toronto***
- ***Approximately 2,535 square kilometres in area***
- ***Population of 621,000***
- ***Upper level of a two-tier government; Regional and Municipal***
- ***Responsible for residential waste collection for six municipalities***
- ***Responsible for waste disposal for eight municipalities in its jurisdiction***



Evolution of Waste management in Durham Region – why?

- Durham Region was established in 1974 and closed its local landfill leaving area to rely on neighbours for waste disposal. Landfill locations included:
 - Brock West - Pickering: Late 1970s to mid 1990s;
 - Keele Valley - Vaughan: early '90s to 2002
 - IWMA proposals for Adams Mine, Ontario: early '90s
 - Pine Tree Acres – Michigan: to Jan, 1, 2011
- Regional Council made the decision not to allow any new landfills
- Closing of US border announced in 2004, shut out residential waste transport of waste to Michigan effective December 2010

Conclusion → Find a local solution for waste management for Durham Region



How did we deal with the problem?

Council recommended the Long Term Waste Management Strategy Plan 2000 to 2020 in the late '90s identifying EFW as an integral part of sustainable waste planning.





Durham Region's Long Term Waste Management Strategy: 2000 to 2020

Recommendation

Result

- | | |
|---|--|
| 1. Divert at least 50 per cent of residential waste from landfill by 2007 or earlier
<i>* 70 per cent by December 31, 2010</i> | 47.7% diversion rate in 2007.
Best rate in Ontario in the Urban Regional category. |
| 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: <ul style="list-style-type: none">■ Blue Box recyclables,■ Food and Yard waste compostables,■ Residential garbage waste and■ Special wastes | <u>Phase 1 (2003)</u> : Four municipalities start IWMP
<u>Phase 2 (2006)</u> : Remaining four municipalities start IWMP
<u>Phase 3 (2009)</u> : Standardized IWMP service levels |
| 4. Consider an "energy-from-waste" facility for processing residual garbage waste after at-source recycling and composting | Environmental Assessment initiated in 2004 |

* New diversion rate target as directed by Durham Regional Council in January 2009.



Bringing together Durham's waste strategy

Recycling



Reuse and recovery



Organics
composting



Education



Energy-from-waste
With energy recovery



Important precursors for EFW project success

1. Champion for EFW: Durham Regional Chair

2. The commitment to:

- Protect public health and the environment.
- Enhance an already aggressive diversion target for MSW locally.

3. Education

- Public
- Staff
- Elected officials
- Press



Details of the aggressive waste diversion management system

- 2002 : Region of Durham initiates the Blue Box recycling program
- 2006: Introduction of Green Bin program for all lakeshore municipalities, changing level of service
- 2006: Opening of the new Composting facility
- 2007: Opening of the MRF
- 2008: Entire Region of Durham began integrated waste management system
- 2009: Standardized collection services
- 2013: Opening of EFW



Introduction of new diversion initiatives

- HHW
- E-Waste
- Bale wrap
- Paint recycling
- Partnerships with local business
- Clear bag pilot program
- Objective to achieve 70% diversion



Public education for EFW

Durham Region has extensive public education strategies targeting groups, such as students, interest groups and public organizations.

Public Education: 2004 to present

Public consultation series and workshops99

News advertisements placed184

Advertising using other sources 80





Educating the province

- Workshops for the Government Review Team on EFW – the process.
- Technical workshop for the Province of Ontario's Ministry of the Environment technicians on the EFW process, such as emissions.
- Meetings with the Ministries of Environment and Energy on the 4Rs.



Educating staff and elected officials

- Regional and municipal staff and Councillors toured EFW facilities in Sweden, Italy, Germany, British Columbia, Canada and Florida, U.S.A.





Precursors to EFW success

Linking priorities of all levels of government

<i>Priority</i>	<i>How EFW addresses these objectives</i>
Battling climate change	<ul style="list-style-type: none">■ produces 44 per cent less GHG than landfill, minimizing carbon footprint of the facility.■ supports Ontario's participation in the Western Climate Initiative's proposed Cap and Trade program.
Energy diversity	<ul style="list-style-type: none">■ offers productive reuse of waste to generate steam and electrical power for use in immediate vicinity.■ is a renewable fuel to produce clean energy■ supports the Province's energy generation grid.
Waste management independence	<ul style="list-style-type: none">■ satisfies the Provincial Draft Policy Statement on Waste Management Planning for sustainable management.■ has been recognized as an acceptable method of managing residual MSW.



What were the challenges?

- Province of Ontario ban of incineration in 1985
- Introduction of the Ontario Environmental Assessment Act
 - EA process is considered very risky and not affordable by the private sector
- NIMBY
- Political agendas
- Environment and ecological understanding and impacts on human health



Environmental Assessment Application Timeline

2004: Environmental Assessment initiated

2006: EA Terms of Reference approved by MOE

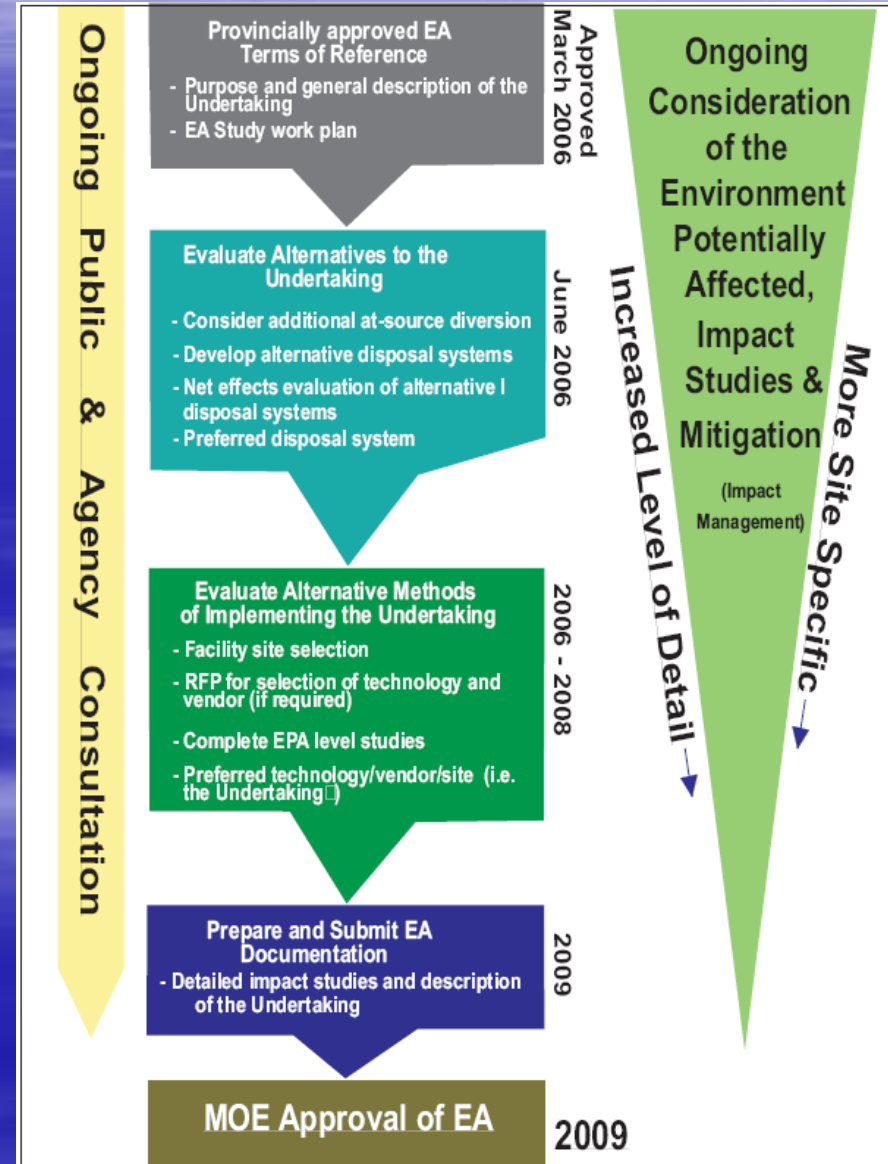
2006: Preferred technology – thermal treatment approved by MOE.

2006 : Selection of the technology

2009: Covanta selected as preferred vendor

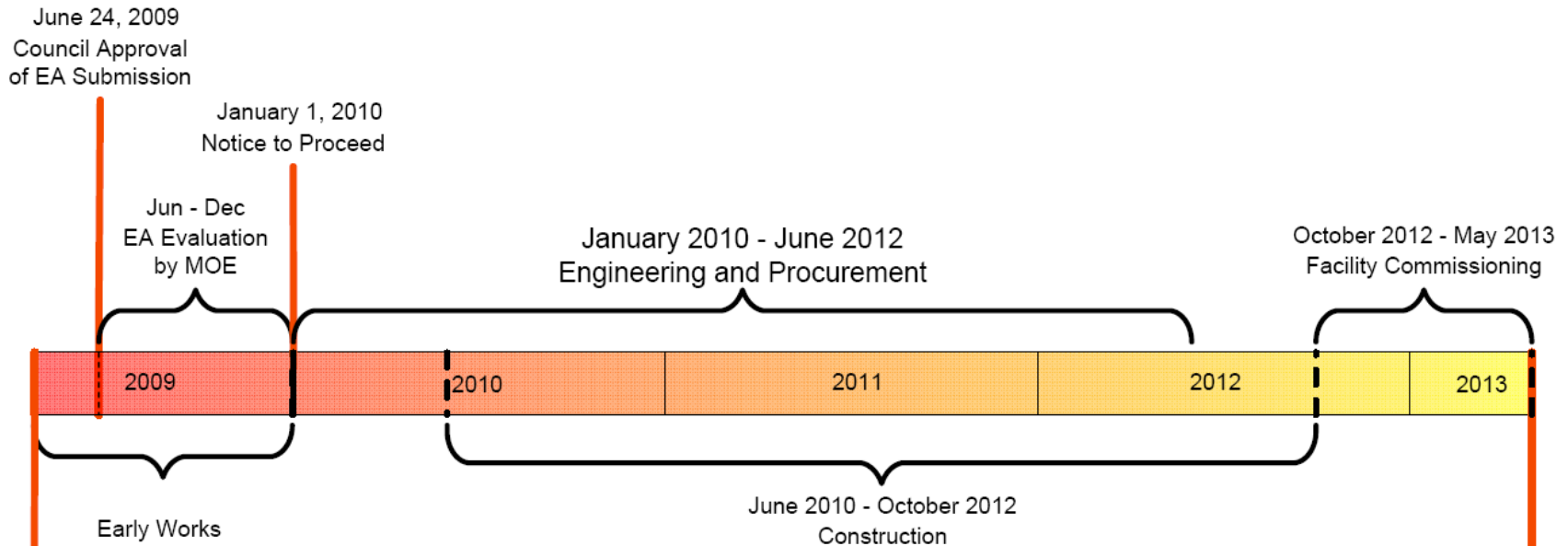
2009: Submission of EA documents to MOE for approval

2010 to 2013: Construction/operation





Durham's EFW Project Timelines 2009 - 2013



Council Approval of
Preferred Vendor
April 22, 2009

Operational Startup
May 1, 2013





EFW Project

A project of this magnitude involves:

- Aligning the priorities of the Provincial, Regional and municipal governments.
- Engaging a strong commitment from all parties involved in the project.
- Developing public trust built on an “open-and-transparent” process.
- Ensuring that only highly qualified experts contribute to the process.
- Developing and maintaining a solid financial strategy.



Money.

- Total cost of the EA = \$12 million
- Covanta Construction = \$270 million
- Operating Cost = \$14.7 million/year
 - Covanta proposal is for the processing of 140,000 tonnes of waste - Phase 1
 - Contract is a design-build and operate contract for 25 years
 - Facility is equipped for electrical energy recovery and for future district heating opportunities
 - When operational, this facility will provide electricity for 10,000 homes in Durham Region



Key elements to a successful waste management system

- A solid strategic plan
- A champion who has authority to allocate resources to this project
- Resourceful and motivated project team, complemented by experts
- Promotion and education of the plan to motivate public trust and acceptance
- Administration of a clear plan
- Marketing - maintaining sustainable markets
- A comprehensive solution to address diversity in requirements



Conclusions of EFW project

Completion of this project will:

- Shift Provincial policy as it applies to solid waste management
- Impact the solid waste industry in Ontario
- Create stability at the local level
- Provide a long-term, sustainable waste management system for Durham Region

*For information on Durham Region's
waste management programs:*

www.durhamregionwaste.ca

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*For information on the Durham York Residual Waste
Study, the EA process and associated studies:*

www.durhamyorkwaste.ca