

Feasibility Committee & 3 Appendices; Peterborough County Waste Management Committee

Warden Bonnie Clark, Mayor Sherry Senis

Energy-From-Waste (EFW) vs. Environmentally-damaging Landfills

The role of the Feasibility Committee

This presentation to members of the Peterborough County Waste Management Committee will permit us all to examine the rationale for a Feasibility Committee to study the merit and practicality of an Energy from Waste facility to serve 500,000 people in the Five Counties area. It is almost 21 years since Councilors Leal and Clarke, together with Ed McLellan, Ray March and about twenty others from Peterborough, accompanied Mayor Sylvia Sutherland on a visit to Syracuse to see the a new Energy-From-Waste, EFW, facility. This strange building with its huge fire, reminiscent of a plaything of the Wizard of Oz, disposed of carbonaceous waste by combustion with generation of electrical energy to feed the local grid. The EFW facility was constructed by Covanta.

The EFW facility was very impressive and it offered an improved solution for disposal of waste material compared with dumps that can destroy the land upon which they are situated. I recommend that you visit the Durham York Energy Centre, DYEC, (also constructed and operated by Covanta) in Clarington at your earliest opportunity. In 2015, the Durham York Energy Centre at Clarington commenced operation; it has achieved an annual profit of \$23 - \$27 million and, in October, 2021, payment of the construction costs was completed.

As I understand it, the Bensfort Landfill Site has approximately 10-11 years remaining in its useful life cycle. With the current diversion rate of 52% and a further 15-20% proposed to be gained from the implementation of a clear bag program combined with the GROW Initiative for organic waste, that leaves 30% going to landfill. What happens in 10 years?

With leadership from professional public servants within the Five Counties, an EFW facility could process the remaining 30% in an environmentally sound manner and provide a net income to the participants. The lead time for this type of infrastructure is about 12 years. The Federation

of Canadian Municipalities, FCM, is a source of grants for meeting the cost of a leader for a Feasibility Committee.

Thank you for your consideration,

Sincerely,



Ray March, PhD, DSc, D(h.c.) Professor Emeritus, Trent University.

Please see Appendices 1-3.

APPENDIX 1

Summary of activities since 2019.

In 2019, with my colleagues Ed McLellan (deceased December 2022) and Dr. Gordon Powell, we undertook a number of projects related to EFW technology.

(i) We contemplated that an EFW annual capacity up to 200,000 tonnes/year of carbonaceous waste (equal to Unit #1 of the DYEC) would meet the needs of 500,000 people. At that time, the population of Five Counties (Hastings, Kawartha Lakes, Northumberland, Peterborough and Prince Edward), and three cities (Belleville, Peterborough and Quinte West) was ~485,000 and growing at an annual increase of ~4,000. The Five Counties Children's Centre funding model might provide a clue as to shared funding for this project.

(ii) We applied successfully to Trent University for funds to prepare an inventory of dumps; Ashley Holmes was hired and completed this project. A bound copy of the inventory was given to James Istchenko. Two facts emerged for 2019: total area for known dumps is 2,024 acres; and 183 dumps incurred maintenance costs totaling \$27,485,270.

(iii) During the pandemic, we delivered seven PowerPoint virtual presentations to the Five Counties and the cities of Belleville and Quinte West. The seven virtual presentations were all well received and, with some, we had extensive correspondence. It was remarkably simple to organize these presentations to seven municipalities. we have chosen the process of contacting Mayor Leal and each of the ten councilors who constitute the Peterborough City Council seeking their approval for a five-minutes presentation to Council.

- (iv) Two counties recommended staff employees to become members of the Feasibility Committee: Adam McCue from Northumberland, and Andy Litham and/or Bryan Robinson from Kawartha Lakes. We found that, in addition to Henry Clarke, only one other elected official in the Five Counties had visited the DYEC.
- (v) We have had discussions with a Mr. Larry Fedec, who has an intimate knowledge of the creation and operational procedures of an Energy-from-Waste facility in Canada; he is an employee with the Toronto firm H.D.R. (See footnote #1 in Appendix 1). He is a possible leader for the Feasibility Committee.
- (vi) We had discussions with a BMO Vice-President of Wealth Development concerning a construction mortgage (Discuss with DYEC); he monitored several of our virtual presentations.
- (vii) We visited Mr. Darrel Drain, of Drain Brothers, Havelock, and spent a very interesting afternoon.
- (viii) We have two possible sites for an EFW facility.
- (ix) For a Five Counties EFW facility, Peterborough County would be responsible for 11.2% of the total cost (see Appendix 3).
- (x) Pickering Power station is to be closed soon.
- (xi) A Swedish company wishes to discuss mining of the Bensfort Road dump.
- (xii) Canada's first Indigenous-owned bioenergy facility opens. A newly-built Meadow Lake Tribal Council Bioenergy Centre in northwestern Saskatchewan is now in operation.

APPENDIX 2

Draft Agenda for the Five-County Waste Disposal Feasibility Study

(Hastings; Kawartha Lakes, Northumberland, Peterborough, Prince Edward

1. To confirm a Feasibility Committee consisting of, for example, one person from each of the above five counties and one person from each of the three cities described here as FIVE COUNTIES, to consider replacing further land-fill sites by an Energy-From-Waste, EFW, facility. This committee will be guided by an expert possibly an employee of H.D.R. ¹

2. To detail the share for each county and city of the investments, profits, tip fees, and responsibilities. See Appendix 3 for a table of populations and percentage populations of the defined areas that compose the given FIVE COUNTIES.
3. To develop specifications for an EFW conversion plant, or facility, bearing in mind that a stripped-down version of the Durham/York Energy Centre at Clarington, and of lower capacity, may well be adequate for the given FIVE COUNTIES.
4. To recommend a supplier of an EFW facility.
5. To prepare a financial plan for the project including initiatives, investment and profit sharing, and to calculate a timeline for the project.
6. To estimate the total annual consumption of electrical energy within the given FIVE COUNTIES and to finalize arrangements with Ontario Hydro for the sale of electrical energy.
7. To develop essential relationships with the 500,000 residents in the given FIVE COUNTIES who will be served by the regional EFW facility.
8. To explore regional geography to determine a preferred location for the regional EFW facility.
9. To establish:
 - (i) a waste transfer plan to move residual waste efficiently from municipal transfer stations to the EFW conversion facility, and
 - (ii) to consider pooling of transfer vehicles.
10. To consider the problems associated with the integration of waste diversion and waste conversion.
11. To recommend candidates for a long-term plant-management contract.
12. To explore opportunities for selling and delivering thermal energy.

¹ Contact Larry Fedec at H.D.R., 255 Adelaide Street West, Toronto, ON, M5H 1X9, Canada. Phone (647) 777-4900; FAX (647) 777-4901.

Population of Five Counties

These population figures were obtained for 2016.

	Population	Percent population (Pop x 100/498,332)	Possible FCM Grant
Hastings County (Incl. Tyendinaga)	3,628	7.95%	\$15,900
Belleville Metro	92,540	18.57%	\$37,140
Quinte West	43,577	8.74%	\$17,480
Kawartha Lakes	5,423	15.14%	\$30,280
Peterborough County	55,800	11.20 %	\$22,400
Peterborough City	81,031	16.26%	\$32,520
Northumberland County	85,598	17.18%	\$34,360
Prince Edward County	<u>24,735</u>	<u>4.96%</u>	<u>\$9,920</u>
Total	~498,332	100.00%	\$200,000