Appendix 2

Business Case for a 500 kW Landfill Gas Power Plant

Overview

This Business Case is based on the premise that the City of London would enter into a 20 year Ontario Power - Feed-In Tariff (FIT 5) program contract for the design, construction and operation of a 500 kW Landfill Gas Power Plant at the W12A Landfill.

The power plant will be fuelled by landfill gas produced from the natural decomposition of organic waste at the landfill. Approximately 20% of the landfill gas (gas) produced annually at the landfill will be used for power production. Currently 100% of the gas collected at the landfill is voluntarily flared to reduce Greenhouse Gas (GHG) emissions.

Capital cost and technical details for the Business Case have been prepared by Comcor Environmental Ltd. Founded in 1985, Comcor is recognized as a specialist in the engineering, design, testing, approval, construction, operation & maintenance and monitoring of landfill gas collection, flaring and utilization systems. Senior management have been involved with landfill gas collection, flaring and utilization systems since the early 1980s.

Comcor has undertaken a variety of landfill gas recovery services for the City of London including the ongoing operation, maintenance and monitoring of the landfill gas flare and gas well field since 2004.

Preliminary Capital Cost Estimate

Comcor has prepared a Preliminary Level Cost to Construct and Operate a 500 kW Generator at the W12A Landfill (Attachment 2.1) of \$3.8 million (cost estimate accurate to between +/- 15 to 20%). The details are found in Attachment 2.1. This amount has been carried forward as the "expected case" for the Financial Analysis. Best case and worst case scenarios are also presented below.

Financial Analysis Summary

Capital Cost ¹	\$3,800,000 (Expected Case)		
Sensitivity Factor ² (Possible Capital Cost Fluctuation)	+/- 20% (Factored into Best and Worst Case)		
Average annual operating cost ³	\$355,000		
Scenarios	Expected Case	Best Case	Worst Case
Average annual revenue ⁴	\$724,000	\$736,000	\$676,000
Simple Payback (Years)	10	8	13
Net Present Value over 20 Years ⁵	\$1,600,000	\$2,400,000	\$400,000
20 year Internal Rate of Return (IRR)	8%	11%	4%

Notes:

- 1. Preliminary cost estimate prepared by Comcor Environmental Ltd. (Attachment 2.1)
- A capital cost fluctuation of +/-20% was applied to items that would be affected by tendered contractor rates, as well as, fluctuation in the Canadian - US dollar exchange rate.
- 3. This is the average annual operating and maintenance cost over the 20 year period accounting for inflation and includes a \$400,000 engine rebuild in year 10.
- 4. This is the average annual revenue generated over the 20 year period accounting for the FIT 5 Tariff CPI escalation factor.
- 5. For this project, the Net Present Value represents the value of the additional money (in today's dollars) the City will make proceeding with the 500 kW Power Plant compared to investing in a 20 year bond (interest rate of 3.16% Source: TD Securities Sept. 20, 2016).