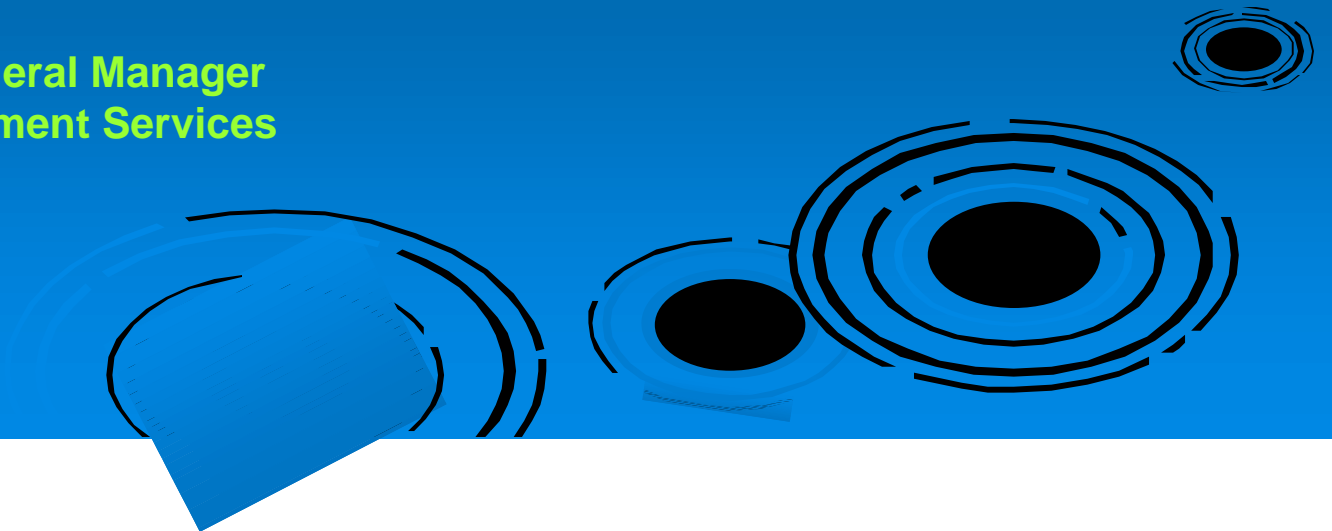


**Presentation to Executive Committee
Monday, April 19, 2010**

***EX43.8 Authority to Enter into Lease
Agreement and Biogas Utilization Agreement
with Toronto Hydro Energy Services Inc. and
Ontario Plants Propagation Ltd. –
Green Lane Landfill***

**Geoff Rathbone, General Manager
Solid Waste Management Services**



Solid Waste Management Biogas Initiatives

1. *Dufferin Anaerobic Digestion of Green Bin Organics*

- *Refine gas to pipeline quality*
- *Utilize in City facilities or Solid Waste fleet*

2. *Disco Anaerobic Digestion of Green Bin Organics*

- *Refine gas to pipeline quality*
- *Utilize in City facilities or Solid Waste Fleet*



Solid Waste Management Biogas Initiatives (Cont'd)

3. *Mixed Waste Treatment Prior to Landfill*

- *REOI for public or private AD facility*

4. *Green Lane Landfill Gas Utilization*

- *Utilize gas for electrical generation and green house heating*
- *Partnership with Toronto Hydro*



Green Lane Biogas 2010 Generation

- 50 Gas Collection Wells currently in place throughout the Landfill
- Biogas contains approximately 50% Methane
- 2010 Collection Rate – 1500 SCFM
- Green Lane Biogas is currently flared
- Additional 450 Collection Wells proposed over next 20 years
- Maximum LFG production greater than 5,000 SCFM



Green Lane Biogas Agreement

- Partnership between the City of Toronto, Toronto Hydro and Ontario Plants Propagation Limited (OPPL)
- Toronto Hydro and OPPL will design, construct, and operate a Biogas utilization system on OPPL property with a Biogas compressor plant to be located on the Green Lane buffer land.
- Biogas to be used as a fuel for production of 10 MW of electricity
 - potential for further development of an additional 6 MW.
- Construction to occur in 2011 and 2012.
- The Agreement will have a 25 Year Term, with an optional 10 year extension.

Green Lane Biogas Agreement

Ontario Plants Propagation Ltd.

- Supplier of Greenhouse vegetable transplants with capacity to provide 15 million vegetable plants per year
- 6 hectare greenhouse facility located 7km south of the Green Lane landfill
- Direct utilization of the residual heat and CO₂ from electricity generation

Future Potential Landfill Gas Uses

Ontario Plants Propagation Limited



 TORONTO

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Green Lane Biogas Agreement

Environmental Benefits

- Displacement of Natural Gas in the production of electricity
 - **Enough to power up to 12,000 homes**
- Displacement of Natural Gas in the production of thermal energy
 - **Enough to heat up to 1,800 Canadian homes per year**
- Displacement of 15,000 tonnes CO₂ emissions annually
 - **Equivalent to 4,545 cars removed from the road**

Green Lane Biogas Agreement – Financial Benefits

City of Toronto to provide:

- 0.5 hectares of land in the buffer land immediately east of the active landfill for construction of a Biogas compressor plant
- Biogas collected from the landfill for the next 25 Years, with a potential for a 10 year extension

City of Toronto to receive:

- Beginning in 2011 lease payments of \$32,292 increased by 2.5% per year.
- Variable Biogas Royalty Payment expected to be between \$1.5 to \$2.3 Million per year