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
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
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 CO$_2$ from electricity generation
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
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