

Parks & Environment Committee

SWMS Environmental Initiatives

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Solid Waste Management Services

Background on SWMS

- **Manage over 1 million tonnes of waste and recyclables each year**
- **Serve over 1 million customers**
 - 1,000,000 residential customers
 - 20,000 small commercial customers
 - City Agencies, Boards, Commissions and Divisions
- **Manage public space waste and litter**
- **Deliver public education programs**
- **Operate Transfer Stations, Processing Facilities, Landfills and Yards**

SWMS Initiatives That Support Climate Change & Sustainable Energy Action Plan

- **Increased waste diversion**
- **Renewable energy systems: landfill gas utilization**
- **Greening of collection vehicles: bio-diesel**
- **Greening of litter collection vehicles: PM2.5**
- **Use of green roofs in SWMS facilities**

Increased Waste Diversion

- Everything on earth is made up of only two things, matter and energy...and we use too much of both.
- Production, use and disposal of resources creates GHGs and other pollutants.
- We can lessen our impact by adhering to 3Rs and choosing:
 - recycling over disposal
 - reuse over recycling
 - reduction over reuse



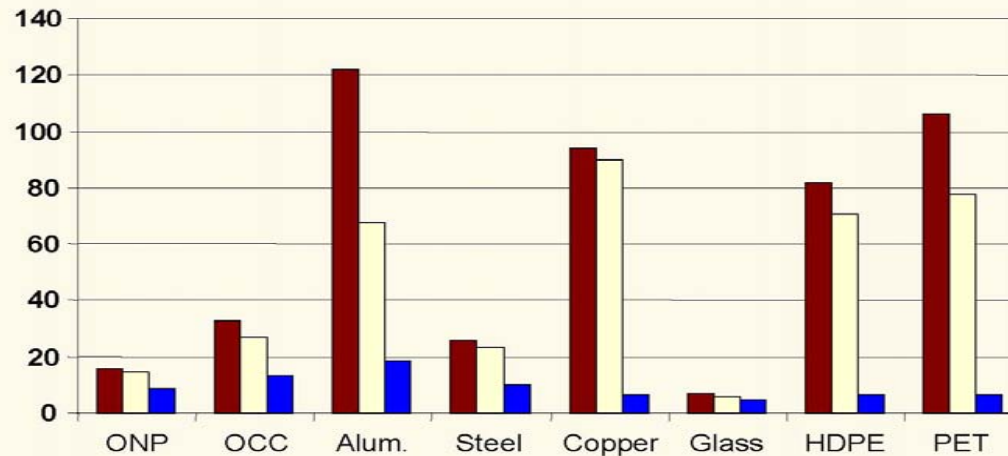
Increased Energy Savings



Recycling Saves Energy

Giga
Joules
per
Tonne

- Primary
- Current mix
- Recycled



[1 Giga Joule = 29 litres of gas or 278 kilowatt hours]

Source: ICF Consulting, Sep-2005



Natural Resources
Canada

Ressources naturelles
Canada

Canada

Environmental Benefits of Increased Waste Diversion

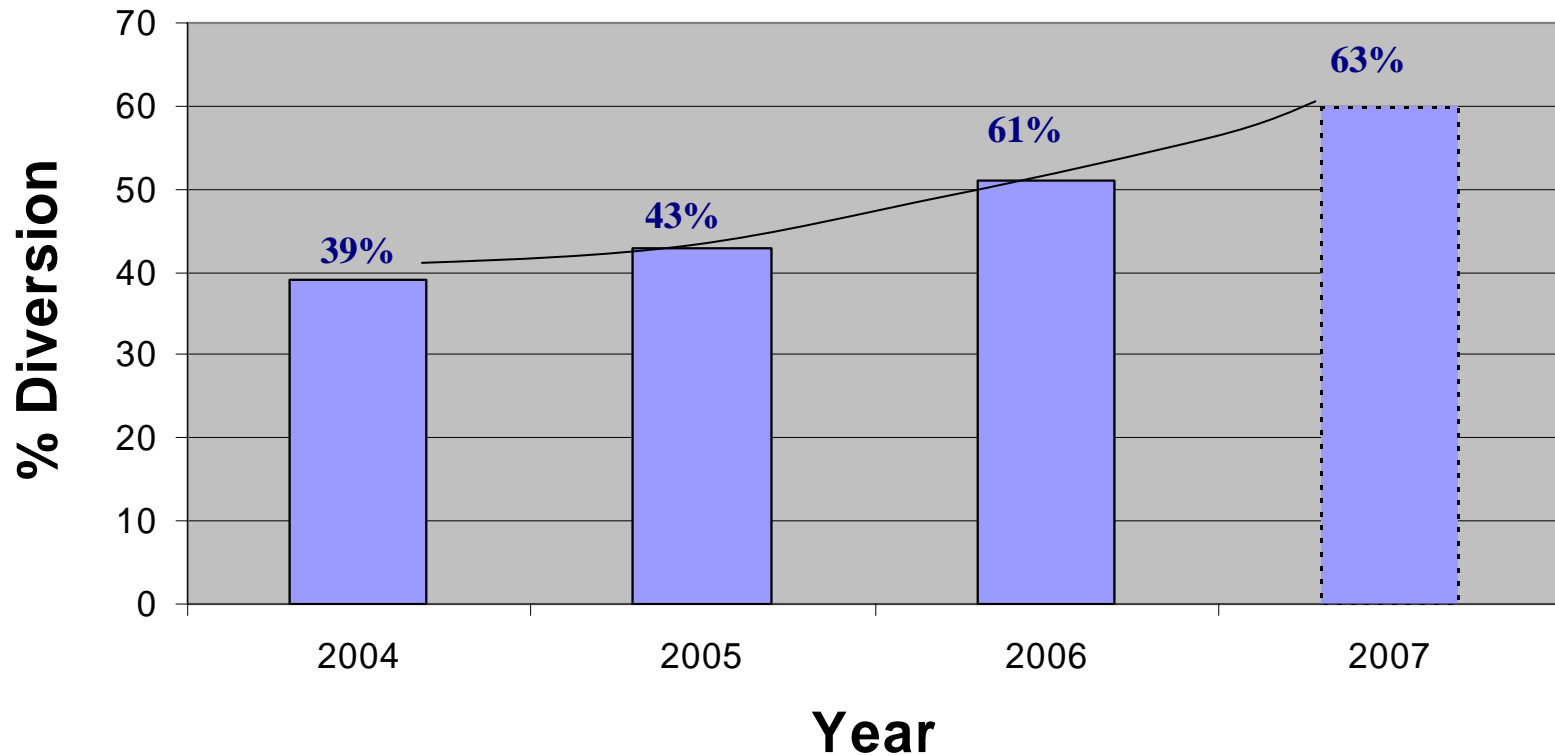
- In 2007, Council approved a plan to increase Toronto's diversion rate to 70%
- Diverting 70% of Toronto's waste from landfill will:
 - Reduce GHG emissions by approximately 160,000 tonnes eCO₂ per year (95,000 t for current diversion programs and 70,000 t for new programs)
 - Save 4.5 million trees per year
 - Save enough electricity to power 170,000 homes
 - Extend life of Green Lane Landfill by 10 years to 2034
 - SWM will work with TEO to refine the emissions reductions for the TEO summary report to P & E

RCO Waste Minimization Award



ABCD Waste Diversion

Waste Diversion Rate for ABC&Ds



Other Environmental Initiatives

Landfill Gas Recovery and Utilization

- **Keele Valley - 20 MW, Beare Road - 2 MW and Brock West - 2 MW**
- **Green Lane - collects and flares landfill gas to reduce air emissions. Business Plan will recommend an RFP for LFG utilization**
- **Thackery - preliminary design is underway for gas flaring which should be in place by early to mid 2009**

Other Environmental Initiatives

Bio-diesel Collection Vehicles

- **All 324 collection vehicles have a mandate to run on B5 (5% bio-diesel) fuel which reduces greenhouse gas emissions**
- **Currently operating one B100 collection vehicle**
- **33 replacement vehicles for 2007 and 27 for 2008 will meet USEPA 2007 diesel engine standard to reduce smog pollutants and run on bio-diesel**
- Number of collection vehicles from Fleet Services as of Oct 2007 and includes 2007 and 2008 replacements
- SWM will work with TEO to refine emissions reductions for summary report to P & E

Other Environmental Initiatives

Mini Sweepers and Litter Vacs

Mini Sweepers

- 1 unit received and 2 units being procured
- Units received have PM 2.5 and PM 10 feature

Litter Vacs

- Working with Fleet Services to incorporate PM specifications for 7 units approved for procurement
- SWM will work with the TEO to test litter collection vehicles and determine emission reductions

Other Environmental Initiatives

Green Roofs

Dufferin Transfer Station Administration Building

- Design work currently underway
- New admin building will be designed and built to LEED Silver Standards including a green roof

Bermondsey and Ingram Collection Yards

- Design work currently underway
- Existing roof design is being reviewed for possible incorporation of Green Roof and LEED Standards

Disco and Dufferin SSO Plants

- Future planning to implement green roofs
- SWM will work with TEO to calculate benefits from green roofs once they are designed

How Initiatives Support Environmental Plan (2000)

- **Increased Waste Diversion**
 - EP Recommendation 9 (Increase Diversion of Waste)
- **Landfill Gas Recovery**
 - EP Recommendation 22 (Reduce Air Emissions) and 30 (Support Green Power)
- **Collection Vehicles**
 - EP Recommendation 22 (Reduce Air Emissions) and 30 (Support Green Power)
- **Litter Collection Vehicles**
 - EP Recommendation 22 (Reduce Air Emissions)
- **Green Roofs at SWMS Facilities**
 - EP Recommendations 8 (Encourage Green Roofs) 15 (Reduce Water Use) and 22 (Reduce Air Emissions)

Going Forward

- Target 70 diversion initiative implementation
- Green Lane Landfill gas utilization
- Thackery Landfill gas flaring
- Green Roof implementation at:
 - Dufferin Admin Building
 - Bermondsey & Ingram Yards
 - Disco & Dufferin SSO Facilities

Questions

