



SOLID WASTE MANAGEMENT UPDATES

**Civic Works
Committee
Agenda Item #17**

**Meeting on April 23,
2012**



#1. London Regional Material Recovery Facility (MRF) – built to LEED® Silver Certification





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Municipalities Using MRF

Municipality	Quantity (tonnes/yr)	Status – Start Date
Alymer	300	May 1, 2012
Dutton Dunwich	200	May 1, 2012
Thames Centre	1,000	June 1, 2012
Central Elgin	800	June 1, 2012
Malahide	300	June 1, 2012
Bayham	400	June 1, 2012
<i>Subtotal</i>	<i>3,000</i>	



Municipalities Expressing an Interest in MRF

Municipality	Quantity (tonnes/yr)	Existing Contract End Date
Oxford	5,000	July 1, 2013
Southwest Middlesex	400	July 1, 2013
Brantford	6,400	November 1, 2013
St. Thomas	2,000	March 1, 2014
<i>Subtotal</i>	<i>13,800</i>	



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Recyclables Processing Awarded to Other Operators

Municipality	Quantity (tonnes/yr)	Outcome
Stratford	2,700	Bluewater Recycling Association (BRA) <ul style="list-style-type: none">• London had lower MRF price• Collection costs estimated to be lower going to BRA
Sarnia	5,000	Waste Management (WM) <ul style="list-style-type: none">• London had lower MRF price• Collection costs estimated to be lower going to WM
Subtotal	7,700	



Product Revenues



Revenue Average \$/tonne	Stewardedge Price Sheet	Manning Drive MRF
September	\$179	\$202
October	\$183	\$206
November	\$145	\$146
December	\$131	\$137
January	\$129	\$140
February	\$133	\$156



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Economic Dimensions of Recycling

- \$2.7 million net cost. . . \$16.50/household/year
- \$4.5 million in recycling revenue in 2011
- Greater than 80% marketed to Ontario firms
- Approximately 60 full jobs (Blue Box collection and processing) in London
- Another 20 full “down stream” recycling jobs generated from London’s recyclables

RECYCLING IS Good for our
economy

#2. London's W12A Landfill – Odour Issues



W12A Landfill Site

Opened in 1977

7.4 million tonnes in place



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The Challenges

- Landfill increasing in size
- Wet, warm weather increases gas generation
- Difficult materials (e.g. bioset)





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The Solutions

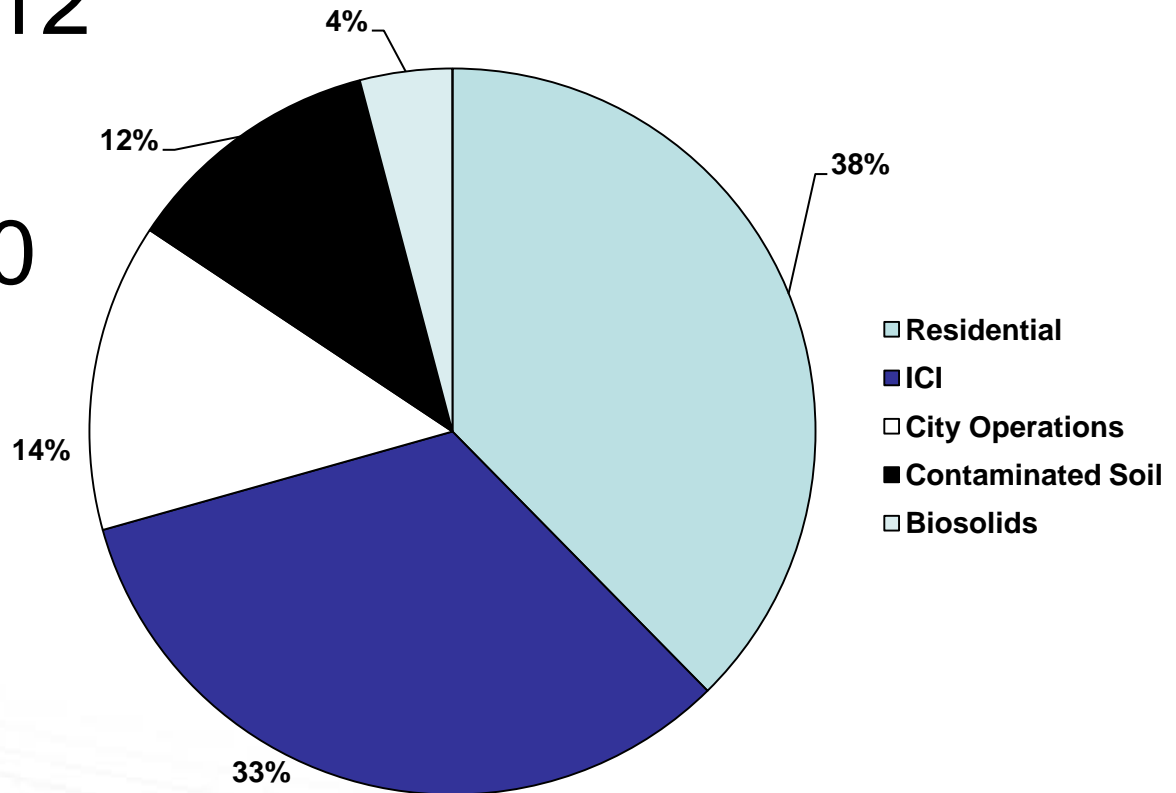
- Move leachate by force-main & eliminate tankers
- Expand well field
- Expand flare capacity
- Enhanced monitoring
- Review bioset handling, cell development & final cover placement strategies





#3. W12A Landfill - Remaining Capacity

Waste Breakdown



- Approximately 12 years
- Ranges from 10 to 14 years
- Approximately 250,000 tonnes/year



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Serving Our Customers – A Careful Balance

- Business friendly tipping fees (marketplace review)
- Increasing revenue versus maintaining capacity
- Tipping fee contribution to Reserve Fund
- Providing cost effective mitigative measures
- Providing capacity for London businesses vs. saving all capacity for residential waste





Disposal Costs

Solid Waste Disposal Total Costs (OMBI – 2010)

Estimated W12A Landfill Costs

Component	Cost (\$/tonne)
Direct Operating Cost	\$15
Mitigative Measures	\$3
Administration/Indirect Costs	\$2
Capital Replacement Cost	\$10
Post Closure/Finance Costs	\$5
Total Cost	\$35

Municipality	Costs (\$/tonne)
London	\$20
Thunder Bay	\$30
Niagara	\$60
Ottawa	\$75
Sudbury (Greater)	\$85
Waterloo	\$85
Halton	\$95
Windsor	\$95
Hamilton	\$125
Muskoka	\$230
York	\$105
Toronto	\$130
Durham	\$145
Average (excluding London)	\$105

Landfill

No Landfill

#4. London's W12A Landfill – Biogas Utilization REOI

Landfill Gas Management

- Collects 500 cubic feet per minute
- Reduces odours and greenhouse gases





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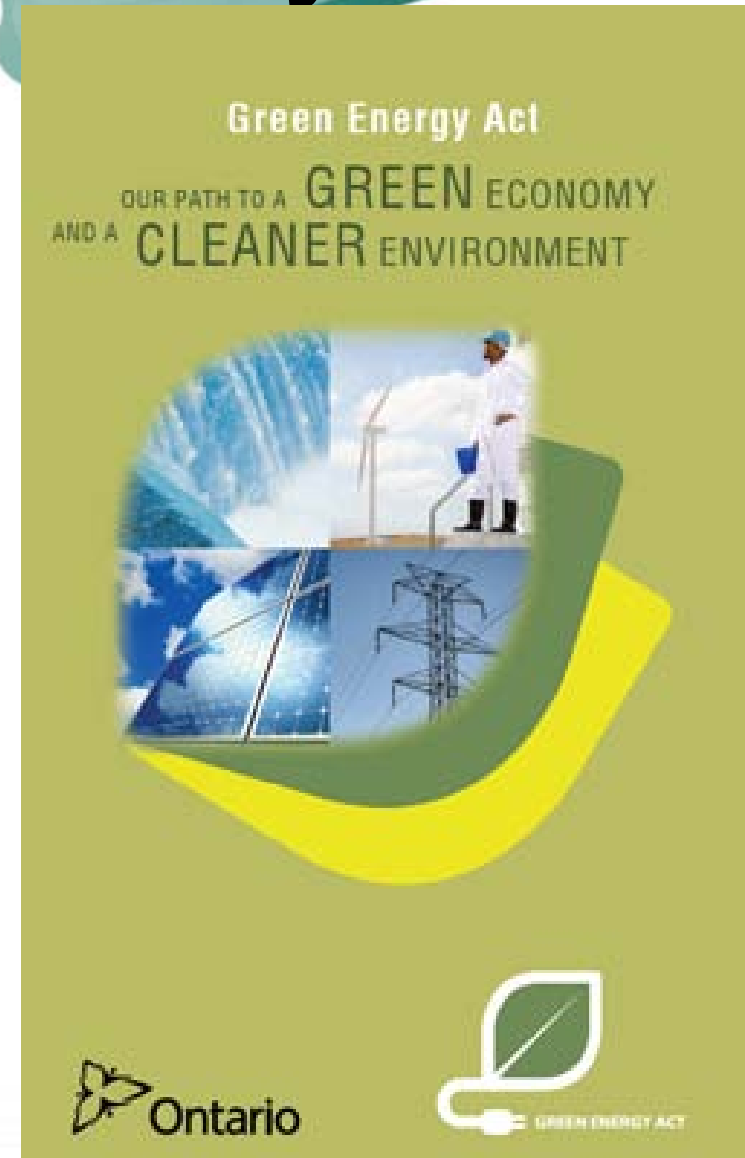
The Opportunity

Renewable Natural Gas (RNG)

- Create 250 to 400 cfm of RNG
- Gas for 1,600 to 2,600 homes
- \$1.4 to \$2.1 million per year

Electricity (Potential FIT)

- Generate 1.6 to 2.4 MW
- Electricity for 1,300 to 1,900 homes
- \$1.4 to \$2.1 million per year revenue





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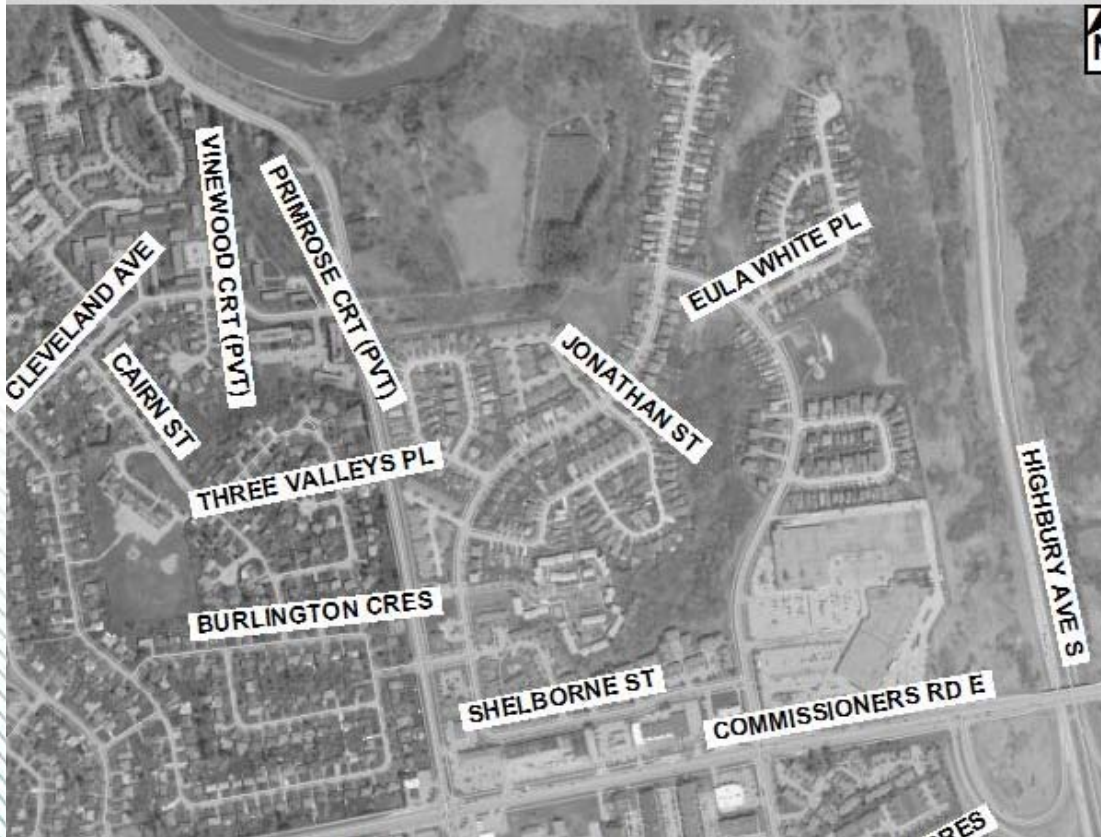
Status

- Interviewing respondents to REOI
- Decision on “premium” payments for RNG delayed till summer
- New FIT rules may allow power generation at W12A landfill to be considered (again)





#5. Green Bin & Modified Garbage Collection Pilot Project



**About 750
homes in
Glen Cairn
area**



Overview

- Weekly Green Bin & Blue Box
- Garbage pickup:
 - Biweekly (6 months)
 - Weekly (6 months)
- No change to other services





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After 6 Months

- Current participation 50% to 60%
- 1.5 to 2.5 tonnes each week
- 2.5 to 3 kg per household per week = 130 to 150 kg/yr
- Green Bin has increased diversion between 12% and 16%





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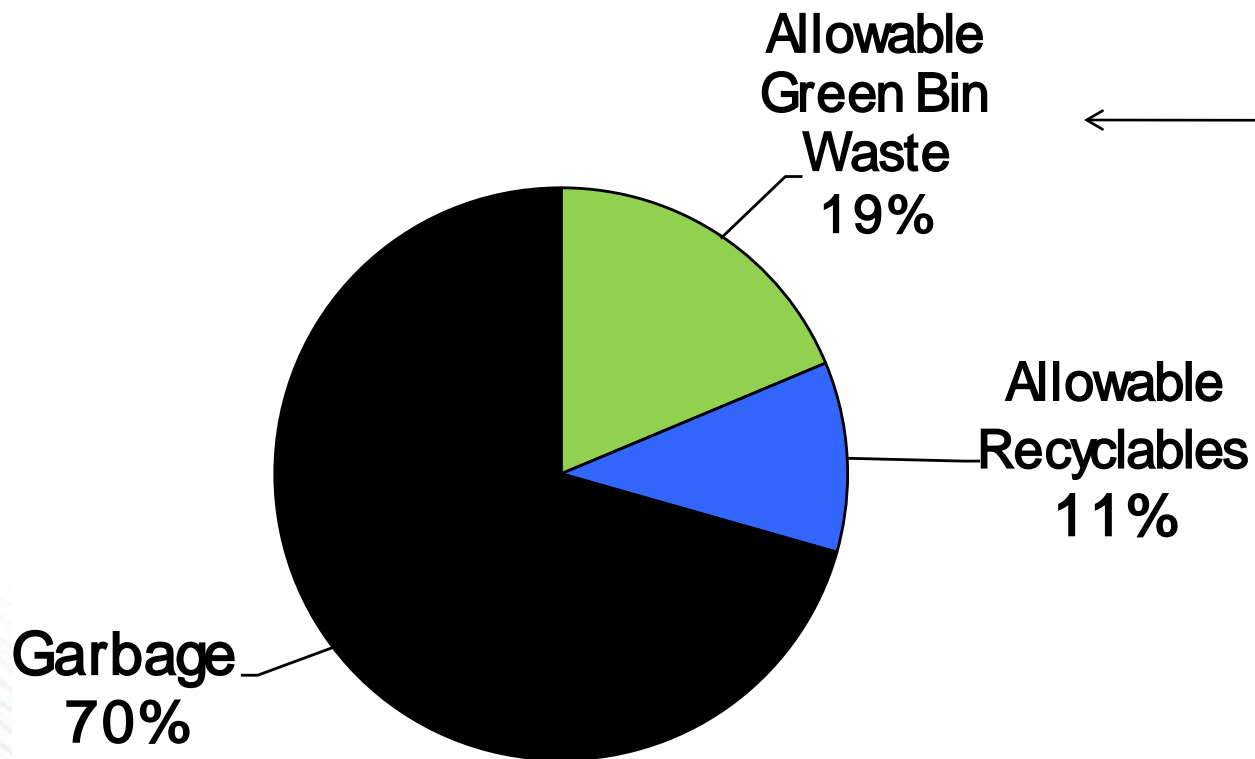
After 6 Months

- Green Bin data are consistent with Ontario averages
- Resident feedback (non-solicited):
 - Positive: reduces waste & able to compost materials not ok in byc (e.g. meats)
 - Negative: managing wet waste without plastic bags – *the YUK factor*





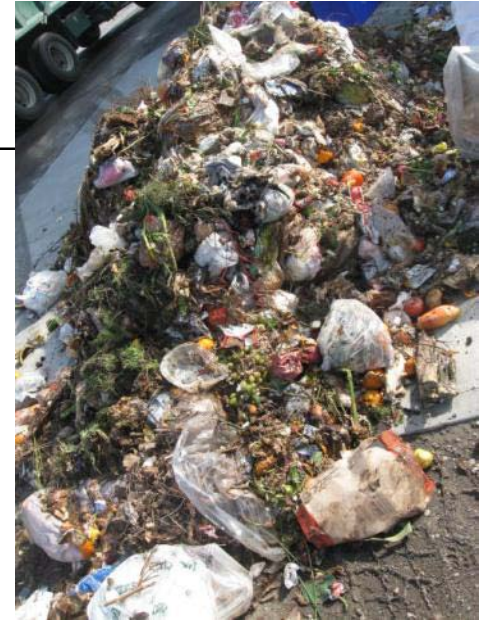
Results of Recent Garbage Audit – Participating Homes





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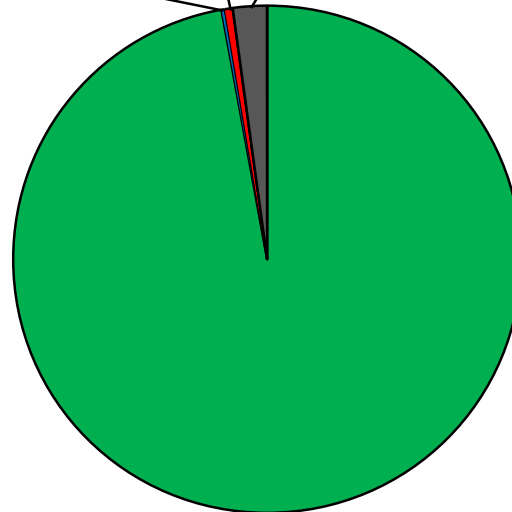
Results of Recent Green Bin Audit



Blue Box
Recyclables
0.2%

Plastic Bags
1%

Garbage
2%



Allowable
Green Bin
Waste
97%



#6. Garbage Cart Pilot Project

- Voluntary
- Holds 3-4 bags
- Test public acceptance & impacts on garbage collection efficiency
- 100 homes





Status and Initial Findings

- Continues to September
- 4 areas tested (1 more to go)
- Positive feedback





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#7. Backyard Composting Pilot Project

Northridge

- Low cost and delivered to home

Old South

- Low cost but must pre-order and pick up at local center



Initial Findings

- Northridge pilot increases diversion up to 1.5%
- Northridge pilot increases diversion by less than 1%





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Status

- Waste audits
- Additional review of other jurisdictions
- Sell green cones & rotating bins from EnviroDepots





#8. Resource Recovery Technologies (Facilities & Strategies)

- Mechanical biological treatment (MBT)
 - e.g., anaerobic digestion, biodrying
- Advanced thermal treatment (ATT)
 - e.g., pyrolysis, plasma arc, gasification
- Modern Energy From Waste (EFW)

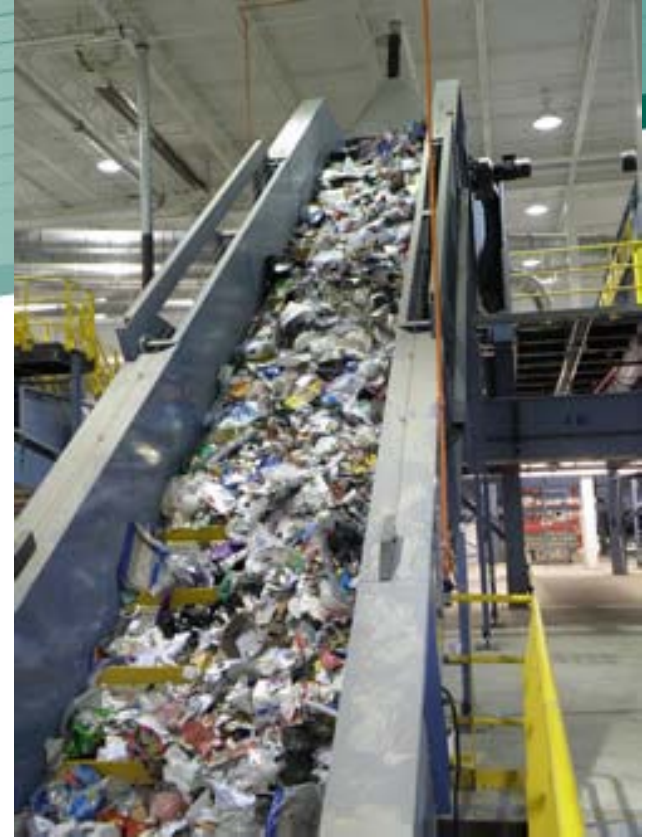


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Anaerobic digesters
are increasing –
focus on organics
and some on solid
waste





**Dongara Pellet
Plant (Refuse
Derived Fuel),
Vaughan, Ontario**



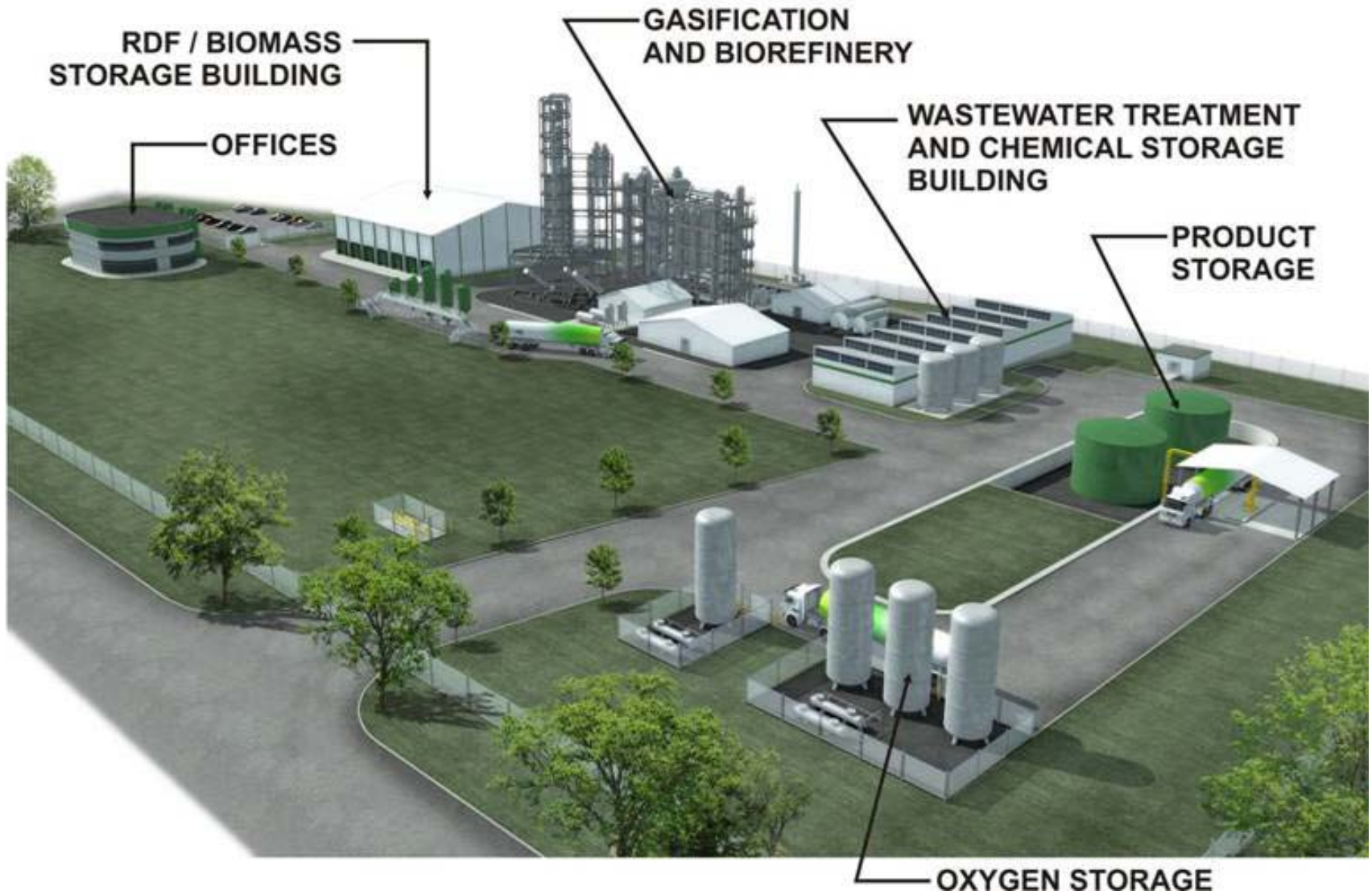
Edmonton's Integrated Processing & Transfer Facility (IPTF) – Refuse Derived Fuel





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Edmonton RDF to Biofuels (gasification)





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**Plasco Pilot Facility (plasma gasification),
Ottawa, Ontario – full scale commercial
facility has been approved**



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**Region of Durham/Region of York
EFW is being built; Region of
Peel has proposes a new EFW**

Next Steps

- All projects will have final reports to CWC (between summer 2012 and early 2013).. or earlier
- We do anticipate changes from the provincial government dealing with waste management and green energy

