

2ND REPORT OF THE
WASTE MANAGEMENT WORKING GROUP

Meeting held on June 27, 2017, commencing at 4:00 PM, in Committee Room #1 Second Floor, London City Hall.

PRESENT: Councillor H. Usher (Chair), Mayor M. Brown; Councillors M. Cassidy, J. Helmer, S. Turner and M. van Holst and J. Bunn (Secretary).

ALSO PRESENT: W. Abbott, M. Losee, K. Scherr and J. Stanford.

I. CALL TO ORDER

1. Disclosures of Pecuniary Interest

That it BE NOTED that no pecuniary interests were disclosed.

II. SCHEDULED ITEMS

2. W12A Waste Management Resource Recovery Area and Overview of the London Waste to Resources Innovation Centre

That it BE NOTED that the Waste Management Working Group received the attached presentation from J. Stanford, Director, Environment, Fleet & Solid Waste, with respect to the W12A Waste Management Resource Recovery Area and an overview of the London Waste to Resources Innovation Centre.

III. CONSENT ITEMS

3. 1st Report of the Waste Management Working Group

That it BE NOTED that the 1st Report of the Waste Management Working Group from its meeting held on January 19, 2017, was received.

4. INFORMATION - Waste Management Community Liaison Committee Agenda

That it BE NOTED that the Waste Management Community Liaison Committee Agenda and Report from its meeting held on June 5, 2017, were received.

5. STAFF REPORT – Background Report #2: Reporting Categories and Titles

That it BE NOTED that the Staff Report from the Director, Environmental Fleet & Solid Waste, dated June 14, 2017, with respect to reporting categories and titles, was received.

6. STAFF REPORT – Progress Report #1: Community Engagement Program

That it BE NOTED that the Staff Report from the Director, Environment, Fleet & Solid Waste, dated June 14, 2017, with respect to the Community Engagement Program for the Resource Recovery and Residual Waste Disposal Strategies, was received.

7. STAFF REPORT – Progress Report #2: Partial Municipal Responses to Regional Service Area for Waste Management Facilities (March 30 to June 2, 2017)

That it BE NOTED that the Staff Report from the Director, Environment, Fleet & Solid Waste, dated June 14, 2017, with respect to municipal responses related to a proposed regional service area for waste management facilities, from March 30, 2017 to June 2, 2017, was received.

8. STAFF REPORT – Update Report #2 Programs, Projects and Provincial Activities that Will Inform and/or Influence Strategies

That it BE NOTED that the Staff Report from the Director, Environment, Fleet & Solid Waste, dated June 14, 2017, with respect to programs, projects and provincial activities that will inform and/or influence Resource Recovery and Residual Waste Disposal Strategies, was received.

9. STAFF REPORT – Update Report #3: Project Timelines

That it BE NOTED that the Staff Report from the Director, Environment, Fleet & Solid Waste, dated June 14, 2017, with respect to project timelines associate with the Residual Waste Disposal Strategy and Resource Recovery Strategy, was received.

IV. ITEMS FOR DISCUSSION

None.

V. DEFERRED MATTERS/ADDITIONAL BUSINESS

None.

VI. ADJOURNMENT

The meeting adjourned at 5:14 PM.

NEXT MEETING DATE: September 7, 2017



UPDATES:

Waste Management Resource Recovery Park

London Waste to Resources Innovation Centre

June 2017



Outline

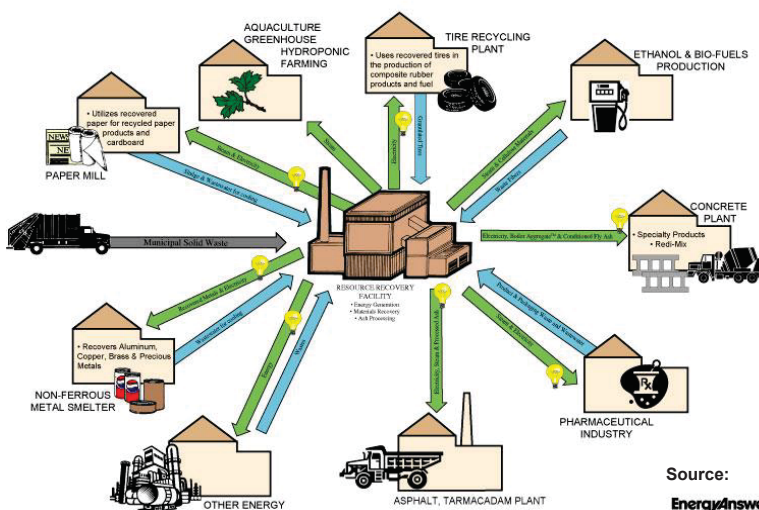
1. London **Vision** – Waste Management Resource Recovery Park
2. London Waste to Resources Innovation Centre – **Mission Status**
3. **London/Municipal Opportunities** – Feedstocks, Technologies and Policy



1. London **Vision** – Waste Management Resource Recovery Park

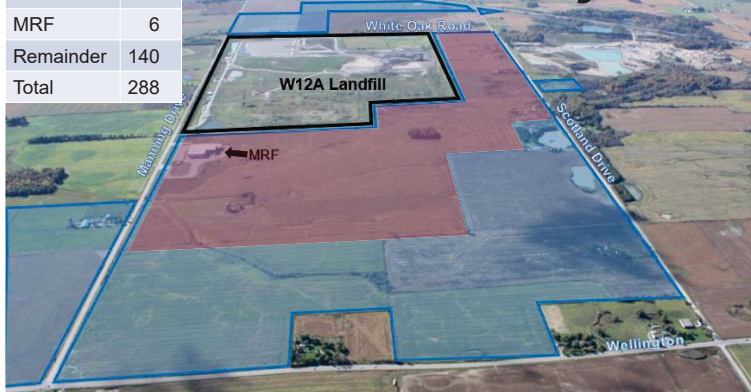


Resource Recovery Based Eco-Industrial Park



Location	Area (ha)
W12A	142
MRF	6
Remainder	140
Total	288

Waste Management Resource Recovery Area



2 Major Projects

Resource Recovery Strategy

Landfill Individual EA





Otter Lake Facility
Halifax, Nova Scotia –
3 facilities at 1 location

**68 – 70%
Diversion**



**Edmonton, Alberta – 10
facilities at 1 location**

**Target 85 –
90% Diversion**



**Ämmässuo (Ekomo) eco-
industrial park, near Helsinki,
Finland**



**Kahlenberg Waste Treatment
Association**



2. London Waste to Resources Innovation Centre (2015)

- Research and training centre
- Products & MRF testing
- Other proposed testing to include:
 - household garbage
 - source separated organics (Green Bin)
 - other waste materials



Accomplishments after 2 years :

- Over 20 student research projects
- 2 PhD projects – food waste and landfill technology
- 2 MoUs (signed) + 3 MoUs (approved by Council June 13, 2017)
- 1 FCM Green Municipal Fund project





MoU#1 - Proposed Gas Phase Reduction Pilot Project

- Partnership with Green Shields Energy
- Pilot scale facility being developed
- MSW - reduce volume/ weight and generate syngas ($\text{CO} + \text{H}_2$) or SNG



Institute for Chemicals and Fuels
from Alternative Resources
Western University

icfar



Department of Chemical and Biochemical Engineering
Faculty of Engineering

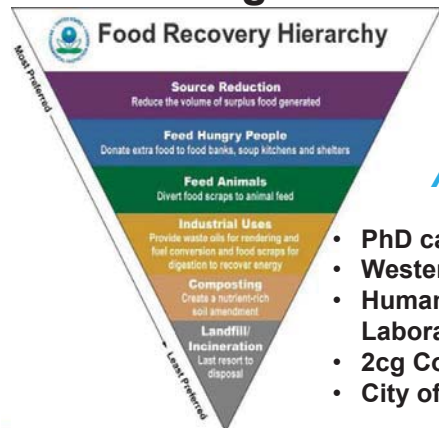
MoU #2 – Western/ICFAR



<http://icfar.ca/>



Food Management to Prevent Waste



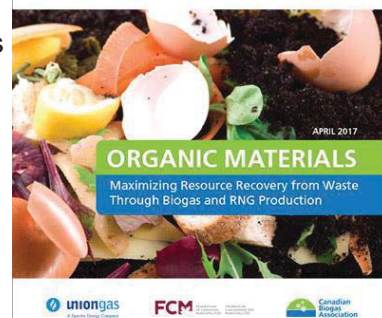
**Academic +
Practical
Application
At the same time**

- PhD candidate
- Western Dept. of Geography
- Human Environments Analysis Laboratory (HEAL)
- 2cg Consulting
- City of London



Includes research on:

- Anaerobic digestion facilities (Biogas)
- Compressed natural gas (CNG)
- Renewable natural gas (RNG)
- Capital and operating costs
- Environmental benefits



3 MoUs approved – July 13, 2017

Company	Technology	Feedstocks	Products
Bio-TechFar	Pyrolysis	Biomass (forestry, agricultural, industrial wood)	Bio-chars, bio-oils, biogas
Hawthorne Green Key	Pyrolysis	Municipal solid waste (garbage), plastics, tires, carpet, etc.	Synthetic renewable natural gas (RNG), syn-gas, bio-chars
Try Recycling	Various equipment arrangements	Bulky items, mattresses, biomass feedstocks	Wood chips, fuel mix, aggregate, customized compost, soil conditioners



Achievable with Tomorrow's Technologies?

Component	Diversion Rate Recovery Rate
Existing Diversion (regulated?)	45%
Mechanical/Biological Treatment (MBT) <ul style="list-style-type: none"> • material and energy recovery • anaerobic digestion Waste conversion technologies <ul style="list-style-type: none"> • gasification, gas phase reduction, pyrolysis 	15% to 45%
Total	60% to 90%





3. London/Municipal Opportunities – Feedstocks, Technologies and Policy

- Municipal/Provincial/ Federal Governments procure - \$200 billion annually . . . **Half at the municipal level** . . Ontario Green Procurement Program announced
- Municipalities have direct or indirect control over 45% of GHG in Canada



SSO/Green Bin
14,000 tonnes

MSW
90,000 tonnes
(50% Organics)



Construction, renovation, demolition residuals
50,000 tonnes



Feedstock Opportunities Blending & Batching

- Agricultural waste (e.g., corn stalks)
- Animal waste
- Wood waste (e.g., sawdust and bark)
- Purpose-grown energy crops (e.g., switchgrass, miscanthus)



Feedstock Opportunities Solid Recovered Fuel (SRF)

Standards being developed:

- net calorific value
- chlorine content
- mercury content



By-product Opportunities Landfill Gas and Leachate

Landfill gas turned into Renewable Natural Gas (RNG)



Greenhouses using landfill gas plus other fuel products (e.g., wood chips)



FEDERAL Pan-Canadian Framework on Clean Growth and Climate Change

- “Generating bioenergy and bioproducts”
- Integrated feedstock resource recovery
- Research, development and innovation
- FCM projects – municipal focused





PROVINCIAL

Green Investment Fund

Cap & Trade Program (revenues)

Climate Change Action Plan

Strategy for a Waste Free Ontario

- Process and Technology Research and Demonstrations
- Policy Research and Development



London Waste to Resources
Innovation Centre. . *plenty of room
at the table!!!*

