



Update: London's Hefty® EnergyBag® Pilot Project

Jay Stanford, Director, Environment, Fleet & Solid Waste
City of London, Ontario

Current Recycling Program



| Container Capture Rates | % by Weight |
|-------------------------|-------------|
| #1 PET | 77% |
| #2 HDPE | 76% |
| #3 to #7 | 46% |



Also recycle LDPE #4
film “Program Bags”

What's in the Garbage Bag?

| Approximate Composition | ~10% by Weight |
|--|----------------|
| % that should be in Blue Box/Cart | 2% |
| % LDPE bags that should be returned | 2.5% |
| % that could be in the Hefty® EnergyBag® | 3.5% |
| EPS, other rigid, other non-packaging | 2% |

London Hefty® EnergyBag® Pilot Project

Purpose:

1. **Divert** more plastics from landfill
2. **Reduce** the amount of plastic being mismanaged
3. **Advance** towards a more circular plastics economy & more sustainable future



. . . it's a Resource Recovery Pilot Project designed to determine:

- what we can collect from households
- what we need to explain (“the why”) to improve the material mix
- how we can collect & handle (processing)
- how we can create further value:
 - recycled into products
 - converted to valued energy resources
 - created to replace fossil fuel

Partners



Materials Being Collected

Hard-to-recycle & non-recycled plastic items (examples):

- juice & food pouches
- chip & snack bags
- meat & cheese bags
- cereal & cake box pouches
- candy wrappers
- plastic dinnerware & utensils
- frozen fruit/vegetable bags
- pet food bags
- bag closures
- straws and stirrers



Phase 1 – Launched mid to late October 2019



6,800 curbside
(5 areas)

6,000 access
to 2 EnviroDepots
(4 areas)

Breaking new ground!!



Phase 2 – launched in February 2020



Breaking new ground!!

- Target 1,000 units (8 to 10 buildings)
- 2 buildings in action (3 more confirmed but on hold)

COVID-19 Impacts / Delays

- All aspects of Pilot Project have been impacted:
 - November 2019 to February 2020 ... *normal operations*
 - March to October 2020 ... *pandemic*
 - NEW – October 2020 to September 2021 ... *re-tool; launching smaller, more manageable pilot project areas*

Measurement Program

| Area Being Examined | Year 1 (Oct. 2019 to Sep. 2020) | Year 2 (Oct. 2020 to Sep. 2021) |
|--------------------------------------|------------------------------------|------------------------------------|
| 1. Householder surveys | Yes (partial) | Yes |
| 2. Curbside – setout & participation | Yes | Yes |
| 3. Depot & Multi-res – participation | No | Yes |
| 4. Hefty® EnergyBag® composition | Yes | Yes |
| 5. Additional composition studies | No | Yes |
| 6. Collection assessments | Yes | Yes |
| 7. MRF handling & baling | No | Yes |
| 8. End market development/analysis | Yes | Yes |

Collection Photos



MRF Photos



2. Setout Findings (600 homes)

| Hefty®EnergyBag® – Set outs range: | | Timeframe |
|------------------------------------|-----------|-----------------------------------|
| 20% and 32% | avg = 24% | Nov. 25 to Dec. 18, 2019 (fall) |
| 21% and 33% | avg = 26% | Jan. 23 to Feb. 24, 2020 (winter) |
| 10% and 20% | avg = 15% | Apr. 29 to May 22, 2020 (spring) |

2. Participation Findings (600 homes)

| Hefty [®] EnergyBag [®] – Participation range: | | Timeframe |
|--|-----------|--------------------------|
| 23% and 43% | avg = 38% | Nov. 25 to Dec. 18, 2019 |
| 37% and 52% | avg = 41% | Jan. 23 to Feb. 24, 2020 |
| 25% and 60% | avg = 33% | Apr. 29 to May 22, 2020 |

4. Dow/Reynolds Composition Study (March 2020)



- Food waste
- Paper towels
- Liquids
-
- Blue Box recyclables



6. Collection

- Curbside
- Multi-res (carts)
- Depot

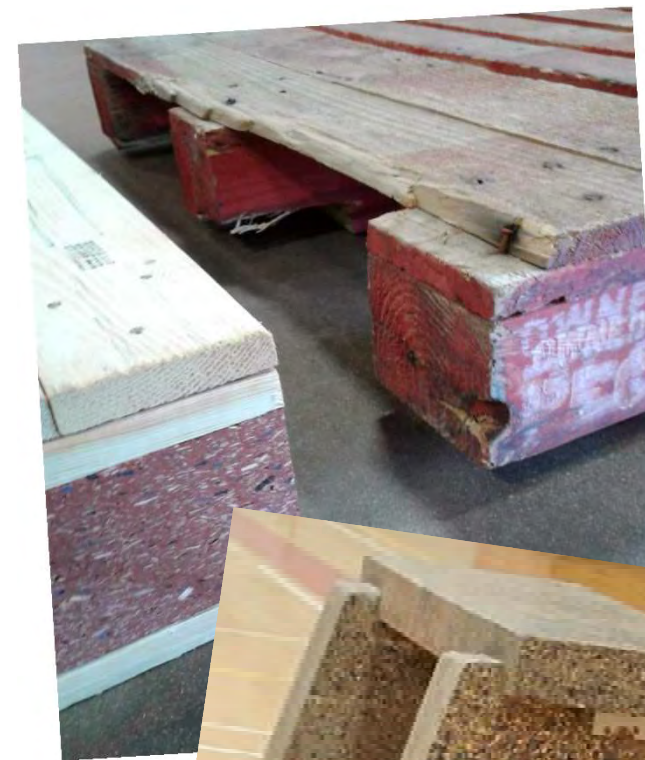


Preliminary. . about 1 to 2 seconds per stop
(with bag)

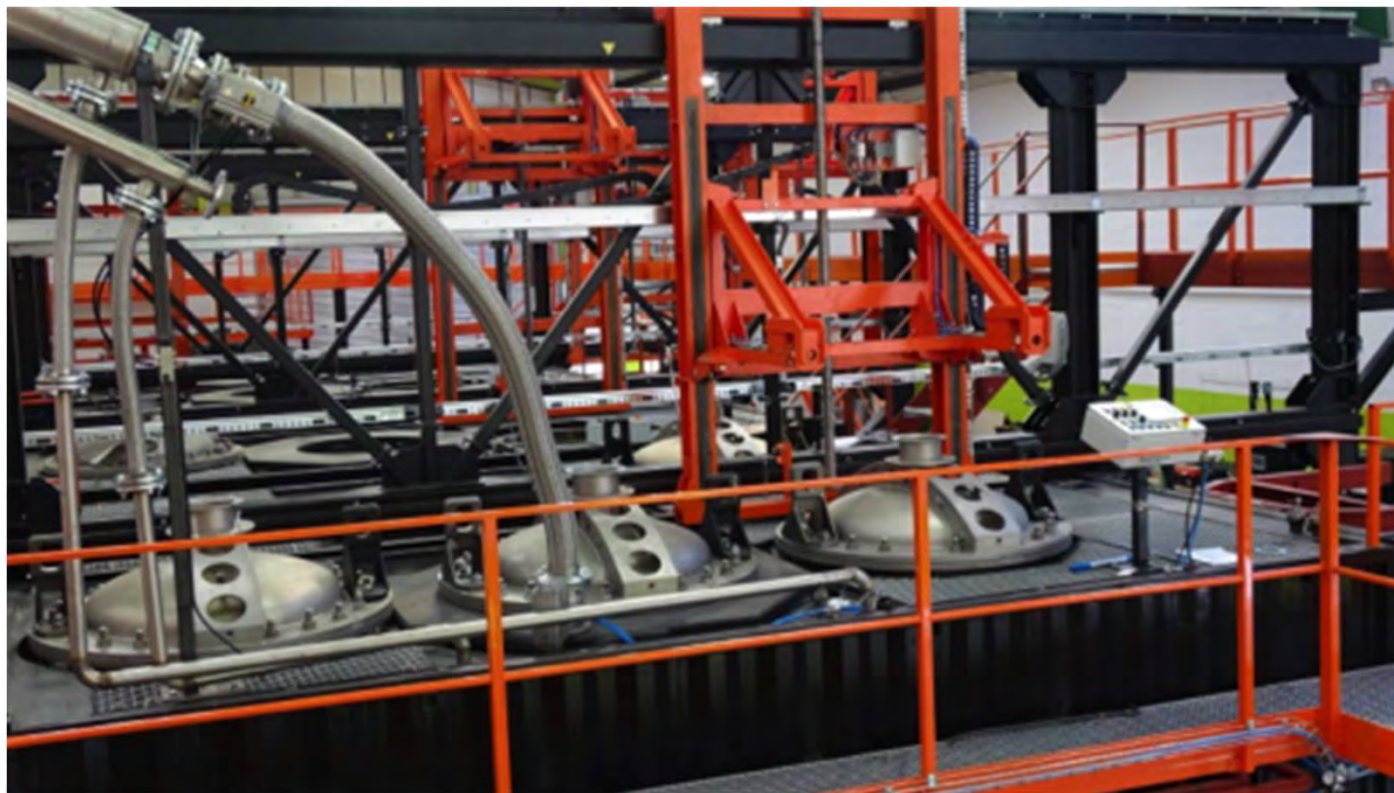
8. End Markets – in Progress

Rivalries
Corporation

REGEN
COMPOSITES



8. End Markets – in Progress



8. End Markets – in Progress

Sustane

**MSW processing including
pyrolysis, Chester, Nova Scotia**



**Alternative Low Carbon Fuels
(ALCF) & Solid Recovered
Fuels (SRF) for use in cement
kilns, lime kilns, other facilities**



8. Research – in Progress



Western
Institute for Chemicals and Fuels
from Alternative Resources (ICFAR)



Focus on Pyrolysis, Gasification

Additional work underway
in the United States

In Summary - After 11 Months

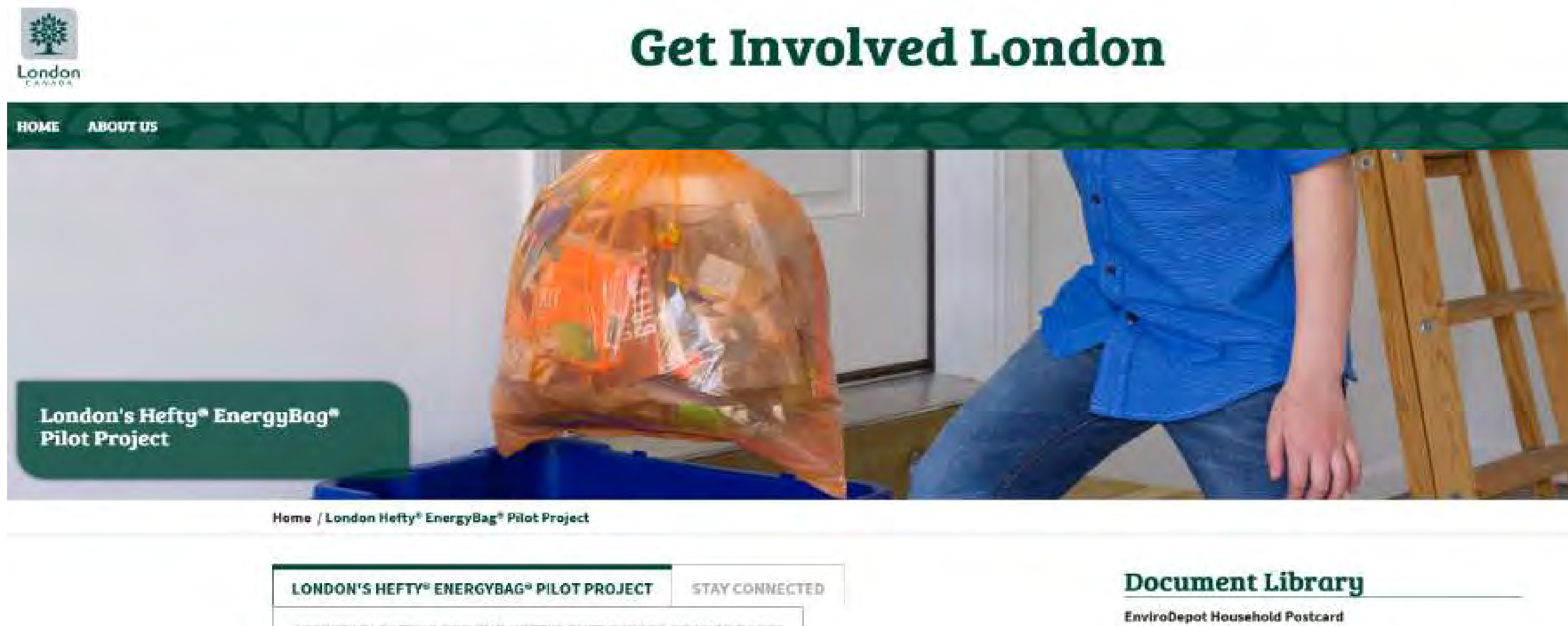
| | |
|-------------------|--|
| Communications | <ul style="list-style-type: none">• More complex than traditional recycling• Much more work required |
| Hefty® EnergyBag® | <ul style="list-style-type: none">• Householders - well liked by many• Why so many non-participants?• About 0.6 kg per bag• What purchase price are they prepared to pay? |
| Composition | <ul style="list-style-type: none">• Challenges (food waste, BB items)• Number of pieces is significant |

In Summary - After 11 Months

| | |
|----------------------|---|
| Collection | <ul style="list-style-type: none">• Little to no impacts• About 10% increase in time at a stop |
| MRF Handling | <ul style="list-style-type: none">• Minor impacts based on current sorting• No issues with baling• Bag breakage – key item to watch |
| End Markets | <ul style="list-style-type: none">• Enthusiastic to test material mix• Many trials successful |
| Collaboration | <ul style="list-style-type: none">• Excellent & ongoing transfer of knowledge, skills & insight |

More details on website

Get Involved London



Go to www.london.ca & look for **Get Involved** button..

OR <https://getinvolved.london.ca/HEB>