Sussex County Municipal Utilities Authority-Foam Cycle
Meet the Team

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Meet the Company: Foam Cycle

- Provides a means to remove a major pollutant

- Partners with other businesses and municipalities to repurpose packaging foam

- Creates a closed-loop circular economy
Meet the Company: Sussex County Municipal Utilities Authority

- 13,727 tonnes of total recycled material in 2017
- Diverted 3.86 tonnes of packaging foam in 2017 and 6.8 tonnes in 2018
- Strive to incorporate more sustainable practices
Polystyrene (#6 Plastics)

- Hard Plastics
  - Rigid plastics
    - Food packaging
    - Packaging peanuts
  - Styrofoam
- Expanded Polystyrene
- Extruded Polystyrene
  - Packaging foam
Foam Recycling Program

Closed-Loop Circular Economy

- Recycle
- Production
- Product use
- Manufacture into new product

XT-70 Densifier
Deliverables

01 Calculate disposal charge savings
02 Calculate Return on Investment (ROI)
03 Develop promotional strategies
04 Create a best management practices guide
01 | Disposal Charge Savings

Collect unprocessed EPS

Measure & weigh

Process EPS

Calculate
01 | Results

Averaged Weights of Unprocessed and Processed Expanded Polystyrene

- Unprocessed: 18.63 lbs.
- Processed: 18.63 lbs.

$p = 1$

Averaged Volumes of Unprocessed and Processed Expanded Polystyrene

- Unprocessed: 63,690 in³
- Processed: 813.5 in³

$p < 0.0001$
01 | Results

68: 1 Unprocessed to processed volume

537.8 Cubic yards in 2017

$52,704 Saved in 2017

Avg % Change of Unprocessed to Processed Volumes and Weights

\[ p < 0.0001 \]
# ROI and Payback Period

## ROI Formula

\[
\text{ROI} = \frac{\text{Revenue} - \text{Costs}}{\text{Costs}} \times 100
\]

## Table

<table>
<thead>
<tr>
<th></th>
<th>Year 0</th>
<th>Year 1</th>
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</thead>
<tbody>
<tr>
<td><strong>Total Costs ($)</strong></td>
<td>63,803.83</td>
<td>13,255.18</td>
</tr>
<tr>
<td><strong>Total Savings ($)</strong></td>
<td>54,348.20</td>
<td>90,714.68</td>
</tr>
<tr>
<td><strong>ROI (%)</strong></td>
<td>-15</td>
<td>584</td>
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<tr>
<td><strong>Payback Period (years)</strong></td>
<td>-</td>
<td>1.12</td>
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</table>

- Total Costs include: cost of densifier, installation fees, energy bill, transportation fee, and employee costs
- Total Savings accounted for: disposal cost avoidance savings and ingot sales
THANK YOU for recycling

It is a pleasure to have you participate in the movement!
This frame is made from 100% recycled Foam Packaging waste
(Expanded Polystyrene) that was removed from New Jersey's waste stream.

We appreciate your contribution to help put New Jersey in a
"Better Frame." Our goal is to build a closed-loop, circular economy in
order to reduce New Jersey's environmental impact.

Broken frames can be sent back to us to be recycled into new frames!

Check out www.BetterFrame.org to see how your frame was born.

BRING IT!
Visit us at Foamcycle.com to learn where
you can recycle your Expanded Polystyrene!
03 | Promotional Strategies

IT'S TIME TO PUT EARTH IN A BETTER FRAME

SHOP NOW
Alternative products of EPS:

- Building products
  - Window & door casings
  - Cabinets
  - Crown mouldings
  - Furniture

Suggestions:

- Drop off locations
  - Convenient for residents
- Potential partnerships
  - Selling Foam Cycle systems
  - Better Frames sold in stores
“They say it can’t be recycled, we’re here to prove them wrong”
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Klive Kim, Sales Director, JJ Moulding & Framing

Amelia Miller, Assistant Project Manager, PSEG ISS

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