



United States Business Council  
for Sustainable Development

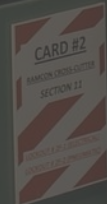


Materials  
Marketplace

# materials marketplace

## Great Lakes Circular Materials Roundtable: Film Plastics

June 23, 2020

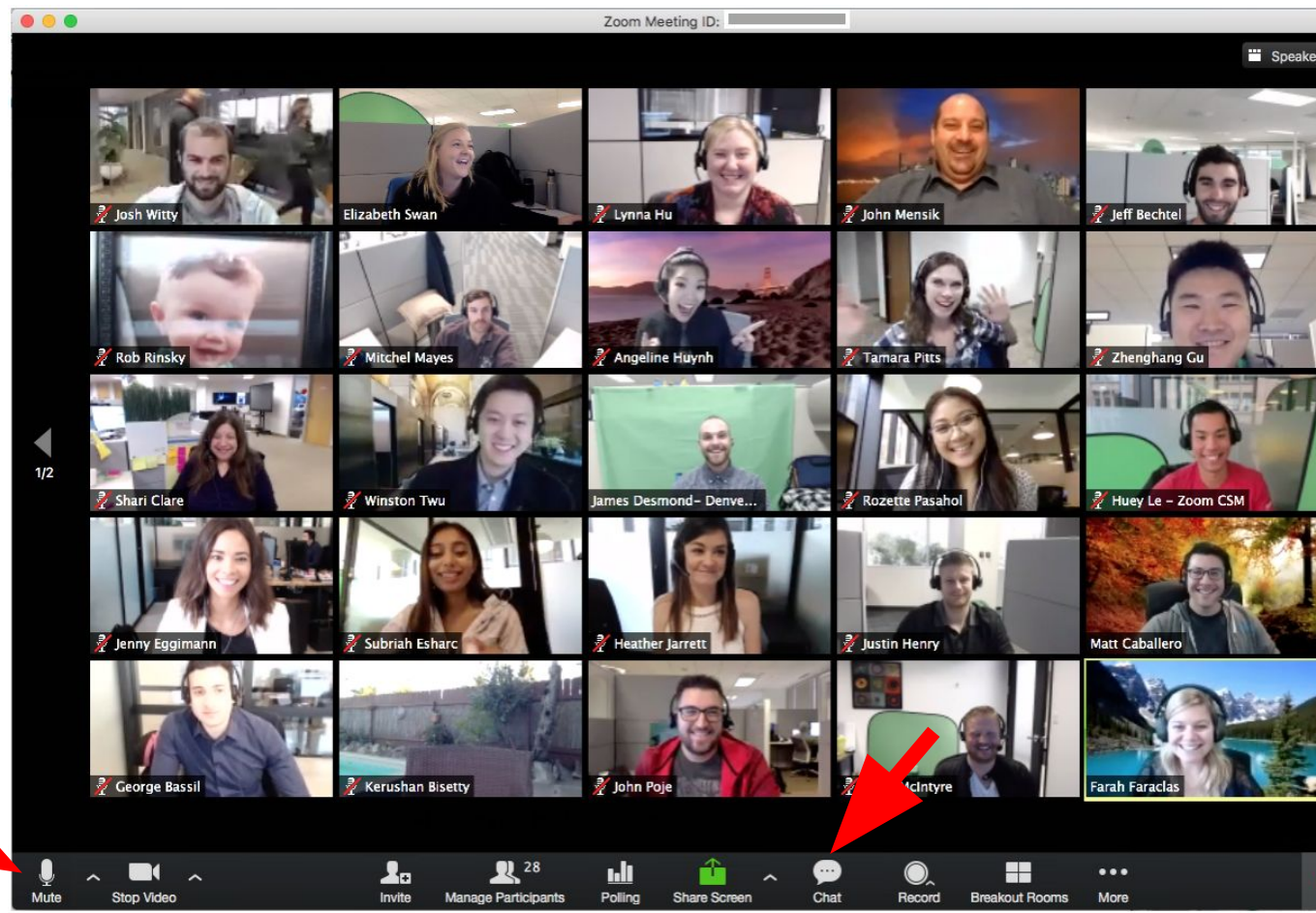


## Zoom Etiquette

Direct all questions to Kara Wright (US BCSD) in a **private chat**. She will work with you to resolve technical issues and collect content-related questions for the Q&A session following presentations.

Sending a private chat message? Double check it's going to your intended recipient.

Kindly **mute** your audio when not speaking and call other attendees by name when you're ready to pass the speaking baton to another participant.





# Working Together to Drive Circular Economy in the Great Lakes Region



United States Business Council  
for Sustainable Development



MICHIGAN DEPARTMENT OF  
ENVIRONMENT, GREAT LAKES, AND ENERGY



COUNCIL OF THE GREAT LAKES REGION

BUILDING OUR FUTURE TODAY

Discover. Connect. Influence.



Materials  
Marketplace





# Roundtable Agenda

## 11:00 to 11:30am - Welcome & Presentations

Event organizers and program sponsors will welcome guests. Speakers from the Materials Marketplace network will provide a brief overview of the film plastic challenge and outline some promising applications and use cases. Use the Zoom chat box to ask questions for a brief Q&A session following the presentations.

## 11:30 to 11:50am - Breakout Sessions

Building on the morning presentations, attendees will be divided into breakout groups for facilitated discussion. Groups will brainstorm solutions and recommend professional connections.

## 11:55 to 12:00pm - Next Steps

Outcomes from the breakout session discussions will be captured as actionable next steps for film plastic recycling, repurposing, or reprocessing and will be distributed to attendees.

## Objective

*Connect businesses and organizations in the Great Lakes to brainstorm solutions, recommend professional connections and commit to actionable next steps for recycling, repurposing, or reprocessing film plastics.*

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## Resources

- Materials Marketplace login:  
**[go.materialsmarketplace.org](https://go.materialsmarketplace.org)**
- Ohio Materials Marketplace:  
**[ohio.materialsmarketplace.org](https://ohio.materialsmarketplace.org)**
- Michigan Materials Marketplace:  
**[michigan.materialsmarketplace.org](https://michigan.materialsmarketplace.org)**
- Ontario Materials Marketplace:  
**[ontario.materialsmarketplace.org](https://ontario.materialsmarketplace.org)**





## Who's in the Room?



Tell us more! In the Zoom chat, tell us your name, location, organization, and a brief statement about why you are attending this Virtual Roundtable - including where your company or organization fits into the above categories.

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**Speaker:**

**Michigan Recycling  
Coalition**

# Film Plastic Recycling

The MRC is a dedicated statewide recycling association. We were awarded a Film Plastic grant in November to setup a statewide network to process and recycle Agricultural and Marina Film Plastic.





# Plastic Film

- **Boat Shrink Wrap** – clean compactable PE
- **Greenhouse Covers** – clean, large and bulky, LDPE
- **Mixed Agriculture Plastics** (Dirty, various bulk, HDPE and LDPE)  
Including:
  - Grain Bags
  - Bunker Silo Covers
  - Mulch Film
  - Silage Bags
  - Drip Tape
  - Bale Wrap



# Marina Program

- Preparing Shrink Wrap- cut away vents, zippers, and doors.
- Customer Responsibility - printed instructions, visuals, and an instructional video.
- Financing the Program – Sell and Promote an EZ Fill Recycling Bag



# Innovative Program Ideas:



- Maine group uses their universities to store greenhouse plastic in their cooperative extension parking lots.
- Minnesota program used on-site dumpsters, hauled directly from the plastic generators.



# Progress in Michigan

Our goal is to engage recyclers and material recovery facilities by becoming hubs to:

- ❑ Charge a tipping fee
- ❑ Bale the plastic
- ❑ Store the plastic before being hauled

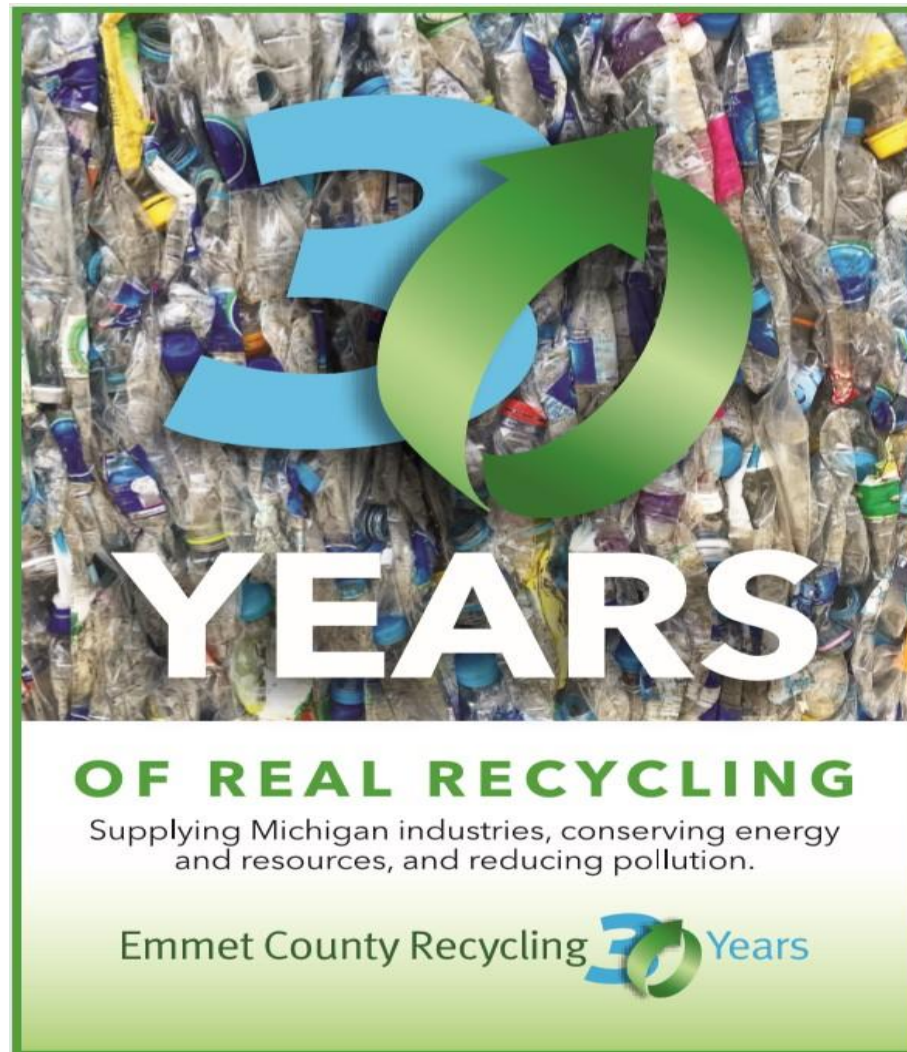




**Speaker:**

**Emmet County**

# A Story to Tell: Emmet County Recycling's 12 years of film & plastic bag recovery





# Dual Stream- comprehensive

Emmet County Department of Public Works EmmetRecycling.org

## Emmet County Recycling Paper, Boxes and Bags

### Office paper

- Including copier paper, junk mail, envelopes, and file folders.
- Please remove CDs, plastic cards and other non-paper items from junk mail.
- There's no need to remove sticky notes, mailing labels, staples, paper clips, tape, stickers, rubber bands, or envelopes with plastic windows.
- NO construction paper or boldly colored office paper.
- Pale/pastel-colored office paper is okay.
- NO padded envelopes



### Shredded office paper — bagged!

- Please contain shredded paper in plastic bags (transparent or white) so it doesn't blow around while being loaded and unloaded.



### Newspaper, magazines, catalogs & books

- Includes flyers and glossy inserts
- NO newspapers which have gotten wet and/or yellowed



### Cardboard & brown paper bags

- Small amounts of corrugated cardboard may be included with your paper. They must be smaller than 2ft x 2 ft.
- Remove any packing material and flatten boxes
- NO greasy pizza boxes
- Boxes meant for use in refrigerators, coolers or freezers (i.e. from frozen food, pop or beer cases) can be recycled.
- NO Styrofoam



### Plastic bags

- **STRETCHY, CLEAN AND DRY ONLY!**
- For example, plastic grocery bags, bread bags
- Can include palletwrap, shrinkwrap, and bubblewrap
- NO pretzel or chip type bags, cellophane, mylar



### Questions?

231-348-0640 or visit [EmmetRecycling.org](http://EmmetRecycling.org)



NO Styrofoam™ items

Emmet County Department of Public Works EmmetRecycling.org

## Emmet County Recycling Mixed Containers



### Aluminum cans, foil, & foil trays

- Please rinse to remove food



### Tin/steel cans, metal caps & lids

- Please rinse
- NO aerosol cans or propane tanks



### Plastic bottles, jugs, jars, tubs, trays & cups

- Please empty of liquids and rinse off food
- Plastic caps and lids, on their containers, are now recyclable
- Plastic bags go in the "Paper, Boxes & Bags"
- NO STYROFOAM



### Glass bottles & jars metal or glass items

- Clear, green, brown, and blue glass are okay.
- Please remove lids or stoppers. Metal and plastic lids can be included for recycling. Discard cork stoppers.
- Please rinse containers.
- NO broken glass, light bulbs, or window glass
- NO glass dishes



### Milk cartons, juice boxes & paper cups

- Refrigerated milk and juice cartons, ice cream cartons too.
- Aseptic boxes/cartons: juice boxes, broth/soup cartons, & shelf-stable milk boxes, for example.
- NO mylar pouches (like Capri Sun pouches)
- Please empty of liquids



PUT PLASTIC BAGS IN THE PAPER STREAM



NO Styrofoam items



NO non-container plastic, metal or glass items

### Questions?

231-348-0640 or visit [EmmetRecycling.org](http://EmmetRecycling.org)



We are the connection between the consumer and the manufacturer in the circular economy



# Film (ldpe) & Plastic bag (hdpe) recycling timeline

- **2008- 2009** kicked off a marina shrink wrap drop off **PILOT** program at the urgency of Irish Boat Shop a Michigan clean marina. Partnered with local Petoskey Plastics
- **2009-** expanded to include other kinds of ldpe- pallet wrap, commercially sourced films
- **2010- 2013 Dual Stream transition** once we added hdpe tshirt, grocery bags market changed (PP- ldpe manufacturer not hdpe) So why did we make that choice?
- **2010-2013 domestic and export markets** Trex bought first load 8/2013. *Beginnings of export restriction in 2013 with Green Fence.*
- **2013 & 2017-** sent experimental loads to SC Johnson
- **2014-2020** Trex main market





# The changing stream...

- It all started with a PILOT





From THIS to THIS to THIS to THIS...





# ...to THIS



From consumer messaging on what and how to recycle to manufacturer and their end product, the MRF, is the connection in the circular economy



# Dual-stream expansion 2010



This was a policy  
decision





# LDPE & HDPE Film Plastics





# Loose and baled



# Film plastic bags

- Film plastic bags (HDPE & LDPE)
  - Dual Stream allowed us to add additional sorts
  - Consider sort line and bunker capacity (linear feet on sort line and # of bunkers/carts to sort into)
  - Consider warehouse space for full load (28 bales or 40,000 #s) onto trailers
  - Consider messaging to public



# Trex- Winchester, Virginia

## Major user of recycled film says it will be buying more

Posted July 17, 2019 by Jared Paben

“I think it’s going to take **government** and/or the consumer to force the recycling to occur. I don’t think other companies are going to do it on their own.”

--Trex CEO Jim Kline









# How we educate

- Elisa can you add the bag your bags image here, it's a pdf, couldn't convert to a jpg as necessary....



# 2016 Carts @ the Curb- with TRP Paper, Boxes & Bags



# The three lessons of our experience:

- 1) Seek out local markets
- 2) Build relationships
- 3) provide good clean  
commodities




Recycle  
for  
Michigan!



**30**  
**YEARS**

**OF REAL RECYCLING**  
Supplying Michigan industries, conserving energy  
and resources, and reducing pollution.

Emmet County Recycling  Years





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Speaker:

**Petoskey Plastics**

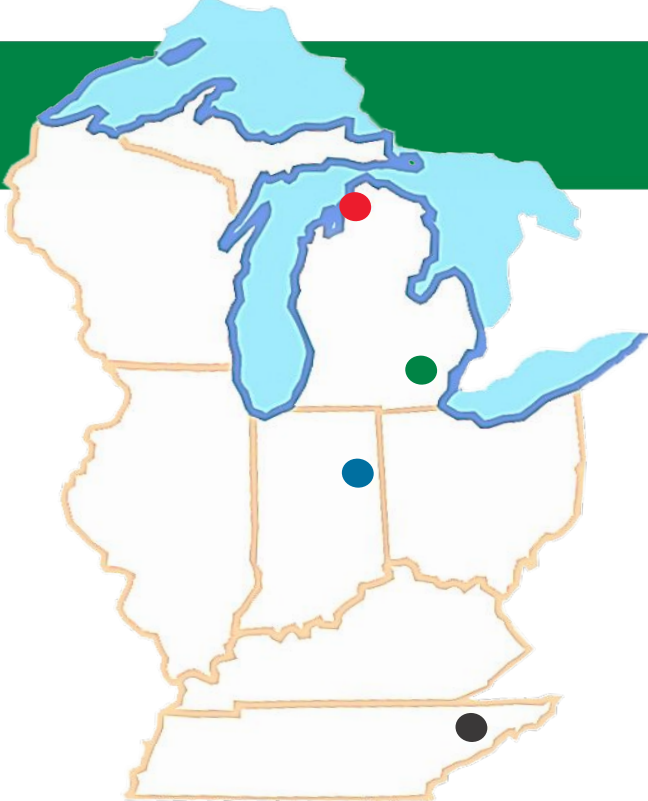


# HELLO

WELCOME

**June 23, 2020**

# Locations



**Petoskey, MI  
Headquarters**



**Birmingham, MI  
Sales Office**



**Petoskey, MI**  
90,000 sq. ft. on 9 acres  
15 Production lines  
~31,000,000 lbs. produced (2019)



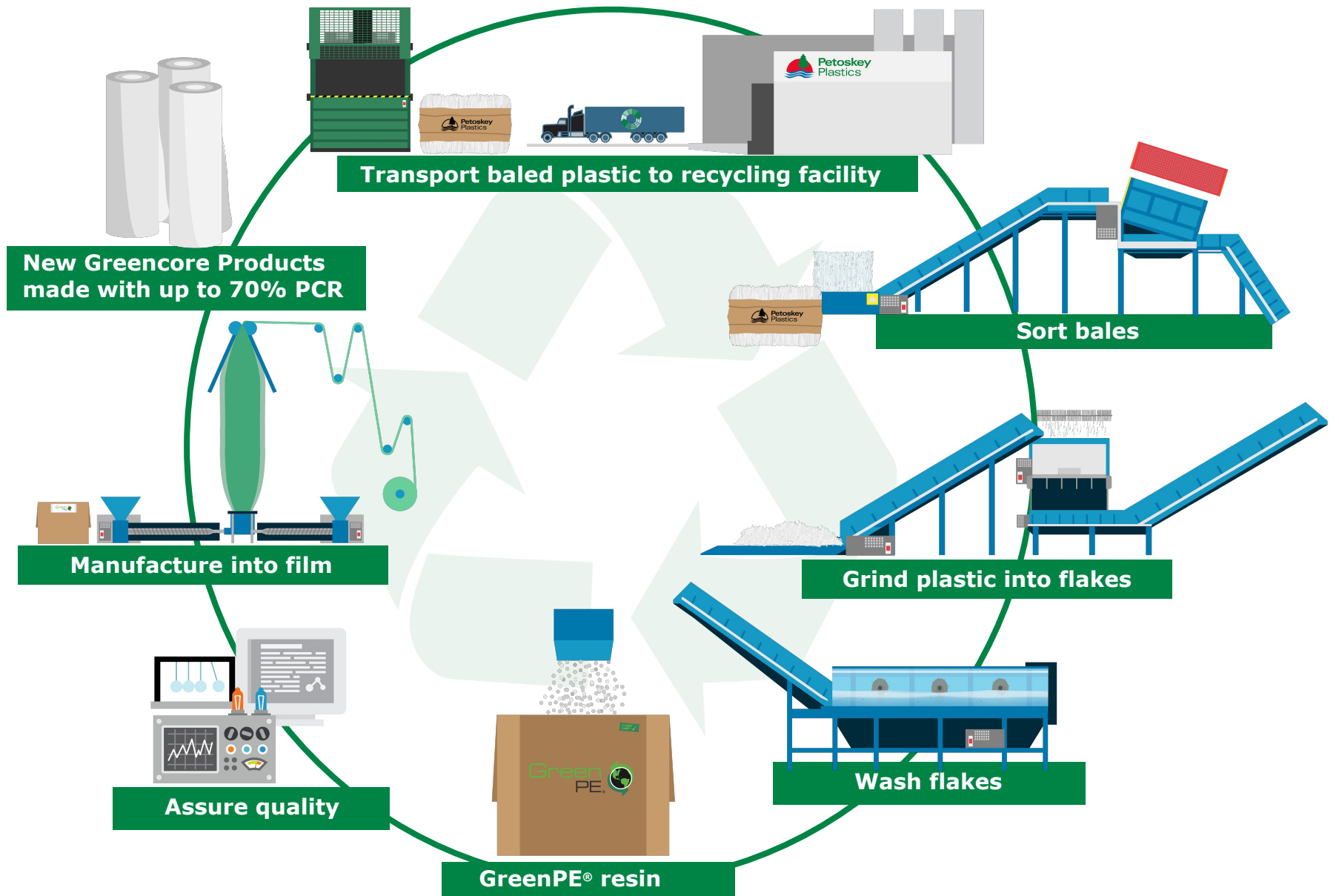
**Hartford City, IN**  
300,000 sq. ft. on 38 acres  
13 Production lines  
2 Recycling lines  
~41,500,000 lbs. produced (2019)



**Morristown, TN**  
122,000 sq. ft. on 10 acres  
13 Production lines  
~28,800,000 lbs. produced (2019)



# Recycling Process



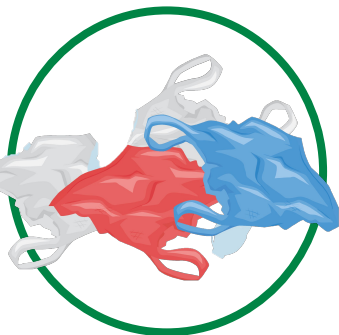
# What Do We Recycle?



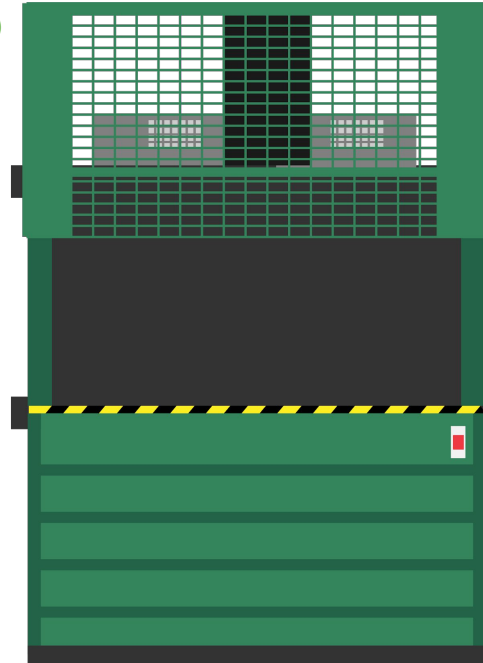
**Stretch Film/Pallet Wrap**  
Paper labels accepted



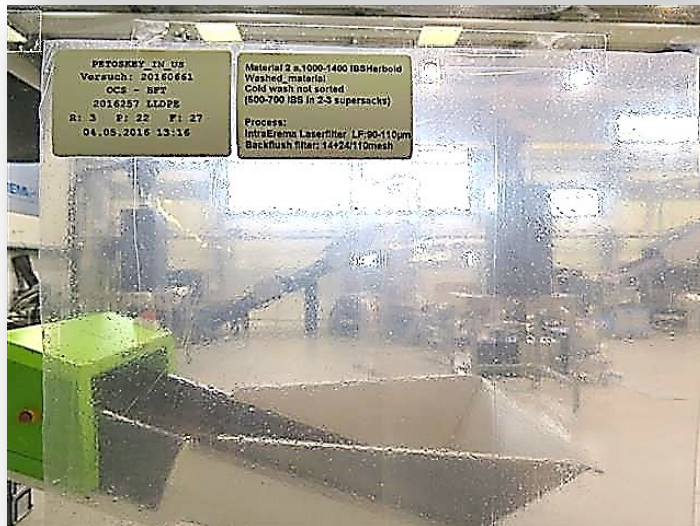
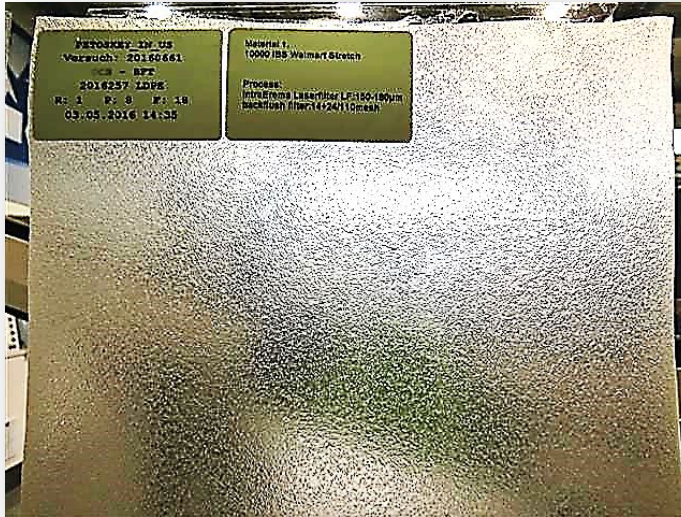
**Clear Bags & Packaging**  
LLDPE & LDPE



**Colored Bags & Packaging**  
Soft metal & PET contaminated accepted



# Quality Progression







Customer Logo Here



# SUSTAINABILITY SCORECARD

A Closed Loop Recycling Partnership

January 1, 2019 - December 1, 2019

Plastic Bags Shipped	6,465,425 lbs
PCR Plastic Used	2,411,370 lbs
Total % of Recycled	37% PCR*
CO <sub>2</sub> e Saved	1,607,855 kg

\*Post-Consumer Recycled Plastic

The use of post-consumer plastics in your products equates to:

### Annual Greenhouse Gas Emissions Reductions:

 **3,828,226 miles**  
driven by an average passenger vehicle avoided

### Water Savings:

 **25,629,487 gallons**

### CO<sub>2</sub> Emissions from:

 **3,739 barrels** of oil not consumed **or**  **180,922 gallons** of gasoline not consumed

[petoskeyplastics.com](http://petoskeyplastics.com) | [greencoreproducts.com](http://greencoreproducts.com)

Calculations are based on Cradle to Gate Life Cycle Analysis completed by an Environmental Consulting Firm that specialized in this analysis. The Life Cycle Analysis quantitatively measures energy use, raw material consumption, air emissions, water effluents and solid wastes. The Petoskey LCA study was conducted and presented in a manner consistent with the principles and guidance provided by the International Organization for Standardization (ISO) in standards described in ISO 14040, 14041, and 14042 to produce project results.



**Speaker:**

**EFS Plastics**



A scenic photograph of a sunset over a calm lake. The sun is low on the horizon, creating a bright, golden glow that reflects on the water's surface. The sky is filled with soft, colorful clouds. In the foreground, there are silhouettes of tall pine trees on the left and some bushes at the bottom. The overall mood is peaceful and natural.

# PARTNERING WITH YOU. PROTECTING THE ENVIRONMENT.

At EFS-plastics, our customized plastic resin helps customers across North America develop cost-effective solutions for their products and packaging.



## Wanted: Transparent Film



This grade consists of 95% clean, dry, clear, natural LDPE (no LLDPE film). Any mix of post commercial or post-consumer film. Minimal amount of HDPE allowed.

Product: Film

Source: Post-commercial (not Post-industrial)

Contamination: Total contaminants should not exceed approximately 5% of color, print, labels. Less than 2% clean HDPE bags allowed. Less than 1% strapping allowed.

Prohibited Items: NO metal, food trash, bottles, cans, glass, wood, oil, rocks, and loose paper. NO rigid plastics such as PET, PP, PVC, coating or laminated film.

**Material Pricing:** Material Not Yet Priced

**Quantity / Volume:** 20

**Unit:** Metric Tons (tonnes)

**One-time or Ongoing Availability:** Wanted Material - Not Applicable

**Type of Collection/Storage:**

- |   |  |   |
|---|--|---|
| <input type="checkbox"/> Loose / Stacked  | <input type="checkbox"/> Palletized          | <input type="checkbox"/> Open-Top Boxes |
| <input checked="" type="checkbox"/> Baled | <input type="checkbox"/> Drums/Barrels/Totes | <input type="checkbox"/> Other          |
| <input type="checkbox"/> Gaylord Boxes    | <input type="checkbox"/> Semi-Truck Trailer  |   |

**Transport and Logistics:**

- |   |  |  |
|---|--|--|
| <input checked="" type="checkbox"/> Pick-up preferred | <input type="checkbox"/> Drop off with own | <input checked="" type="checkbox"/> We should talk |
| <input type="checkbox"/> Shipping services            | <input type="checkbox"/> vehicle           |  |

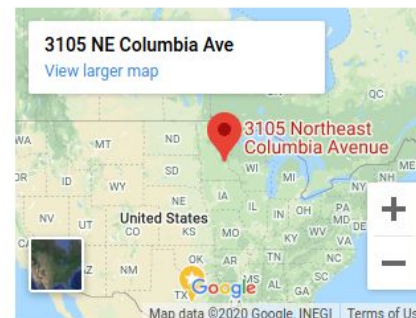
Start Conversation

- [✎ Edit listing](#)
- [🔒 Close listing](#)
- [★ Move to top of homepage](#)
- [✉ Show in the next newsletter](#)



Arjun Krishnan

Contact



[Open in Google Maps](#)



**EFS PLASTICS: FILM PLASTICS RECLAIMER**

# ABOUT EFS-PLASTICS

- **Since 2007:** EFS has specialized in post-consumer plastic film and mixed rigid plastic recycling.
- **Volume:** Converting over 62,000,000 lb/year of plastics waste in to high quality resins.
- Making HDPE, LDPE, PP pellets; 100% post consumer certified



POST-CONSUMER PLASTIC  
BALE



100% PCR PELLETS





# END MARKET FOR FILM PLASTICS

Transparent  
Film (Grade B)



Grocery Bags  
(Grade C)



# FILM QC — #2 & #4 Plastic Film Only



NOPE



YES!



Thank you for cleaning up the film for us! We will use these bales to make new garbage bags and grocery bags with recycled content.



¡Gracias por limpiar el "film" para nosotros! Utilizaremos estos fardos para hacer nuevas bolsas de basura y bolsas de supermercado con contenido reciclado.



# FILM SOURCE CHARACTERISTICS



- Contamination Levels
- Distance to our plants (Ontario or Pennsylvania)
- Available volumes
- Commitment to recycling/using film with recycled content



## OTHER OBSERVATIONS

- Highest sales are in States where recycled content is mandatory- California, New York
- Higher demand for recycled resin, higher ability to recycle more bags
- Less litter, less waste in oceans
- Close the loop #circulareconomy



# EXAMPLES OF END MARKETS FOR RESIN PELLETS

## ■ Film LDPE Pellets








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Speaker:

**Revolution Plastics**



# Revolution at a Glance

- 
 Manufacture Products up to 97% Postconsumer Resin
- 
 Diverted over 1.5 billion pounds of waste from landfills
- 
 Recover, clean and process more than 150 million pounds annually
- 
 Save 100 billion gallons of water annually w/ Pipe Planner irrigation software
- 
 Over 30 years in business



Revolution is a global brand unified by a single mission: creating better plastics that help preserve our environment. We believe in manufacturing products with the highest amount of postconsumer recycled resin possible through our innovative Closed Loop System that diverts millions of pounds of plastic waste from the landfills each year. Consumers and companies rely on Revolution to provide sustainable, high-quality products through our family of brands:



Revolution  
ag

Revolution  
board

Revolution  
bag

COMMAND  
A REVOLUTION BRAND

dailygood  
BAGS

RODEO  
A REVOLUTION BRAND



# Breakout Sessions

You'll now receive a notification to move into a breakout room, where you'll have the opportunity to share your challenges, brainstorm solutions and recommend professional connections. Capture notes and next steps as follows:

	General Notes	Insights to Take Back	People & Companies to Connect With	Action Items on the Materials Marketplace
Shared Challenges				
Solution Provider(s)				
Other Enablers				



# Thanks for participating!

Thanks for joining us in today's discussion. We'll send out a brief recap via email in the next week or two, but in the meantime, here are some things you can do to continue the momentum:

## Set up an account on the Materials Marketplace

If you don't already have an account, getting started on the Materials Marketplace only takes a few minutes. Visit one of the program websites and click "**get involved.**" Our tool will ask a few questions, and then someone from our team will send you an invitation to join.

## Create listings for available or wanted materials

Once your account is set up, you can create **wanted** or **available** listings of all kinds on the Materials Marketplace from your mobile device or computer. Listings are the best way to create visibility for your challenge or solution - include a couple of good photos to make them stand out!

## Connect with other users on the Materials Marketplace

Search within your geography and materials parameters, and send a message through the platform if you see something of interest. The other party will receive a notification in their inbox, and our teams will be monitoring the conversation in case something stalls out.

## Important Links

- Materials Marketplace login:  
**[go.materialsmarketplace.org](https://go.materialsmarketplace.org)**
- Ohio Materials Marketplace:  
**[ohio.materialsmarketplace.org](https://ohio.materialsmarketplace.org)**
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- Ontario Materials Marketplace:  
**[ontario.materialsmarketplace.org](https://ontario.materialsmarketplace.org)**

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## Contact Us

- **Email:** [info@materialsmarketplace.org](mailto:info@materialsmarketplace.org)
- **Phone:** 512.981.5417
- **Twitter:** @usbcsd