

## Recycle Colorado Plastics Circularity Council – August 27, 2024

### **Attendees:**

Emmett Bailey – High Country Conservation Center  
Josh Taylor – Waste Management  
Darla Arians – CDPHE  
Liz Chapman – Recycle Colorado  
Alicia Archibald – City of Steamboat Springs  
Alice Yinghua Jin – RockyTech  
Ally Byzewski – Recycle Colorado  
Jonathan Levy – PakTech  
Brian Robinson – Goodwill Colorado  
Lindsey Stovall – American Chemistry Council  
Amelia Kovacs – Walking Mountains Science Center  
Adam Hill – Direct Polymers  
Em J – City of Lakewood  
Adam Farmer – Driven Plastic  
Jimena Baldino – City of Aspen  
Hannah Grossberg - Target  
Brian Loma – Cut The Plastic EMS  
Evan Kruse – Diverse Video and Design

### **Agenda/Topics:**

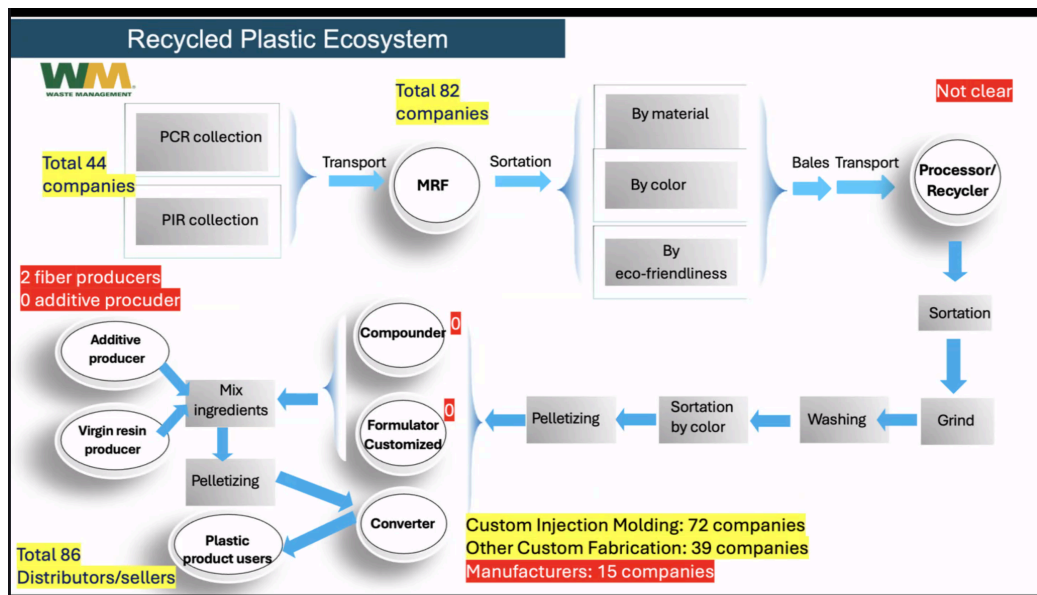
- Introductions
- Plastic Ecosystem Colorado Subgroup Meeting (Monday Aug 26<sup>th</sup>) recap
- Direct Polymers update
- Rail-ties opportunity update

### Notes

-We are the newest Recycle Colorado council

- Plastic ecosystem Colorado subgroup meeting recap:
  - Members: Reenee; Alice; Liz Kuhn (CDPHE); Susan Renaud (CEDC), replacing Eric
  - Project objective: Map plastic ecosystem in Colorado
  - Mitch from Matium has aggregated the data (digitally)
  - CEDC did a market analysis
  - This is a volunteer project. Subgroup divided up tasks, close to having a smaller list of plastics collectors and processors
  - Next step would be a smaller survey that would go to folks who haven't connected with Matium yet. People collecting plastic and people using plastic. Need to encourage platform enrollment

- Fill in gaps of who in CO is sending plastic outside of state when they could be sending it instate and who in CO is importing plastic from out of state but could get it from in state processors. Goal to eliminate import/export outside CO
- Mix-up with the meeting date, some folks didn't receive invite/ attend
  - **Liz** will send out notes to those who should have attended and coordinate for the next subgroup meeting date
- Analysis slides from Alice
  - PCR: mainly we collect commodity plastics
    - High volume, low value, less variety (HDPE, PP, some PVC)
  - PIR: mainly scraps or unused materials from production line
    - Low volume, high value, many different types
  - Ecosystem Map – list of companies provided by Matium. High concentration of plastics companies in northern CO
    - 82 MRFs, not clear how many processors/recyclers;
    - Converters: 72 customer injection molding, 39 custom fabrication (extrusion, laser cutting, etc.), 15 manufacturers (could be OEM); 86 distributor/sellers; 0 compounders or formulators



- 10 garbage dump sites in CO
- End market opportunity – none in CO as of May 2024?
  - Driven Plastics and Direct Polymers be recognized as an end market
    - Emphasis on high volume end markets – e.g. Driven plastics has high volume potential, whereas Trash Panda Disc Golf may not provide the volume needed
      - Driven plastics doesn't purchase PE from MRFs because of contamination

- **Next steps:** Alice will continue her analysis. Let Alice know if there is more information you're interested in
  
- Direct Polymers updates from Adam Hill: implemented a model to bring solutions to customers, getting new machinery to boost capacity, working with Mitch to get more national accounts, been able to out-bid for national accounts, very busy, grown 3x times since April and expecting to double that by EOY.
  
- Rail ties update: Not as much traction on railroad-ties production, still looking at different avenues because it would be very impactful for this area.
  - Railroad tie – (a rectangular support for the rails in railroad tracks. Usually laid perpendicular to the rails, ties transfer loads to the track ballast and subgrade, hold the rails upright and keep them spaced to the correct gauge.
  - Currently made from wood or concrete. Wood can rot in humid climate or on railways near water. Chemicals in wood can also leach into soil and waterways. Wood ties need to be replaced every 7-10 years.
  - Opportunity: divert plastic locally to make high fill composite railroad ties. Think about what Pretred is doing with tires. Can make one every five minutes, feedstock includes rigid plastics. Collect 200 truckloads of trash carts in the next two months, collecting from Pepsi, Goodwill sending mixed rigid plastics (#5, #2, #4).
    - Proprietary process (DP under NDA) puts a lot less stress on the machines and cut costs as they're vertically integrated. Process would be hugely beneficial for this area
    - Drop test and stress test results were great. Zero failures. Testing at Penn State. Estimated 50 year replacement rate
    - Looking at certifying carbon credit for these railroad ties
    - Provides more margin to make it more profitable
  - 25-mile commitment would be great (fill an entire production line), 50-mile would be even greater impact. Europe is already big on these plastic composite rail ties
    - Could be for passenger light rail or cargo rail but not high speed rail
    - Class I rail companies (e.g. BNSF) are slow to implement
  - **Next steps:**
    - Need to gather more plastic feedstock and find sections of rail that can commit to using the recycled plastic ties
    - **Brian Loma** to connect with Adam on the advisory group
    - Adam meeting with OmniTRAX
    - **Adam** to provide a one-page or fact sheet to get the word out on rail ties. The greater group can then look for one new connection (as homework) that may be interested or able to help

- Evan has a friend working in roofing who's trying to recycle TPO – Direct Polymers can help, will have to look into contamination/adhesives.