

MRF CAPABILITIES AND CIRCULAR ECONOMY OFF-RAMPS

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2





Existing Circularity Off-Ramps GBB Recovery Research Data Technology to Increase Circularity Current Circularity Model Alternative Circularity Model Q&A



Motivation – Circularity Off-Ramps

- Limited Program Materials: Most MRFs currently can only process materials that make up roughly 1/4 of our waste stream.
- Program Material Specifications: MRFs are not able to recover all recyclable materials that enter their systems.
- Program Materials in the Landfill: Many recoverable and recyclable materials end up in the landfill.
- Recycled Materials Degrade or are used to Make Non-Recyclable Items: Materials that are recovered and recycled at MRFs are often downcycled or used to manufacture non-recyclable or non-recoverable items.







Circularity Off-Ramp #2 – Program Material Specifications Recovery Research



• Recovery of HDPE Flexible Tubes at an HDPE specific Optical Unit

Item	Number of Items Recovered (Out of 100)
HDPE 1.0" flexible tube	1
HDPE 1.5" flexible tube	3
HDPE 2.00" flexible tube	29



Circularity Off-Ramp #3 – Recyclable Materials in Landfills



- GBB's Rule of thumb is about 50% of recyclables at a location with curbside single stream recycling ends up in landfill.
- Recent study in Michigan showed about 30% was recycled.
- EPA's national rate of 32% indicates a lot more recyclable material ends up in landfill



Landfilled OCC at a Waste Sort – B. Kelley







Technology Approaches (Continued)

- Artificial Intelligence (AI)
- Advanced Recycling
- Additional Approaches
 - EPR
 - Brand Capture



Source: Waste Robotics











