



# Collaboration is Key

Michigan Recycling Coalition

May 5-7, 2015

Kalamazoo, MI

**Susan Graff, Vice President**  
RRS Global Corporate Sustainability

# IN THIS PRESENTATION

1

Why Collaboration?

2

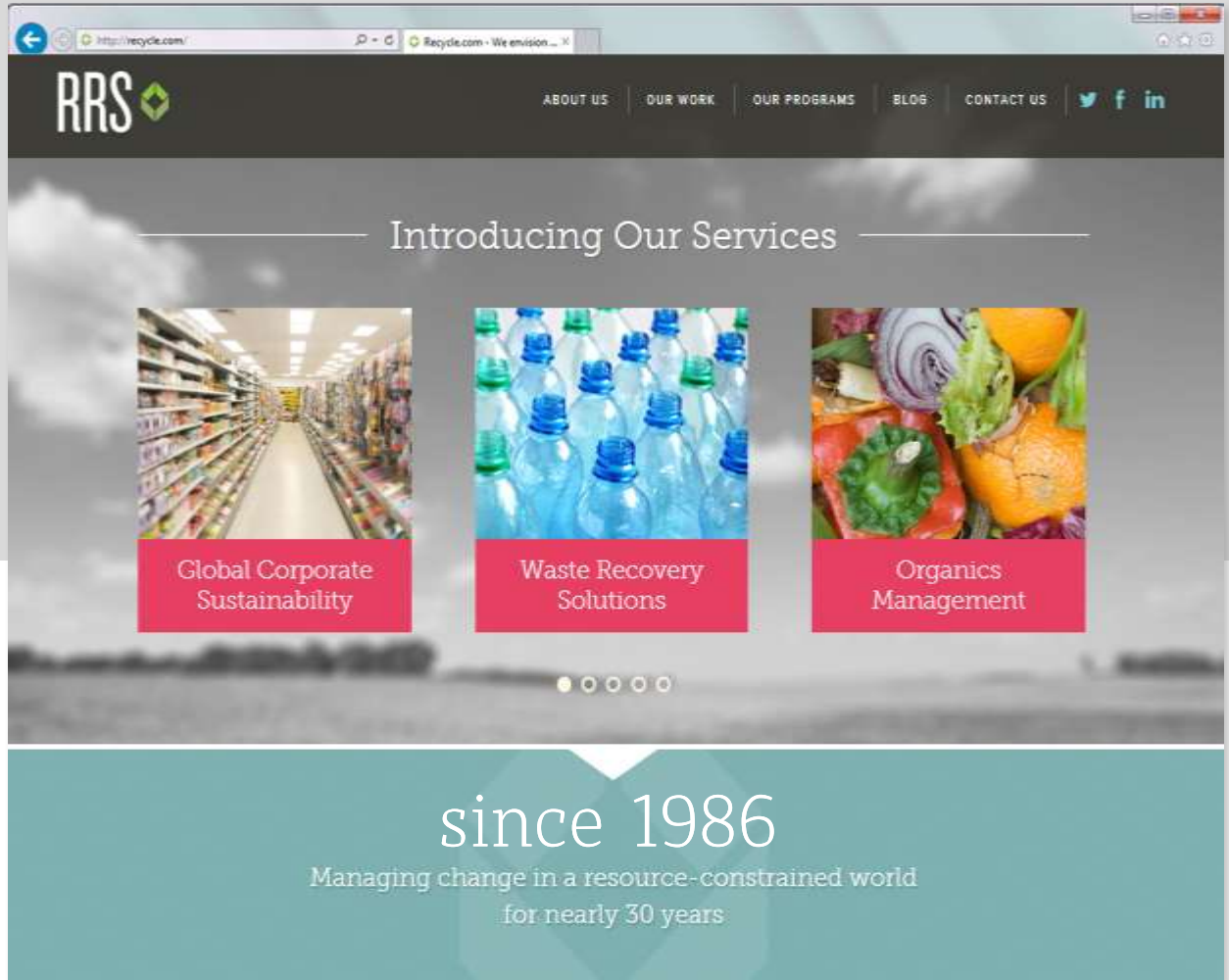
The Recovery Value Chain

3

Collaboration to Achieve Best Practice  
Deployment

4

Collaborative Project Examples



managing change in a  
resource-constrained  
world.

# FOR CORPORATIONS, 2015 IS A YEAR OF HIGH VISIBILITY FOR MATERIALS RECOVERY ISSUES

Major NGO campaigns: NRDC- As You Sow Waste to Opportunity Report  
*“Wasting materials with significant economic value is an inefficient use of finite and dwindling raw material sources”*

Life cycle management is the expectation

The 4R's: Risk, Reputation, Revenue and Retention  
call for value chain collaboration

Source: Greenbiz Forum 2015

# THE CIRCULAR ECONOMY & ZERO WASTE

## A SIMPLE DEFINITION

The evolution of industrial processes from Take → Make → Waste linear industrial processes to closed loop processes.

Results in more restorative mechanisms that keep resources in use for longer periods of time

“

*It is a huge challenge to shift our economy from linear to circular...it requires systems redesign at every level*”

– Ellen MacArthur, MacArthur Foundation

# SIGNIFICANT GHG BENEFITS FROM USE OF RECYCLED MATERIALS



The carbon footprint of recycled commodities at the MRF are 67% lower than virgin materials (per ton carbon equivalent)

Source: Earth Engineering Center, Columbia University



The actual amount of reduction varies depending on the material – aluminum, mixed paper (the latter degrades in landfills and emits methane, with 21x the global warming potential of CO<sub>2</sub>), plastics

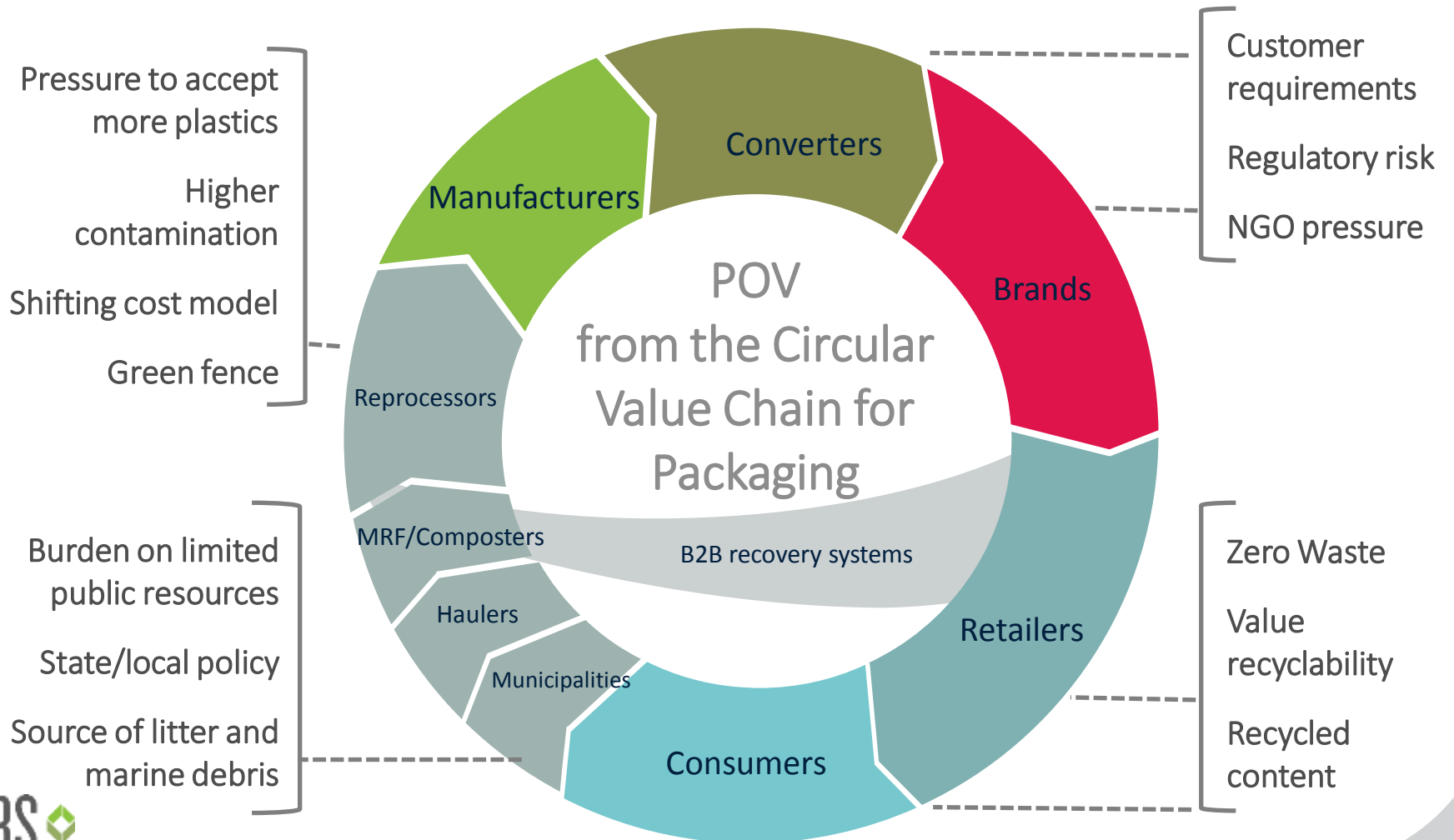


MRF can provide a reliable source of recycled feedstock previously unavailable to end-use mills

# RECOVERY VALUE CHAIN



# DIFFERENT CATALYSTS FOR DIFFERENT ACTORS



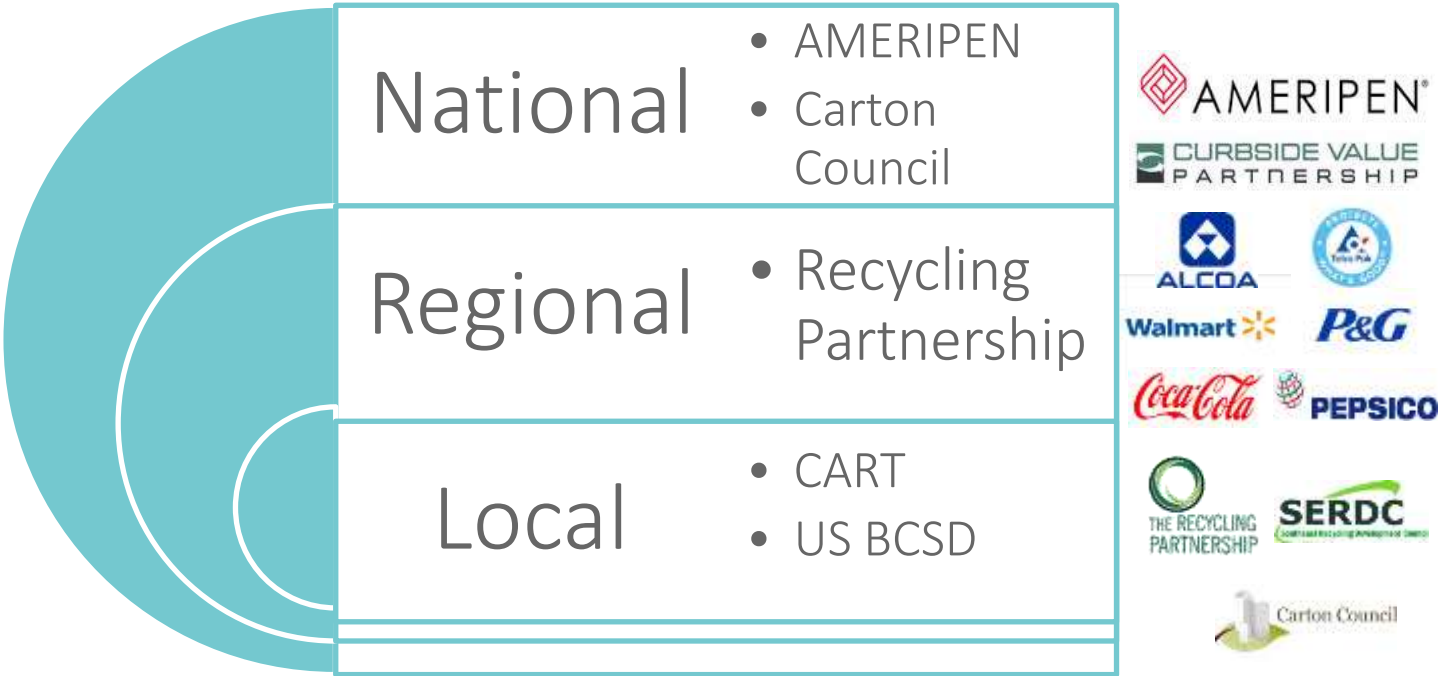


# Which way is the dancer spinning?

If she spins clockwise, you're using your right brain. If she spins counterclockwise, you're using your left brain. Only about 15% of the US population can see her spin both ways—can you?



# Industry Collaborations for Recovery Best Practices Deployment at Regional/Local levels





# THE COALITION TO ADVANCE RECOVERY IN TENNESSEE

Tennessee is home to some of the strongest market demand for recycled materials in the US

CART Mission: Accelerate recovery of high value recyclable materials through private-public partnership



## SUCCESSFUL RECYCLING



# ALUMINUM OPPORTUNITY

**33,800 tons**

of scrap aluminum  
were generated in TN in  
one recent year

**~29,700 tons**

of aluminum cans are  
annually landfilled in TN  
with a value of **\$45.7 M**

**87.9%**

LANDFILLED



# Best Practice Municipalities Produce Stable Supply of Recycled Feedstock



## 6 Key Areas: Local Collaborations Focus on Recovery Best Practices to Drive Results

**1** COLLECTION

**2** PROCESSING

**3** LOCAL GOVT

**4** EDUCATION

**5** STATE LEVEL

**6** END MARKETS

# 1 COLLECTION

## Collect and capture.

Implementing roll cart collection and establishing a common suite of materials results in increased collection.

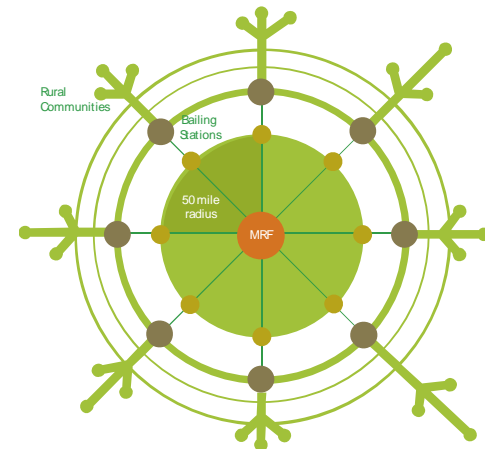
The EPA estimates between **71 and 74 percent** of the US population has access to curbside recycling.



But in Tennessee, that number is **only 25 percent.**



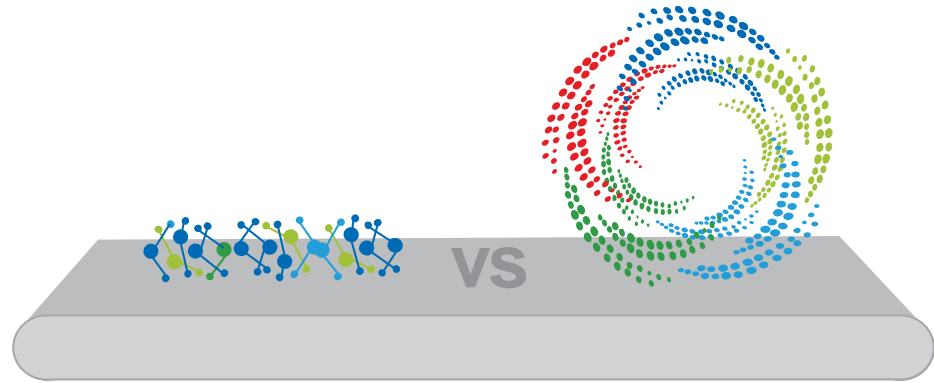
Hub and spoke processing increases household access to recycling.



# 2 PROCESSING

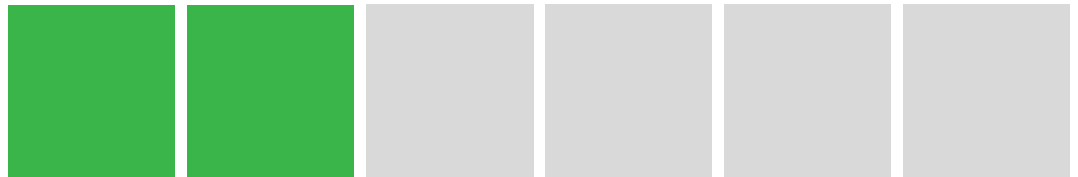
## Efficient processing multiplies results.

Strategically investing in existing facilities **LOWERS** operational costs and **INCREASES** quantity and quality of stock.



Single stream systems collect and process more types and quantities of material, more efficiently, which means:  
**IMPROVED WORK FLOW,**  
**INCREASED CAPABILITIES,**  
and **ECONOMIC GROWTH.**

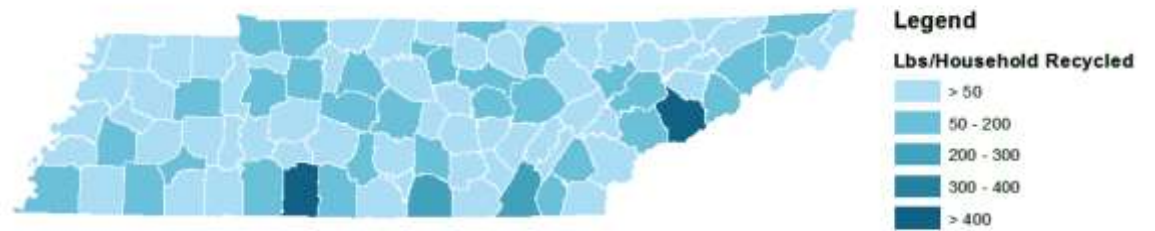
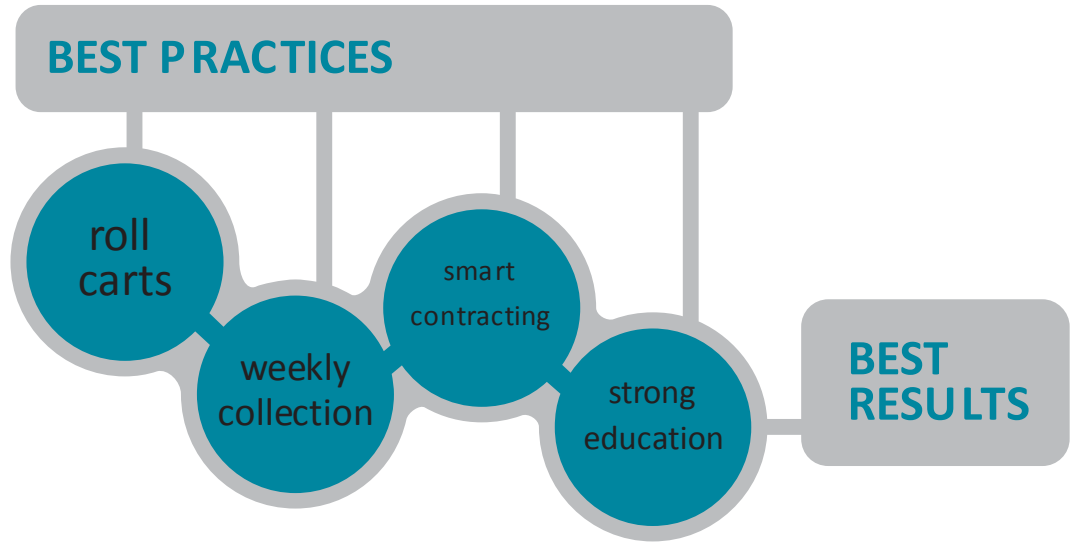
Currently, single stream MRF infrastructure is lacking.





# 3 LOCAL GOVT Local action creates results.

Implementing best practices into local programs boosts recovery.



Efficient and Effective:  
Roll carts, single stream,  
and consistent materials

Increase lbs/household  
recycled to 400

# 4 EDUCATION Consumers support solutions.

Programs can boost citizen engagement and improve the economics of recycling by collecting a consistent and broad range of materials.

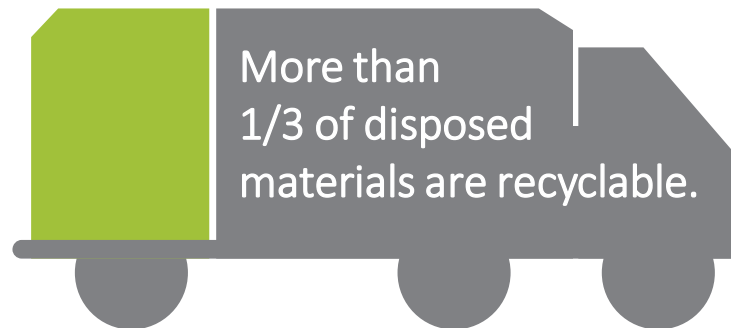
Education supports increasing VOLUME and good QUALITY material



Investing in Education:

**\$1/HH to maintain** high performing collection program

**\$3 - \$4/HH to transition** to a new collection system



# 5

STATE LEVEL

**Managing the tools for success.**

Successful recycling is a multi-dimensional and compounding opportunity.

## SUCCESSFUL RECYCLING



Attract and leverage private sector investment to strengthen local programs help limited state resources go further.



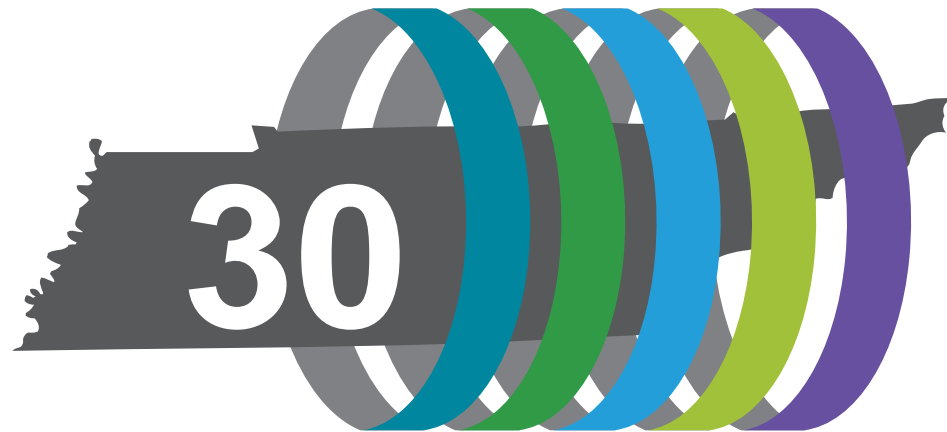
# 6

END MARKETS

Optimizing material markets.

Tennessee has a strong manufacturing sector driving demand for recycled stock.

There are about **30 end markets** throughout the state



paper plastic steel aluminum glass

## *INCREASING MATERIAL RECOVERY IN TENNESSEE WILL*

- Benefit both the public and private sectors
- Produce thousands of processing and manufacturing jobs
- Build on an existing, steady base of infrastructure in the state.

## *LOCAL INDUSTRIES ARE HUNGRY FOR ADDITIONAL FEEDSTOCK.*

- No single initiative or entity can increase recovery in a significant way, but partnering around this 6-PRONG Approach, **we can effectively and efficiently drive recovery.**

COLLECTION

PROCESSING

LOCAL GOVT

EDUCATION

STATE GOVT

END MARKETS

# CART 2015 Project Work plan

1. Recycling Optimization and Networking Sessions
2. Build Network of Champions at the Local Level for private-public partnership
3. Communications campaign

## Targeted Communities:

Memphis/Jackson

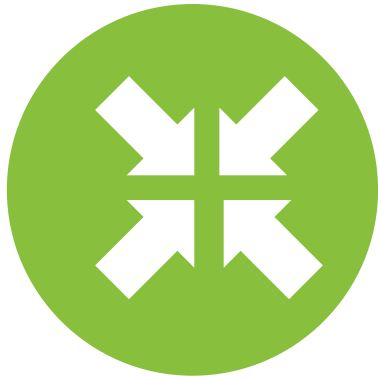
Nashville

Knoxville

# US Business Council for Sustainable Development: Materials Recovery Projects

- 1** Define quantities of recyclable commodities generated in a region and identify byproduct synergies via software tool. Focus on common manufacturing feedstocks – aluminum, plastics, fiber – but also gather data on special waste streams.
- 2** Engage reprocessor end markets. A critical mass of material – both industrial and residential - is required to develop reprocessing end markets.
- 3** Combined with CART, will equip MRFs and municipalities with shovel-ready local recycling plan for financing ( Closed Loop Fund, state solid waste grants, Recycling Partnership, others)

# PRIVATE- PUBLIC PARTNERSHIP BENEFITS



Bring visibility to project to attract quality pool of potential partners



Increase volume of recyclable materials



Position for next phase investment to improve collection, attract end markets and increase recycling rates at a larger scale



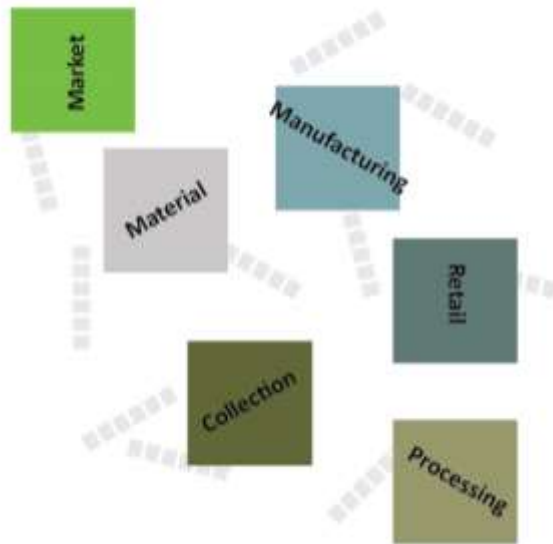
# VISION

All flexible packaging goes into the recycle bin and the recovery industry captures value from it.

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- Widespread consumer access
- Highest and best value of materials
- Net financial benefits
- LCA positive impact
- Healthy workplace

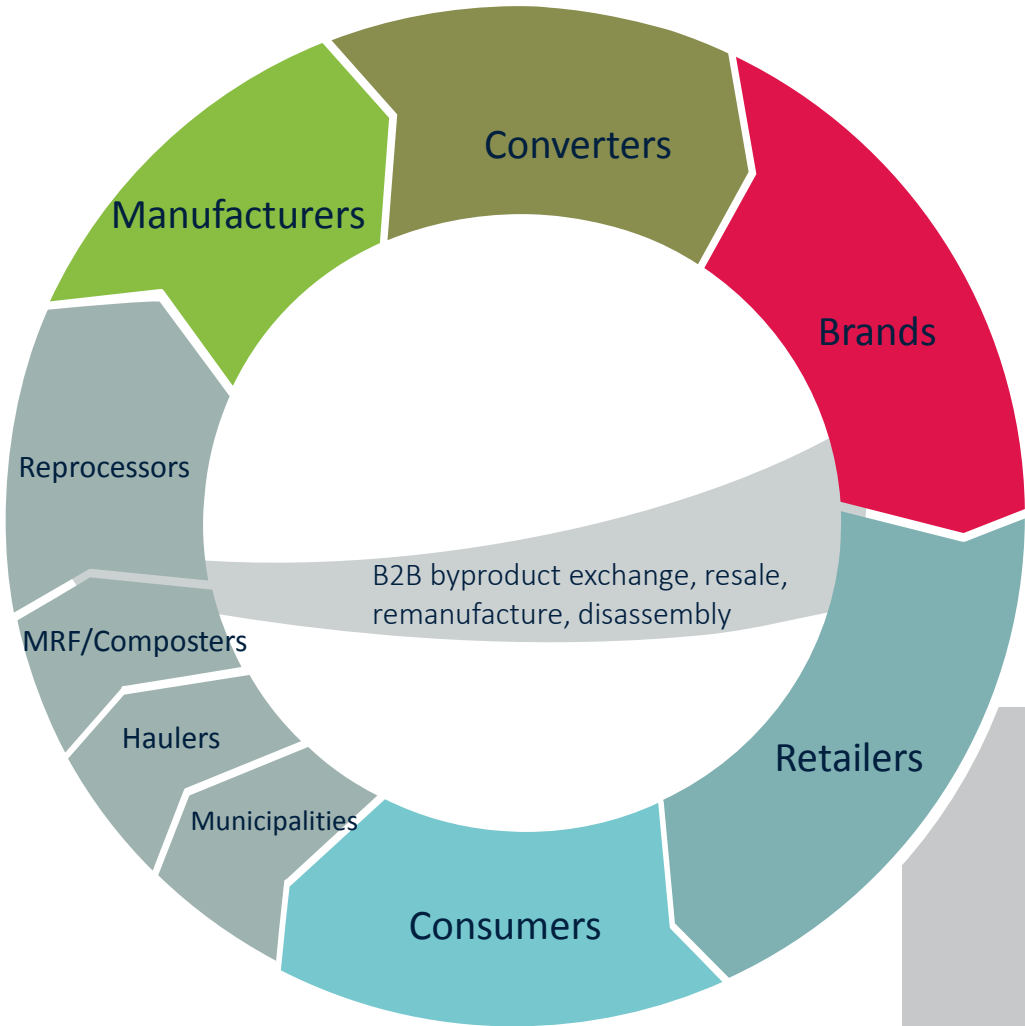
# COOPERATION IS A VALUE MULTIPLIER



**A disjointed material path results in a substantial, cumulative loss of material and investment.**

**MORE COHESION=MORE MATERIAL**

# RECOVERY VALUE CHAIN



Collaboration  
is key to  
success