


## A PLAN FOR BOOSTING RESIDENTIAL MATERIAL RECOVERY IN ALABAMA

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“That recycling is beneficial for the environment is probably an uncontested proposition. What is becoming increasingly more obvious is that **recycling contributes to the economic health of a state's economy.**”



**Frank Hefner & Calvin Blackwell**  
Department of Economics and Finance  
College of Charleston  
*The Economic Impact of the Recycling Industry in South Carolina*

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### Study Highlights

- Best management practices
- Review of the economic impact
  - *Impact of the ADEM grant program*
- Common suite of materials
- Recommended path forward for hub & spoke
  - *Analysis of potential material for capture*



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### Best Practices

- Single stream collection
- Dropoff centers
- Common suite of materials
- Statewide outreach
- Improve data
- Develop statewide processing network

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Paper	Plastic	Glass	Metal
Newspaper	#1 PET Bottles/Jars, Other PET Containers	Recyclable Glass Bottles & Jars	Aluminum Beverage Containers
Uncoated OCC/Kraft	#2 HDPE Bottles/Jars (Clear, Color), Other HDPE Containers		Ferrous Containers (Tin Cans)
Aseptic / Poly-coated cartons	#3-#7 Bottles		
Mixed Paper -High Grade Office Paper, Boxboard, Paperboard, Magazines, Phone Books, Other Recyclable Paper	Other Plastics – Recyclable containers and tubs, other rigid plastics		

Total Tons of AL Residential MSW, 2015	Percent of MSW Potentially Recyclable	Tons of Potentially Recyclable Material Discarded in AL in 2015	Average Southeast Landfill Tipping Fee per Ton	Cost to Alabama of Discarding Potentially Recyclable Materials in 2015
2,530,000	28.12%	711,436	\$44.46	\$31,630,445

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Commodity Material	Pct in Disposed Waste	Amount available in AL Residential MSW, Lbs	3-Yr SE Average Regional Price, \$/Lb	Potential Market Value
Newspaper	2.33%	117,898,000	\$ 0.03	\$ 3,536,940
Old Corrugated Containers (OCC)	3.12%	157,872,000	\$ 0.05	\$ 7,893,600
Paper (Soft Mixed)	10.52%	532,312,000	\$ 0.03	\$ 15,969,360
Aseptic/Gabletop Cartons	0.92%	46,552,000	\$ 0.04	\$ 1,862,080
PET Plastic	1.91%	96,646,000	\$ 0.15	\$ 14,496,900
HDPE Plastic (48% natural, 52% colored)	0.91%	46,046,000	\$ 0.30	\$ 13,813,800
Rigid Plastics (30% colored HDPE, 26% PP, 44% PET)	0.40%	20,240,000	\$ 0.17	\$ 3,440,800
Other Plastic Containers	3.29%	166,474,000	\$ 0.04	\$ 6,658,960
Glass Containers	3.02%	152,812,000	\$ -	\$ -
Steel Cans	1.08%	54,648,000	\$ 0.03	\$ 1,639,440
Aluminum Cans	0.62%	31,372,000	\$ 0.51	\$ 15,999,720
<b>TOTAL</b>	<b>28.12%</b>			<b>\$ 85,311,600</b>

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### The Economic Impact of Recycling in Alabama

Economic Benefit	Value to State of Alabama
<b>Jobs</b>	<b>84,412</b>
<b>Business Income</b>	<b>\$4.5 Billion</b>
<b>Increased Economic Activity</b>	<b>\$19.4 Billion</b>
<b>State and Local Tax Revenue</b>	<b>\$765 Million</b>

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#### Number of Cities and Towns in Alabama with Access to Curbside Recycling

MSA or County (in order of population)	Number of Cities and Towns with Curbside Recycling	Population in Cities and Towns with Curbside Recycling	Population in Single-Family Households Served by Curbside Recycling	Single-Family Households Served by Curbside Recycling
Birmingham-Hoover MSA	24	554,599	443,057	167,775
Huntsville MSA	4	371,916	292,887	111,687
Montgomery MSA	1	7,661	6,688	2,128
Tuscaloosa MSA	1	96,122	60,461	19,998
Daphne-Fairhope-Foley MSA	4	64,515	49,565	18,634
Auburn-Opswika MSA	2	89,409	44,175	23,672
Dothan MSA	2	69,991	59,319	23,114
Dorhan MSA	1	68,409	60,679	23,004
Florence-Muscle Shoals MSA	1	40,215	33,539	14,527
Anniston-Oxford-Jacksonville MSA	1	12,250	9,261	3,299
Marshall County	3	37,900	34,592	12,513
Cullman County	1	15,145	12,283	4,954
Talladega County	3	18,299	16,551	6,714
Jackson County	1	14,748	13,303	5,476
Coffee County	1	27,772	24,856	9,113
Covington County	1	9,081	8,373	3,247
Pike County	1	19,138	15,578	5,504
<b>Totals for Curbside Recycling</b>	<b>52</b>	<b>1,517,190</b>	<b>1,205,165</b>	<b>455,360</b>
State of Alabama Population:		4,858,979	Percent of Alabama population Served by Curbside Recycling:	25%

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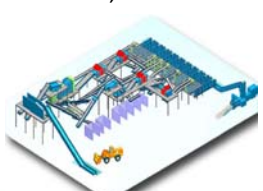
#### Summary of Recycling in Top 50 Alabama Cities

Type of Recycling	Number of Cities / Towns
Single-Stream Carts	20
Single-Stream Bins	2
Dual-Stream Bins	2
Curbside Sort Bins	2
Curbside Bags	3
Drop-off	15
None Found	6
<b>Total</b>	<b>50</b>
Percent of Top 50 Cities Population with Recycling Access:	87%

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### MRF Process capacity

- Total processing capacity 87,647 TPY
- 59% is privately held
- Also there is Pratt in Columbus, Ga 50K TPY



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### Best Management Practices

- Cart based single stream
- Comprehensive dropoff recycling, with single stream
- Common suite of materials
- Standardize outreach
- Improve data collection
- Policy
- Restructure the ADEM grant program
- Hub and spoke system

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### SINGLE STREAM CARTS MUCH MORE BETTER

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### Dropoff Collection

- Available to two thirds of the state households
- An important link in the recycling supply chain
- Convert to single stream

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### Commingling is Good for Drop-off

- Simplify citizen experience – no need for sorting
- One stop recycling improves traffic flow at sites
- Fewer containers taking up less space

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### Space Savings: Before and After

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**Before:** a large number containers for the different types of recyclables

**After:** one or two centralized containers for mixed recyclables

### Drop-off Program Transition Results

- 2 NC counties that transitioned from source separated to single-stream

County	FY 2011-12	FY 2012-13	FY 2013-14	Increase
Franklin County	996	1,134	1,257	26%
Moore County	1,035	1,406	1,809	75%

Annual Recycling Collection Cost: Moore County, NC

- Before: \$144,573
- After: \$53,775

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Cost and tonnage data from Annual Reports submitted to NC DENR

### Common Suite of Materials

- Aluminum cans, including beverage cans, food cans and pet food cans;
- Steel cans, including empty aerosol cans;
- All plastic containers, including tubs, cups, and thermoforms
- Bulky rigid plastics such as cat litter buckets
- Corrugated cardboard
- All residential paper
- Aseptic containers and gable-top cartons

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### Standardize Outreach


- Compliments the common suite of materials
- Brand recycling in Alabama
- ADEM can lead the state and support local government programs



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### Improve data collection

1. What data is necessary to evaluate the performance of Alabama’s recycling system?
2. Who has that data?
3. How can ADEM provide tools that ensure that these owners of the data will report it, will report it accurately, and will feel sufficiently comfortable with the data gathering process that they willingly and regularly participate?



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### Policy

- Universal Access to Recycling
- Disposal bans for certain post-consumer packaging materials
- Tiered solid waste pricing, also known as “Pay as you Throw”
- Mandatory provision of recycling through hauler licensing

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### Pay As You Throw?



Equitable



Effective



Well-Received  
(after implementation)

**Most of all, it works!**



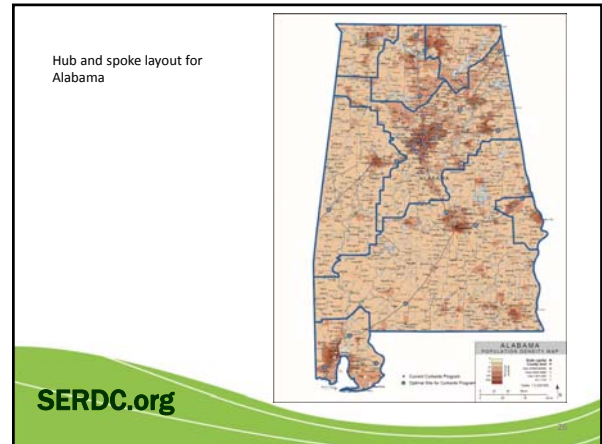
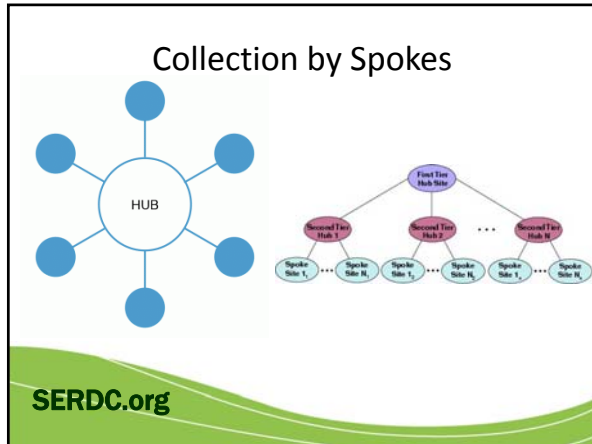
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### Restructure ADEM Grant Program

1. Be strategic in creating a statewide system
2. Target the core collection and delivery needs
3. Improve and clearly outline reporting requirements

Year	Amount Awarded	# Grants Awarded
2009	\$1,162,052.62	8
2010	\$1,654,106.12	13
2011	\$2,000,000.51	20
2012	\$2,009,006.36	15
2013	\$2,363,640.18	18
2014	\$1,899,997.31	16
2015	\$1,829,372.46	22

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