



What Are You Wasting?

Using Material
Characterization Data for
Program Planning and Design

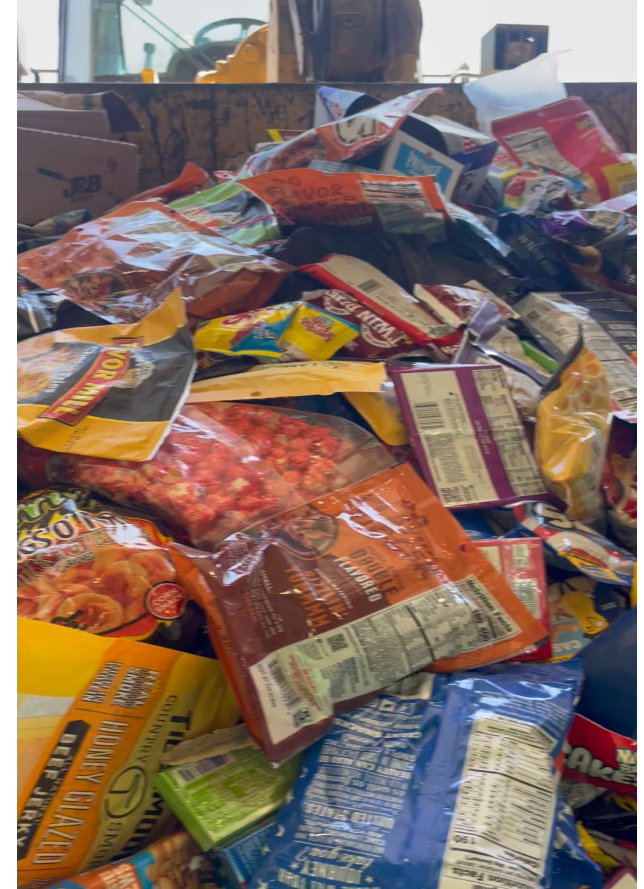
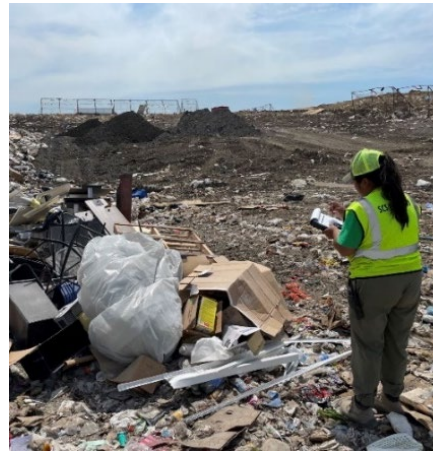
Why Do a Material Characterization Study?

- Identify Disposal Trends, Target Materials and Generators
- Establish Program Performance Metrics
- Gauge Program Success
- Assess Diversion/Recoverability Opportunities
- Calculate Environmental Benefits
- Estimate Potential Revenue and Jobs
- Evaluate Energy Value
- Assist in Facility Design



Material Characterization Process

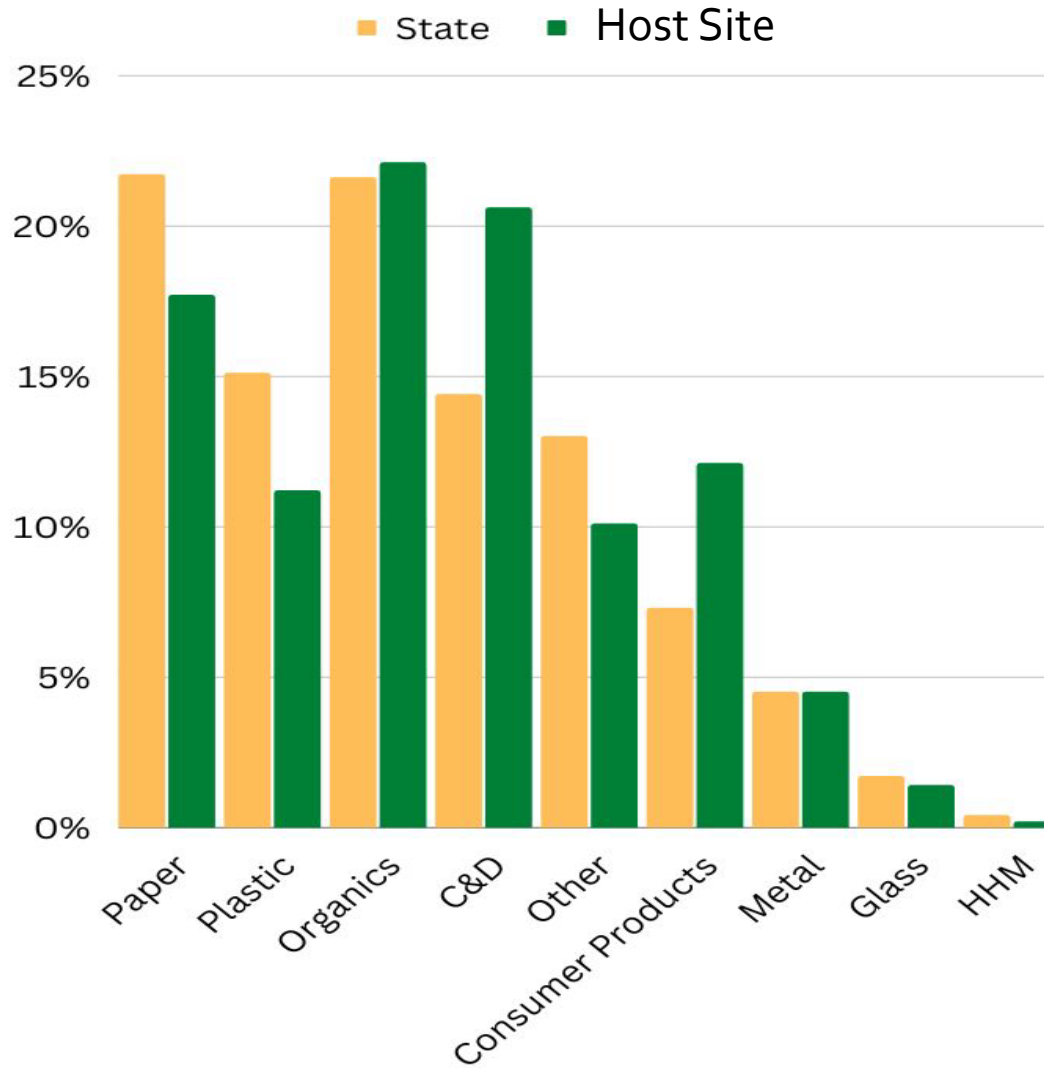
- Physical sorting
 - MSW
 - Recycling
 - Organics
- Visual Sorting
 - C&D Debris
 - Lid-Flips



Disposal Trends

2022		2017		2011		2005		1998	
Pct.	Material	Pct.	Material	Pct.	Material	Pct.	Material	Pct.	Material
19.2%	Food Waste ¹	20.0%	Food Waste ¹	13.3%	Food Waste	10.6%	Food Waste	10.7%	Food Waste
7.7%	Plastic Film ₂	8.7%	Plastic Film ²	9.0%	OCC and Kraft Paper	8.5%	OCC and Kraft Paper	10.3%	Non-Rec. Paper
7.5%	OCC and Kraft Paper	7.6%	Compostable Paper	6.7%	Plastic Film ²	7.0%	Mixed Rec. Paper	8.5%	OCC and Kraft Paper
5.5%	Fines	6.1%	Mixed Rec. Paper	6.1%	Compostable Paper	6.6%	Plastic Film ²	7.5%	Other Plastic Products
5.0%	Textiles and Leather	4.8%	Fines	5.4%	Untreated Wood	6.5%	Compostable Paper	5.4%	Mixed Rec. Paper
5.0%	Compostable Paper	4.6%	OCC and Kraft Paper	5.4%	Construction/Demolition ³	6.0%	Other Plastic Products	5.2%	Fines
4.9%	Wood - Treated	4.1%	Other Organic	5.3%	Other Plastic Products	5.5%	Construction/Demolition ³	4.8%	Construction / Demolition ³
4.4%	Mixed Recyclable Paper	4.1%	Textiles and Leather	4.6%	Yard Waste	4.9%	Textiles and Leather	4.8%	Plastic Film
3.0%	Diapers	3.5%	Diapers	4.1%	Textiles and Leather	4.6%	Wood - Treated	4.2%	Textiles and Leather
2.9%	Other Ferrous Scrap Metals	3.1%	Other Plastic Products	3.8%	Wood - Treated	4.0%	Newsprint	3.6%	Wood - Treated
65.1%	2022 Cumulative Percent	66.6%	2017 Cumulative Percent	63.4%	2011 Cumulative Percent	64.2%	2005 Cumulative Percent	65.0%	1998 Cumulative Percent

Compare Results



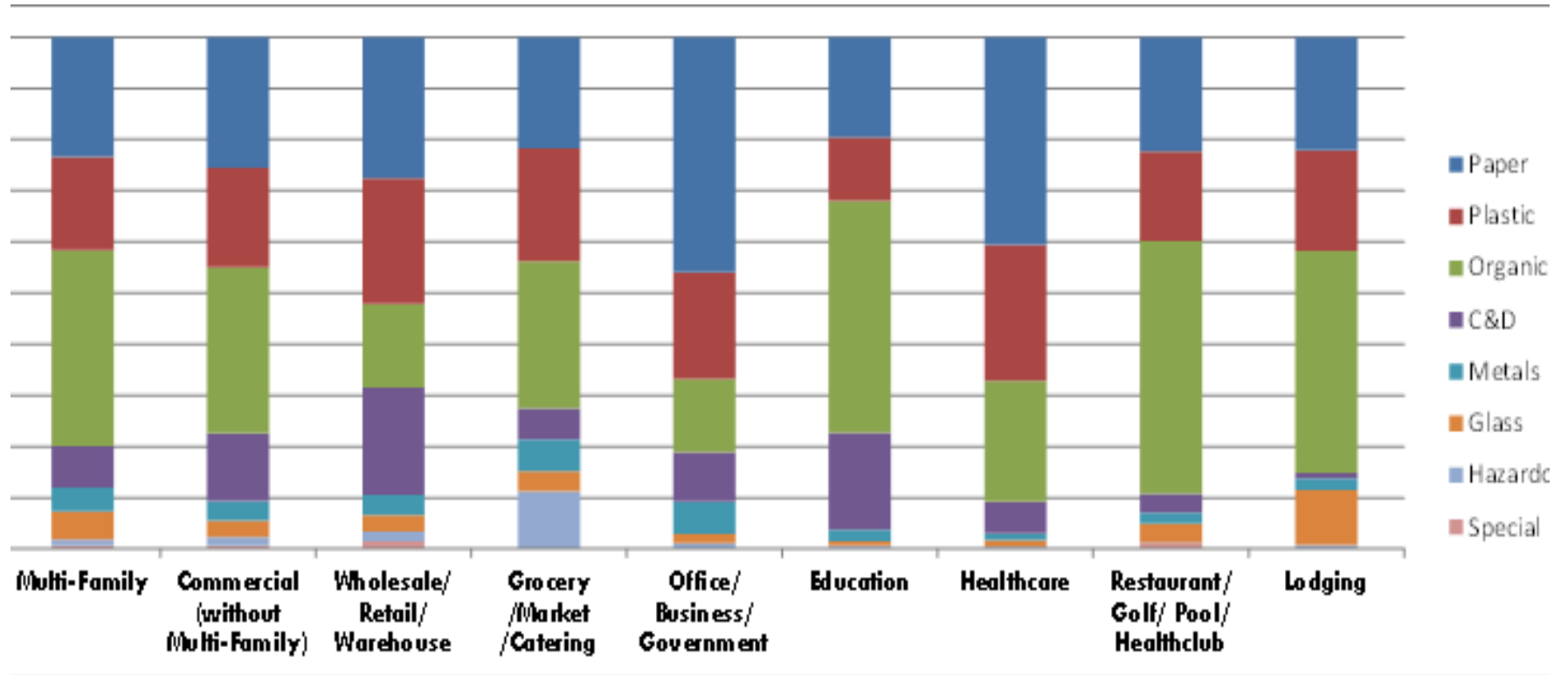
Gauge Program Success



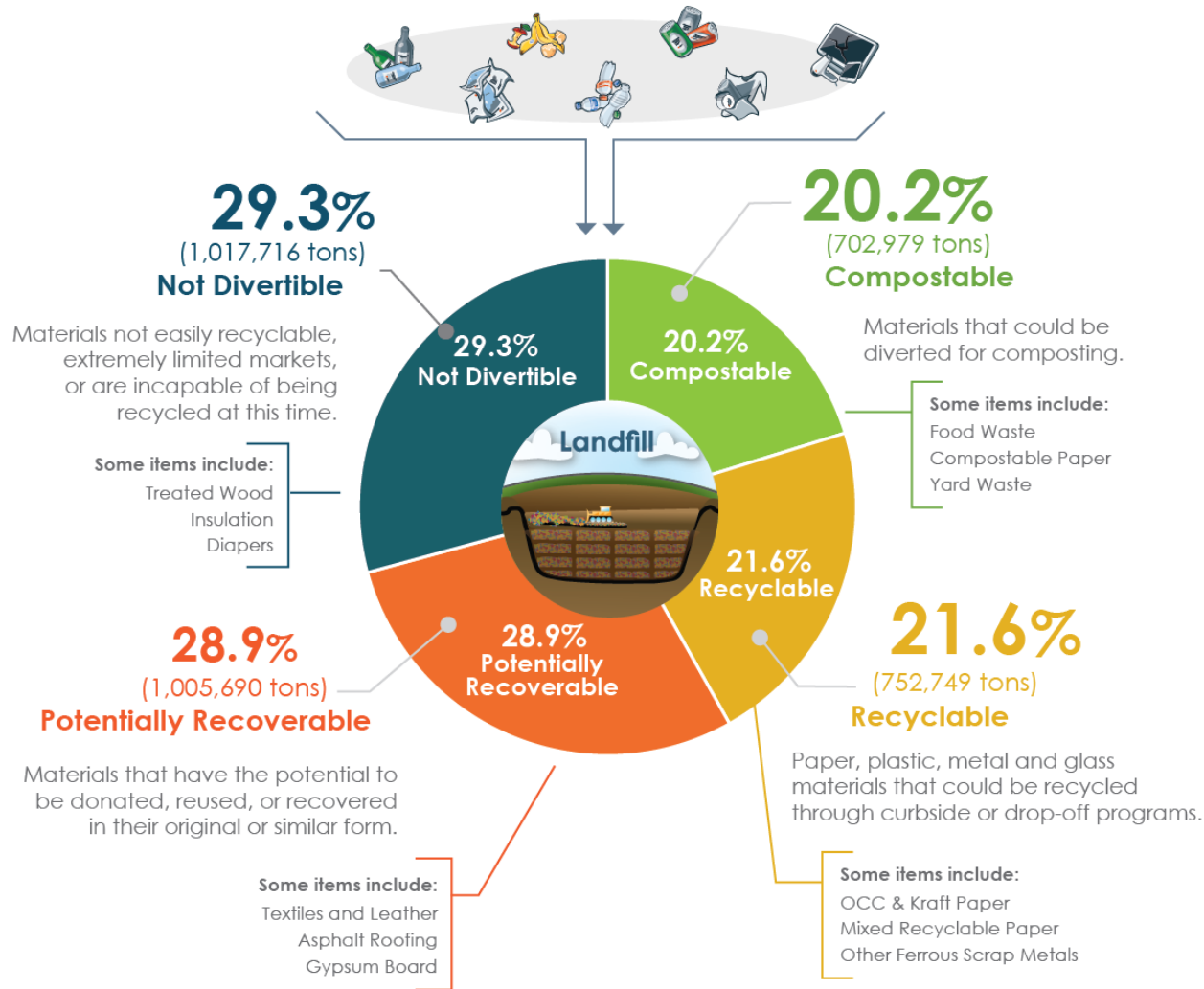
Assess Diversion Opportunities



Target Generators



Utilizing Data | Recoverability Analysis

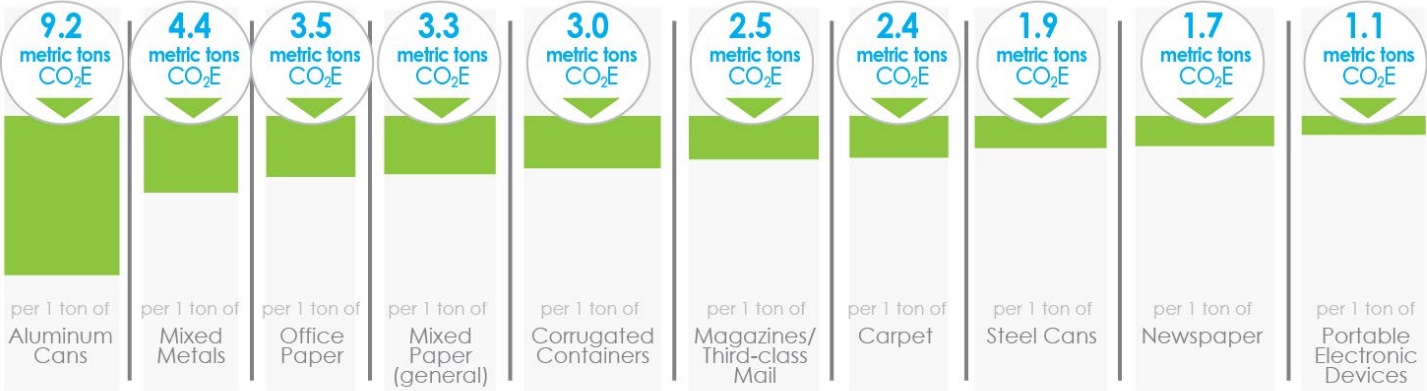


Utilizing Data | Emission Equivalencies

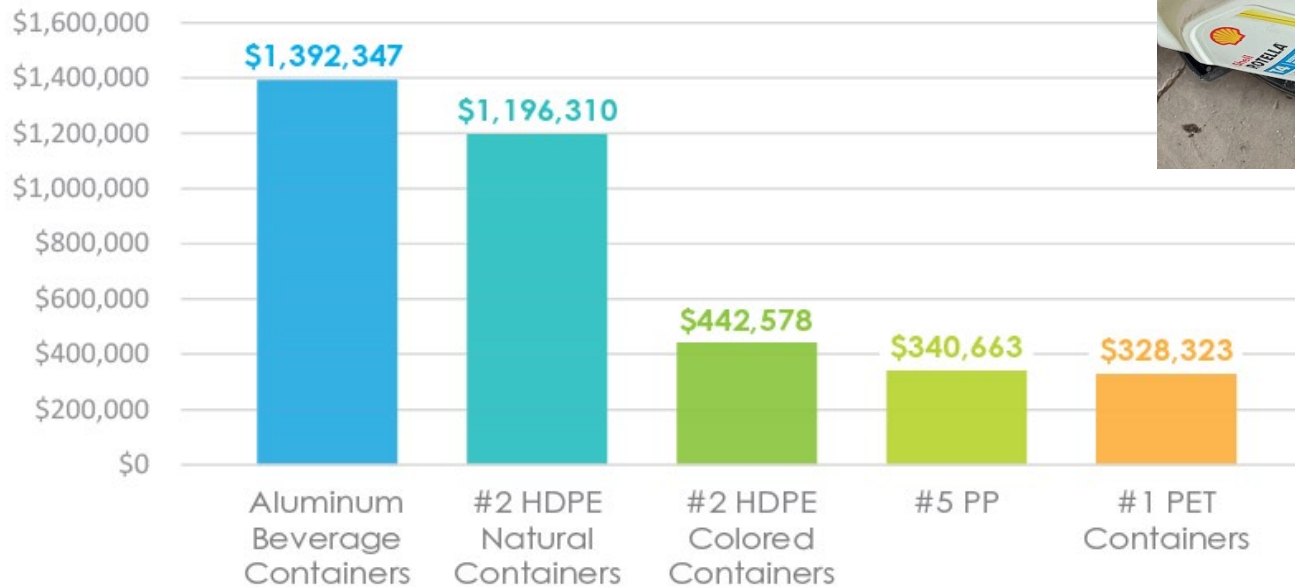
By diverting **recyclables**, **compostable** and **potentially recoverable** materials there could be a **reduction** of CO₂ emissions by



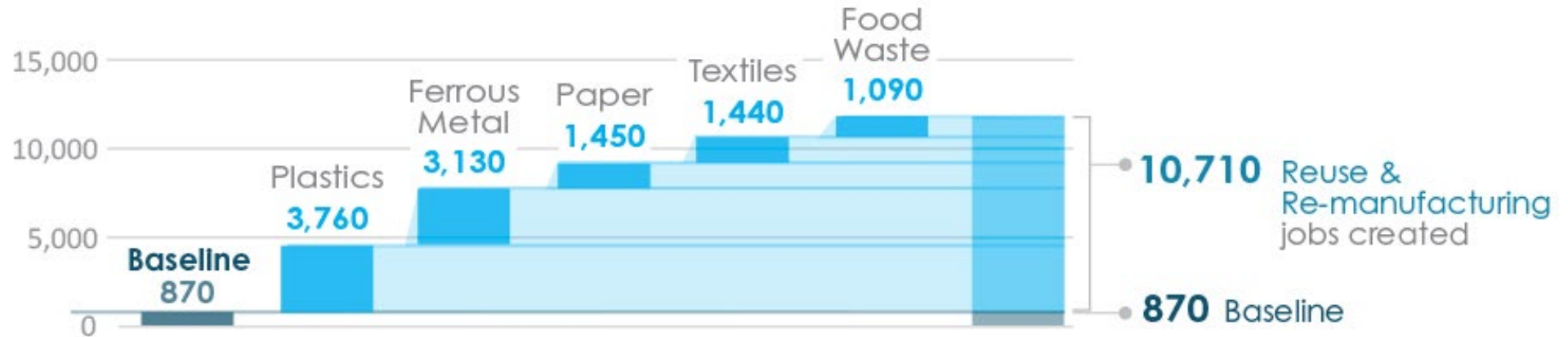
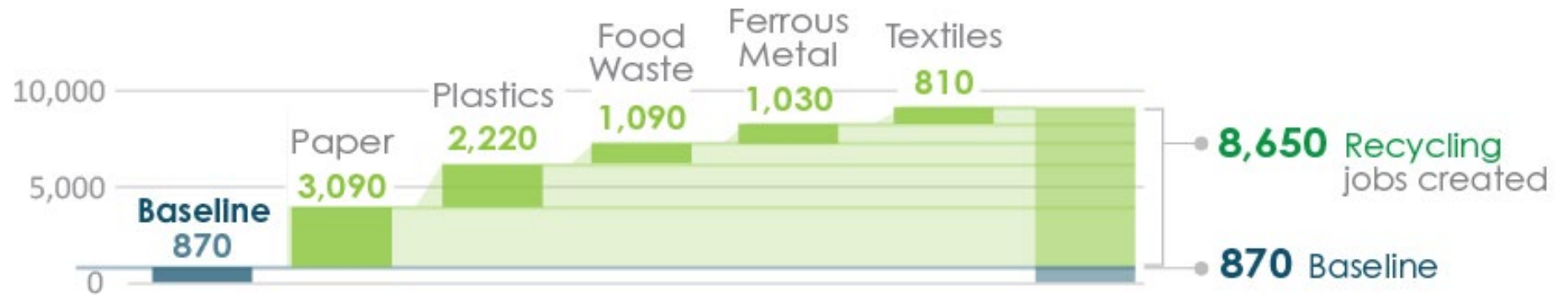
Equivalent to powering **42%** of Iowa's homes for **one year**.



Utilizing Data | Economic Impact



Utilizing Data | Job Creation



Program Strategies and Facility Designs

New and/or Expanded Programs

Material Recovery Facility (MRF)

Household Hazardous Material (HHM) – Regional Collection Center (RCC)

Anaerobic and In-Vessel Compost Systems

Energy Facility (i.e., Incineration, gas production, etc.)

Center for Hard to Recycle Materials (CHaRM) Facility

Reuse/Restore Facilities

Right-Sizing Containers

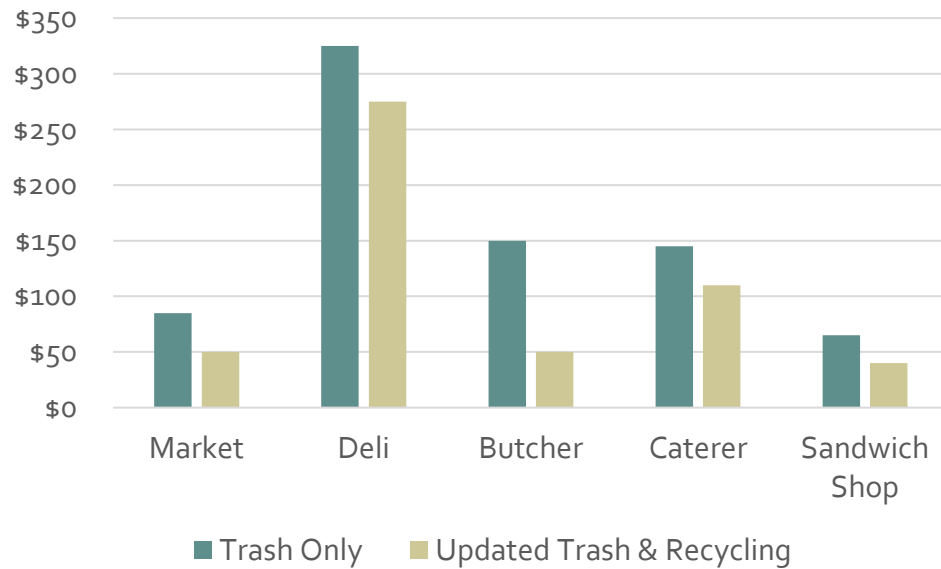
- Balancing need for collection capacity to material generation
- Benefits
 - Cost savings
 - Efficient waste management
 - Environmental impact
 - Space optimization
 - Improved aesthetics



Cooperative Recycling Programs

- Estimate capacity/necessary bins
- Display cost savings

Monthly Cost for Collection Services



How does this impact YOU?

Behavioral
change

Increase
education

Policy changes

Requirements
of business

Economic and
job market
effects

Additional
diversion
programs



QUESTIONS ?

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