



Let's Recycle Better, Together.

MAKING AN ACTIONABLE PLAN

Strategic planning to guide recycling & waste reduction

TUESDAY JUNE 13TH 1:00PM ET.



Today's Panelists



Deena Keeler

*Director, Auxiliary
Services*

Emory University



Amity Lumper

President, Co-owner

Cascadia Consulting
Group



Michael Acode

Associate

Cascadia Consulting
Group

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& opinions

Look for links
to resources

Type direct questions
for panelists

The Importance of Strategic Planning





EMORY.
RECYCLES

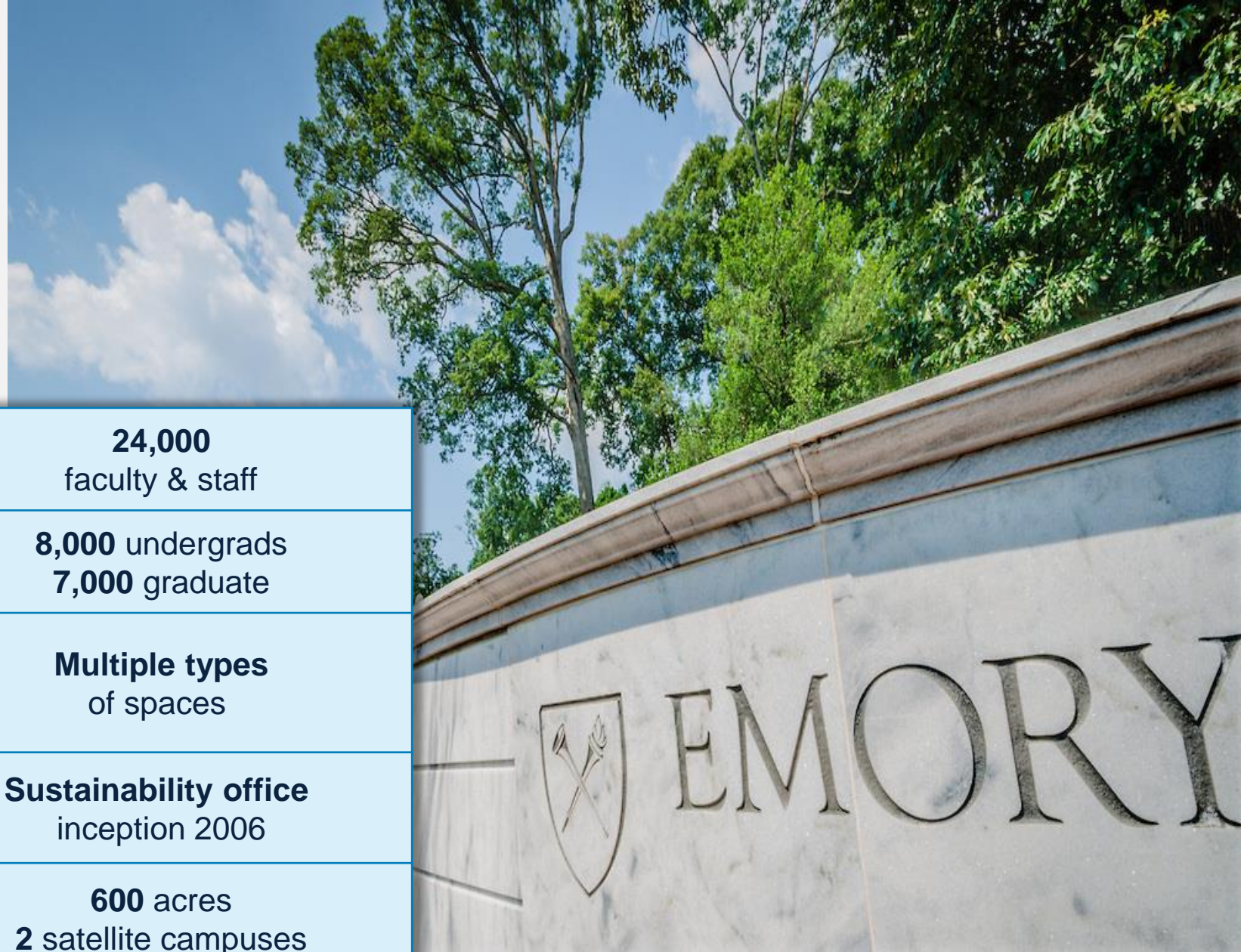
CASCADIA
CONSULTING GROUP

Making an Actionable Plan STRATEGIC PLANNING TO GUIDE RECYCLING & WASTE

Emory University

Atlanta, GA

Private non-profit doctoral/research	24,000 faculty & staff
15,000 enrolled students	8,000 undergrads 7,000 graduate
10,641,529 building sq. ft. (LEED emphasis)	Multiple types of spaces
Recycling program inception 1990	Sustainability office inception 2006
Onsite MRF Internal + Vendor Hauling	600 acres 2 satellite campuses



In 2015...

**Landfill Diversion Rate Goal
for 2005-2015: 65%**

▶ **Missed Goal by 10%**

Onward...

- Divert 95% of waste from municipal landfills by 2025
- All University events will be zero landfill waste by 2020
- All University functions will be plastic bottle free by 2025
- Strengthen administrative mandates for recycling and composting
- Eliminate all desk-side trash bin service by 2020
- And much more!

We had some challenges to overcome...



But where to start?

KEY ADVISORY GROUPS

Emory Waste Think Tank

- Operations
- Campus customers
- Sustainability
- Environmental health & safety
- Graphic designers

External Consultants

- Cascadia Consulting Group
- Burns & McDonnell

STRENGTHS

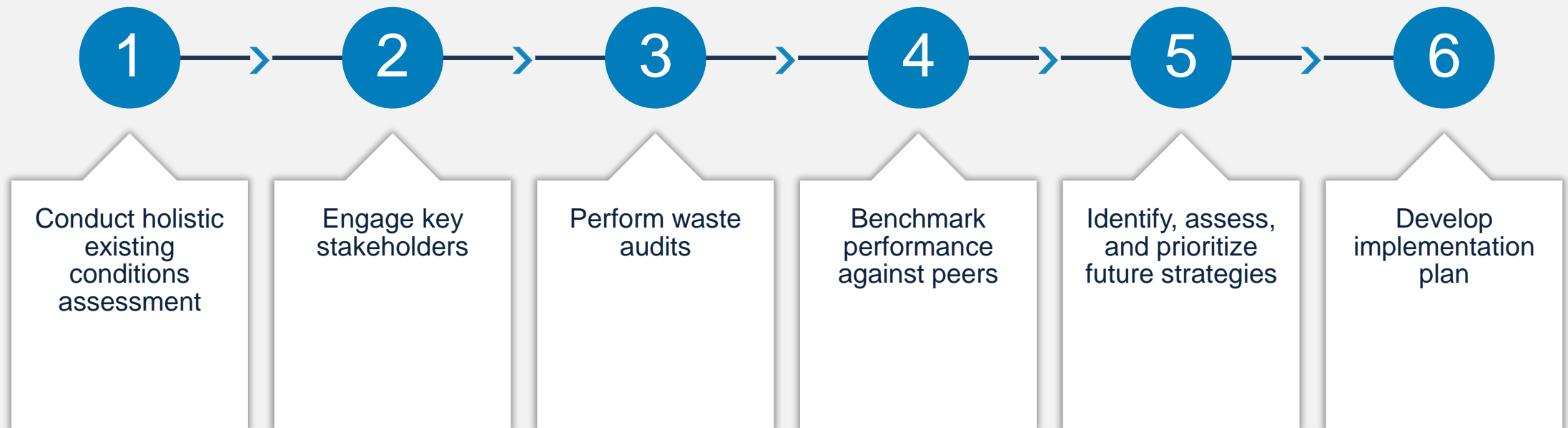
- Dedicated staff
- Centralized funding
- Community feedback loop



STRATEGIES

- 2017 Materials Management Plan
- 2018 University Waste Policy
- Coordinated roll-out plan

General Approach



Step 1: Assessment

Established study parameters

GENERATOR AREAS



Academic



Facilities



Administrative



Residential



Public



Dining













































Research



Medical Clinics

Step 1: Assessment

Emory Materials Flow Map (2017)

Cardboard Compactors	collected by						delivered to		
Other Cardboard	collected by		baled by		hauled by		delivered to		
Single Stream Compactors	collected by		pulled by					delivered to	
Document Shredding	collected by		shredded by		hauled by		delivered to		
White Paper	collected by		baled by		hauled by		delivered to		
E-Waste	collected by				hauled by		delivered to		
Glass	collected by					hauled by		delivered to	
Aluminum	collected by						delivered to		
Scrap Metal	collected by					hauled by		delivered to	
Styrofoam	collected by					hauled by		delivered to	
Mixed Containers / Paper	collected by		placed in open roll-off containers		hauled by		delivered to		
Textiles	collected by					hauled by		delivered to	
Surplus	collected by					hauled by	Staging Dept	delivered to	Surplus Properties
Organics	collected by*		pre-processed by		organics delivered to			residuals incinerated by	



Pre-consumer and all Dining hauled by SGI; Emory Recycles collects all other post-consumer and brings to Recycling Center.



contaminants reprocessed by



residuals incinerated by



Step 2: Stakeholder & Community Engagement

25 Stakeholder Interviews

Building & Residential Custodial
Carlos Museum
Cox Hall Dining
DUC Dining Hall
Eagle Row Sorority & Fraternity
Emory College of Arts & Sciences
Emory Dining
Environmental Health & Safety
Gambrell School of Law
Green Labs Community
Goizueta Business School
Library & IT Services
Woodruff School of Nursing
Office of Sustainability Initiatives

Oxford Campus
Planning Design & Construction
Procurement
Research Community
Residential Life
Rollins Schools of Public Health
Student Sustainability Forum
Sustainability Representatives
University Events
Woodruff PE Center Staff
Yerkes Primate Research Center

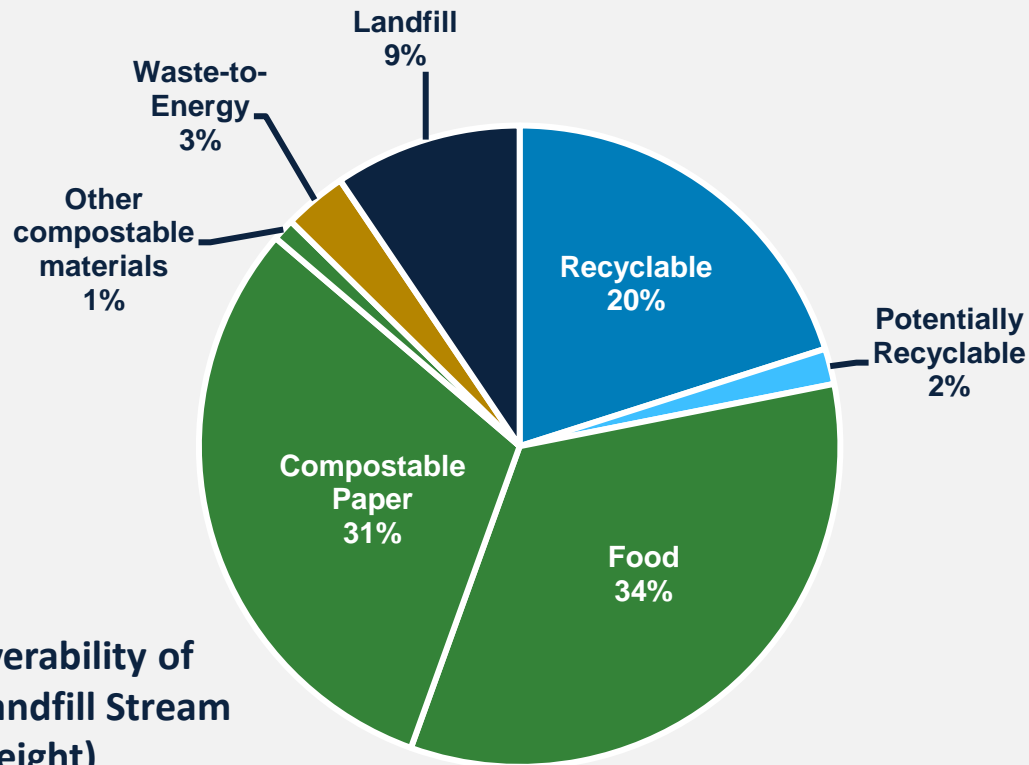
+ Hauling & processing vendors

Regional Stakeholder Summit



Step 3: Waste Audits

Landfill Material Composition (2017)



Recoverability of the Landfill Stream (by weight)



About 67% of the landfill stream is **compostable** (food and other compostable material)



Over 20% of the landfill stream is **recyclable or potentially recyclable**



Less than 10% of the landfill stream **actually belongs in the landfill**

Step 3: Waste Audits

Generator-Specific Results (2017)



LANDFILL



Over 75% of Dining waste could be composted.



Less than 3% of the Research & Facilities landfill materials actually belongs in the landfill.



RECYCLING



Less than 1% of the Administrative and Research recycling materials were non-recyclable.



Over 40% of the Dining recycling stream is compostable.



Single-stream recycling in Residential areas is highly contaminated (>65%)



COMPOST



Administrative and Dining areas had less than 5% contamination in the compost.



Academic, Public Areas, and Research areas all had greater than 15% contamination in the compost.

Step 4: Peer Research

BENCHMARKING

- ✓ Waste and recycling infrastructure
- ✓ Sustainable procurement
- ✓ Reuse & refillables programs
- ✓ E-waste management
- ✓ Performance metrics
- ✓ Educational programs
- ✓ Campus engagement
- ✓ Innovative programs
- ✓ Strategies for attaining goals

CRITERIA

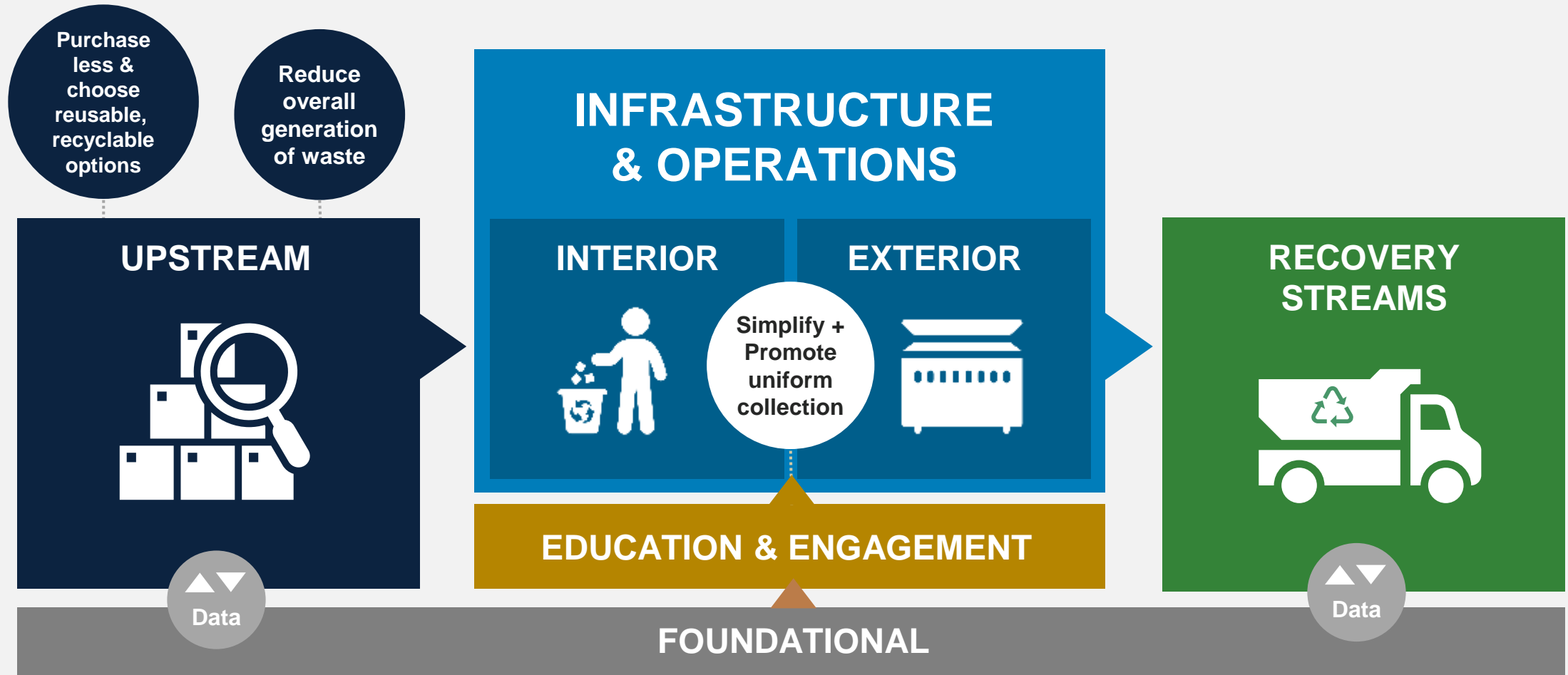
- Peer institutions were selected based on:
- ✓ Size – population
 - ✓ Type – public/private/research
 - ✓ Geography – mix of U.S. regions
 - ✓ Academic benchmark – typical peers
 - ✓ Stakeholder recommendations
 - ✓ Consultant team access to info and contacts

KEY METRICS


- ✓ Waste generation, disposal, diversion rates
 - ✓ Total and per-capita quantities
 - ✓ Campus-wide and by generator area
- ✓ Recycling capture & contamination rates
- ✓ Materials reuse & surplus quantities










Step 5: Identify Strategies



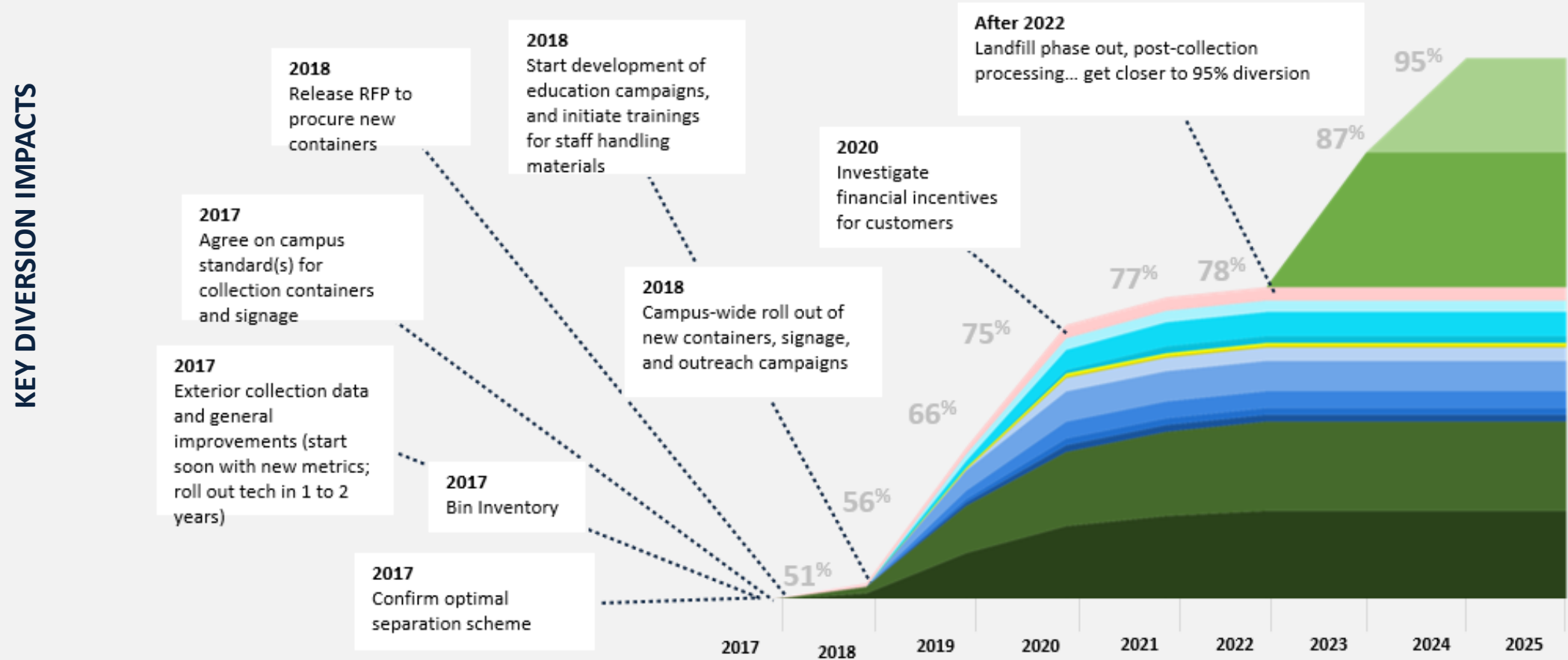
Step 6: Develop Implementation Plan

KEY DIVERSION DRIVERS	INFRASTRUCTURE / OPERATIONS		Launch	Optimize	Impact
		Roll out consistent internal containers (coupled w/ campus-wide organics)	2018	4 yrs	6.63%
		Roll out enhanced signage (coupled w/ campus-wide organics)	2018	4 yrs	6.63%
		Send material to Dirty MRF	2022	N/A	10.0%
		Phase out landfill bins	2023	1-5 yrs	7.0%
	EDUCATION				
		BRS staff on-boarding and biannual training	2019	2 yrs	0.5%
		Faculty/staff onboarding and periodic trainings	2019	2 yrs	0.5%
		Student welcome package / Student Housing Campaign	2019	2 yrs	1.25%
		Dining/retail staff training	2019	2 yrs	2.25%
	E-waste recycling	2019	2 yrs	1.0%	

Step 6: Develop Implementation Plan

KEY DIVERSION DRIVERS	PROCUREMENT				
		Develop and enforce centralized purchasing standards	2019	2 yrs	0.3%
		Further consolidate orders and reduce volume of isolated transactions	2019	2 yrs	-17%
		Eliminate Styrofoam	2019	2 yrs	0.2%
	REUSE				
		Locate surplus store on main campus	2020	2 yrs	0.5%
		Implement durable food service ware in COX Dining	2019	3 yrs	1.8%
		Implement durable transport packaging	2019	2 yrs	0.85%
	TRACKING/REPORTING				
		Tracking/Reporting	2018	3 yrs	1.0%

Step 6: Develop Implementation Plan



Announcing *Emory 2018 Waste Policy*



Infrastructure: *Interior & Exterior*



Hard-to-Recycle Materials

NOTICE

Glass, clean Styrofoam, and other hard-to-recycle materials are collected in a central location here:

Questions, comments or if bins need service call 7-7464

GLASS



Glass bottles and jars of any color

BATTERIES



All batteries of any type

INK & TONER CARTRIDGES



All products and manufacturers accepted
For pick-up call Flex Imaging 800-476-6544

CFL & LED BULBS ONLY



For other types of lighting contact ABC at xxx-xxx

NON-FOOD STYROFOAM PACKAGING ONLY



Non-food Styrofoam packaging


AEROSOL CANS



No text is specified

Laboratory Recycling

What to recycle in laboratories?
GLASS
No hazardous materials. Always triple rinse and deface labels.



Glass bottles, vessels, and instruments of all color. No broken glass. No PYREX or borosilicate glass!

What to recycle in laboratories?
PLASTICS & METALS
No hazardous materials.



Pipette trays, scoops, plastic jars and bottles, film packaging, tip racks, and other plastic products or packaging; office supplies

Composting for laboratories only
COMPOST
No hazardous materials.



used lab wipe

Non-contaminated lab wipes and paper towels

What to recycle in laboratories?
MIXED PAPER
No hazardous materials. No soiled material.



Newsprint, magazines, folders, colored paper, small cardboard, and cardboard packaging materials

What to recycle in laboratories?
WHITE PAPER
No hazardous materials.



Printer paper, notebook paper, envelopes

LANDFILL
No hazardous materials.



Reuse when possible.

PYREX and borosilicate glass, and ice and gel cold packs

Events & Staffing



XL Waste Watchers



Outreach & Communications

BEFORE THE POLICY ROLLOUT

- 6 weeks of presentations to Deans & Directors
- 150+ presentations, tables, and "Snack & Learns"
- 12+ rotations of A-frames and yard signs announcing rollout
- 4 weeks of equipment mapping with building occupants
- 1 all-campus email at launch with video produced by University videographers
- 3 waste education videos produced by students and staff through video competition

AFTER THE POLICY ROLLOUT

- 1 peer-to-peer waste outreach program created to supplement 2 existing peer educators' programs
- 3 zero-landfill waste interns hired
- 121 campus volunteers trained in 7 zero-landfill waste trainings as Zero Waste Ambassadors
- 3 Emory recycling center tours led
- 50+ tabling events and waste presentations
- 200+ certified sustainable events
- 2 co-hosted community hard-to-recycle materials events



The Results...Year One & Beyond

Landfill Diversion Rate Goal is Set Every 10 Years

Landfill Diversion Rate Goal	Reported Landfill Diversion Rate
2015: 65%	2015: 55.00%
2025: 95%	2018: 68.77%
	2019: 72.36%
	2020: 74.77%
	2021: 56.06%
	2022: 57.88%
	2023: 55.05%

Missed Diversion Rate Goal by 10%

Pandemic Negatively Impacts by 22%

What's next for Emory?

- ✓ On-campus recycling center expansion
- ✓ Solutions for post-consumer compost contamination
- ✓ Bagged recycling vs unbagged recycling
- ✓ Vendor meeting and subsequent site visits
- ✓ Lab waste management system expansion
- ✓ Review single stream vs source separation
- ✓ Communications – ‘Sorting It Out – Contamination’

Thank you!

Questions?

Deena Keeler

Emory Recycles
Emory University
deena.keeler@emory.edu

Amity Lumper

Cascadia Consulting Group
amity@cascadiaconsulting.com

Michael Acode

Cascadia Consulting Group
michael@cascadiaconsulting.com

Live Poll #1

Has a formal waste reduction strategic plan been prepared for your organization/ facility? *(check all that apply)*

- Yes, a comprehensive waste reduction plan is currently in place
- Abbreviated plan in place *(part of broader organizational or sustainability plan, etc.)*
- In the process of developing waste reduction plan
- Informal / No plan
- Other status *(share details in the chat)*

Live Poll #2

If yes, what elements does your strategic plan address?

(check all that apply)

- Recycling collections
- Food organics composting / recovery for donation
- Other diversion (surplus property, yard waste, etc.)
- Education / engagement
- Upstream waste prevention initiatives
- Other *(share details in the chat)*

Cascadia & Emory Recycles

Panelist Question & Answer Session By Topic



Waste Metrics

- Setting an Org.-Wide Goal
- What is included/excluded
- How to Handle Residual Waste
- Reporting Frequency: Monthly and Annually



Waste Policies

- Writing a Waste Policy
- Implementation of Waste Policy
- Stakeholders Involvement



Waste Diversion at Emory

- Laboratory Recycling
- Special Event Recycling
- Sustainable Events Checklist
- Surplus Properties
- Challenges and Opportunities
- Composting
- Addressing contamination



Hard-to-Recycle at Emory

- Partnership for Hard-to-Recycle Collections and Processing
- Confidential Shredding
- E-waste

- What are the benefits of setting a goal – benefits & challenges?
- Who is at the table?
- Benefits of waste audit? What are key consideration – cost, hand-sort vs. visual, parameters (generator areas, seasonality, etc.)?
- What have been some of the challenges that you faced during the implementation process?

Next Up...



**MAKING SENSE OF
PLASTICS RECYCLING**

WEDNESDAY AUGUST 9TH 1:00PM ET.

Presented by  **BUSCH**[®]
SYSTEMS | **GREENTHINKING**
Webinar Series

The graphic features a man in a green shirt and blue pants standing next to a blue recycling bin labeled 'PLASTIC'. Above the bin, various plastic items like bottles, containers, and a mask are shown floating, with question marks indicating confusion or uncertainty about recycling.

Presenter: Nina Belluci, Principal & CEO, Stina

Busch Systems Resources

Resources

- Download presentation slides
- View today's recording
- Archived webinar recordings:
 - *Food organics collections*
 - *Reuse to replace Single use*
 - *Special Event waste reduction*

Webinars on the Horizon

- Making Reuse & Waste Prevention happen in your community
- Centralized collections arrangements
- Healthcare waste reduction

Visit: buschsystems.com/blog

Thank You to Our Panelists



Deena Keeler

Director, Auxiliary Services

Emory University



Amity Lumper

President, Co-owner

Cascadia Consulting Group

Need Credit for CEU's?

Email Marissa Caldwell
to request a
Certificate of Attendance

marissac@buschsystems.com

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Post-Webinar Survey:

- Prompt at end of program, or
- Look for Email tomorrow

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