



Targeting Waste Reduction Efforts in Greek Houses: A Case Study



Who We are



Waste Management at Lehigh

- Responsibility for waste management falls to Facilities Services
- Office of Sustainability identifies improvements, creates materials for outreach and engagement
- Custodial staff is contracted vendor (ABM)
- Hauled away by 3rd party vendor (SWS)
- Constant complaints about poor waste management infrastructure and services
- Moved from dumpsters to compactors in 2010 which gave us more accurate data from which to act

Waste Tracking

LEHIGH UNIVERSITY MSW AND RECYCLING VOLUMES

Jan 2015-Dec 2015

MONTH	MSW	% of Total	SINGLE-STREAM RECYCLING	% of Total	CONSTRUCTION & DEMOLITION- RECYCLED	% of Total	CONSTRUCTION & DEMOLITION- MSW	% of Total	LANDSCAPE MATERIALS	% of Total	FOOD WASTE	% of Total	E-Waste (TONS)	% of Total	Move Out
Jan-15	70.00	46.55%	25.44	16.92%		0.00%		0.00%	54.94	36.53%		0.00%		0.00%	
Feb-15	100.77	51.46%	40.11	20.48%		0.00%		0.00%	54.94	28.06%		0.00%		0.00%	
Mar-15	91.30	49.72%	37.37	20.35%		0.00%		0.00%	54.94	29.92%		0.00%		0.00%	
Apr-15	138.87	59.11%	41.13	17.51%		0.00%		0.00%	54.94	23.38%		0.00%		0.00%	
May-15	143.57	65.16%	21.81	9.90%		0.00%		0.00%	54.94	24.94%		0.00%		0.00%	
Jun-15	72.95	46.72%	28.26	18.10%		0.00%		0.00%	54.94	35.18%		0.00%		0.00%	
Jul-15	35.80	32.64%	18.95	17.28%		0.00%		0.00%	54.94	50.09%		0.00%		0.00%	
Aug-15	86.86	48.73%	34.57	19.39%		0.00%		0.00%	54.94	30.82%		0.00%	1.88	1.05%	
Sep-15	130.42	58.73%	36.72	16.53%		0.00%		0.00%	54.94	24.74%		0.00%		0.00%	
Oct-15	96.13	47.57%	40.12	19.85%		0.00%		0.00%	54.94	27.19%		0.00%	10.89	0.00%	
Nov-15	130.08	55.96%	44.17	19.00%		0.00%		0.00%	54.94	23.63%		0.00%	3.27	1.41%	
Dec-15	80.36	45.22%	24.02	13.52%		0.00%		0.00%	54.94	30.92%	18.38	10.34%		0.00%	
YTD	1177.11	50.63%	398.3	17.40%	0	0.00%	0	0.00%	659.28	30.45%	18.38	0.86%	16.04	0.21%	0.00

SINGLE STREAM RECYCLING RATE

Yearly Total	25.28%
Jan-15	26.66%
Feb-15	28.47%
Mar-15	29.04%
Apr-15	22.85%
May-15	13.19%
Jun-15	27.92%
Jul-15	34.61%
Aug-15	28.47%
Sep-15	21.97%
Oct-15	29.45%
Nov-15	25.35%
Dec-15	23.01%

Why focus on Greek System?

- Anecdotal stories from Greek students on poor waste management behavior and infrastructure in houses
- Consistently poor waste audit results
- Purchase own products
- Have own chefs
- Opportunity to build stewardship into group identity
- Leveraged accreditation to address ‘why students should care’

Case Study: Theta Chi

- Number of residents
 - In house members: 32
 - Out of house members: 11
- Sq. ft of space: 10,872 (gross)



Partners and Team

- Office of Sustainability staff
- Custodial staff
- Residential Services
- Greek Eco-Rep coordinators
- Theta Chi Greek Eco-Rep
- Theta Chi chef
- Theta Chi members

Commitment

- Signed contract to be part of the Greek Eco-Reps Program
- Signed by:
 - House Manager
 - Green Committee chair
- House accountable for setting and achieving goals

Greek Sustainability Contract 2015-2016
House Name: _____

These guidelines are intended to provide your Greek House with a checklist of requirements and responsibilities during the 2015-2016 academic year. **All guidelines** must be completed by the end of the spring semester in order to receive full accreditation.

Objective:

Your Greek House will be assigned two Sustainability Interns who will create a unique sustainability plan to increase sustainability in your House for the following areas of sustainability: composting, waste and recycling, water, and energy. Each House will create a Green Committee, composed of a sophomore, junior and senior, who will work with the house to incorporate two of the above areas of sustainability into a system and ensure the guidelines are completed with the help of the Sustainability Interns. Each area chosen will be a semester-long focus.

The two sustainability topics chosen for the 2015-2016 year are:

Composting Waste and Recycling Water Energy

Guidelines for Greek Chapters:

- House Manager and Green Committee meet with Sustainability Interns to create a sustainability plan for the House complete with a list of goals for the year.
- Schedule a house visit to observe and record initial habits of the chosen two areas of sustainability.
- Schedule an initial audit.
- Present the House with the sustainability plan and give a presentation on knowledge specific for the plan. Majority of the house must be in attendance for the presentation.
 - o **At least 2** educational presentations should be scheduled per semester/topic.
- Biweekly site visits** will be scheduled each semester where progress is tracked and projects are given to raise awareness. Schedule a day and time with the Sustainability Interns concluding the initial meeting that the Green Committee will be able to make every other week.
- Participation in 1 campus-wide event and Earth Day. The type of participation will be decided by the House and approved by the Sustainability Interns.
- Schedule a final audit and final presentation with results.
- Above steps are repeated for the second area of sustainability chosen.
- Submit a one page sustainability report in order to receive accreditation.

Sustainability Intern 1 _____

House Manager name: _____ email: _____ Phone #: _____

Green Committee Leader name: _____ email: _____ Phone #: _____

Identifying Behavior Change Project

- Visual assessment of house infrastructure
 - Bin count & placement
 - Signage
 - Food waste
 - Disposable vs reusable kitchen items
- Survey resident(s)
- Waste audit

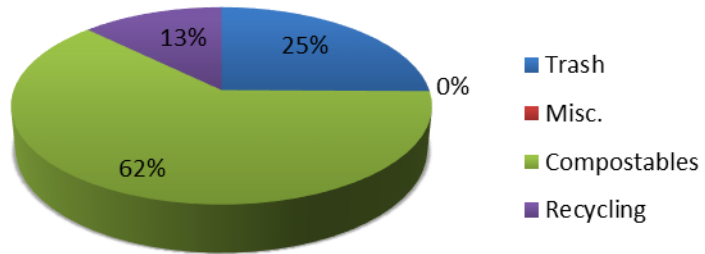
Project Implementation

- Observations
- Preliminary waste audit
- Brainstorm effective strategies
- Make adjustments
- Post waste audit

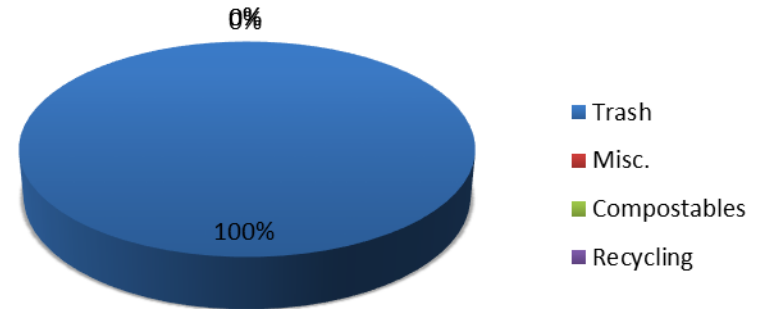


Preliminary Waste Audit

Trash Composition



Recycling Composition



Behavior Targeted

- Increase total recycling rate
- Decrease recyclables in trash
- Reduce food waste



Barriers

Perceived vs. Real

- Lack of proper signage
- Not knowing what was recyclable
- No 1:1 bin placement
- Not enough trash and recycling bins
- Not knowing Lehigh's recycling policy
- Prevalent use of disposable cups and plates

Tools Used (CBSM)

- Commitments
- Convenience
- Prompts
- Education/awareness
- Norms
- Goal setting
- Incentives



Commitment

- Remind them they signed this commitment :)

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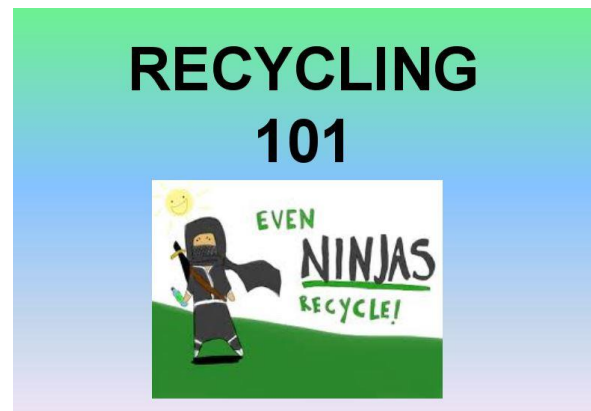
Sustainability Intern 1 _____

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Green Committee Leader name: _____ email: _____ Phone #: _____

Education/Awareness

- Recycling 101 presentation to house members
 - Why recycling is important/Why members should care
 - Preliminary waste audit results
 - What can be recycled at Lehigh
 - Next steps to improve recycling in house
- Ensure chef is aware of Lehigh's recycling policy



Convenience & Prompts

- Ensured 1:1 bin placement
- Added more trash and recycling bins
- Added signage above bins
- Installments



Food and Food Packaging



Single Use Items
♻️♻️



Caps, Lids and Straws



Paper Towels and Napkins

LEHIGH UNIVERSITY
sustainability.lehigh.edu/recycling

Place all recyclables in blue recycling bin



Mixed Paper



Plastic Containers
♻️♻️♻️♻️



Glass Containers



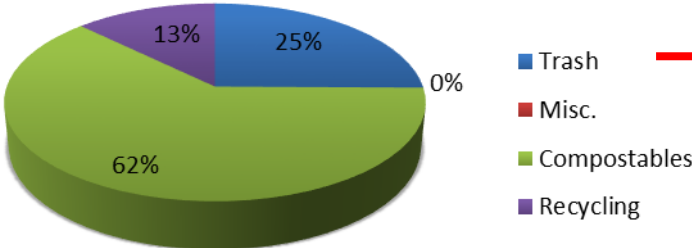
Metal Cans

LEHIGH UNIVERSITY
sustainability.lehigh.edu/recycling

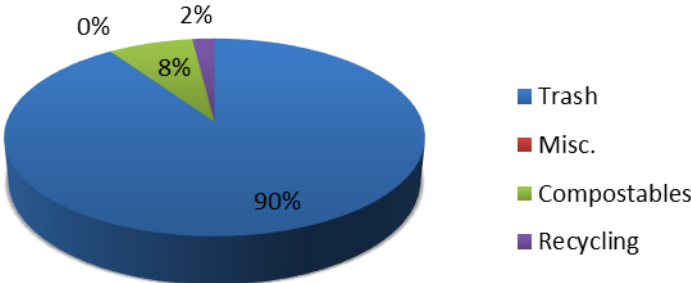


Post Waste Audit

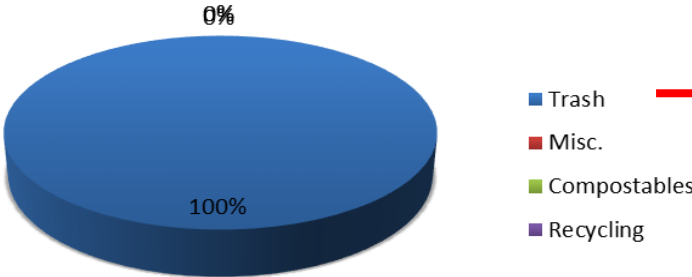
Trash Composition



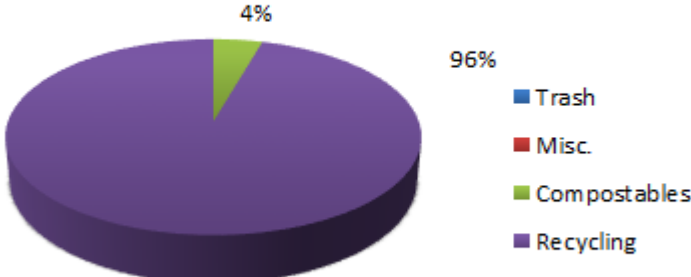
Trash Composition



Recycling Composition



Recycling Composition



Overall Results

- Single stream recycling rate increased - from 0% → 24.4%
- Recyclables in trash decreased - from 13% → 2%
- Compostables in trash decreased - from 62% → 8%
- Contamination rate of trash/compost in recycling decreased - from 100% → 4.4%

Take-aways

- Leverage ‘why students should care’ → accreditation
- Develop robust initial survey to determine the barriers to targeted behavior
- Think outside the box when brainstorming effective strategies
 - What works one place, may not work somewhere else
 - Know your audience
- Use a combination of CBSM tools + operational adjustments are key to success
- Celebrate success of the houses