



*Putting good ideas to work for a
carbon-neutral, flourishing campus*

Sustainable
CWRU

October 2016

Tonight's Agenda



- Sustainability Update
- Lightning Round Presentations
- Power Networking
- More Lightning Round Presentation
- Networking and crafting

Case Western Reserve University Stats

- 8 millions sq. feet
- \$20+ million annual utility spend
- 200,000 mmtco2e
- 185 urban acres, 140+ buildings
- 400 acres off-campus Farm property
- 2 million local food spend by Bon Appetit
- 1,300 research labs
- 130 fleet vehicles
- 18,000+ people
- \$360.1 million in research revenues
- 750,000 annual community volunteer hours
- 1,001 squirrels



#AllinCde #AllinONE



WHAT WE'RE WORKING ON

ENGAGEMENT
CLIMATE ACTION PLAN
GREEN BUILDING +
RECYCLING & MATERIALS MANAGEMENT

Sustainable CWRU Elements



- Climate Action Plan
- The Fowler Center for Business as an Agent of World Benefit
- Great Lakes Energy Institute
- University Farm
- Summer Undergraduate Research in Energy and Sustainability
- Social Justice Alliance
- Sustainability Alliance
- Campus Planning & Facilities Management
- Student Groups
- Staff Green Teams
- Environmental Studies Major
- Lots of sustainability related research
- ...

ENGAGEMENT

Student Sustainability Ambassadors

Recycling & Waste: Neil Chavan & Helen Sanderson,
Lori Sun & Divya Manoharan

Climate & Energy: Maggie McClarren & John Kilbane

Green Building: Duck Rhee & Carlos Lewis-Miller

Transportation: Amelia Samett & Tom Ugras

Green Grounds: Kayla Buckelew & Claire Holliday

Local Food & Water: Thanvi Vatti & Keith Hill



CON2015

The Zombie apocalypse won't have electricity. Practice now

- Take the stairs.
- Unplug your stuff.
- Turn off your lights.

Reduce energy through Earth Day to compete
against your res hall neighbors for prizes & glory



Northwest vs
The Village vs
Southside

Learn more at www.buildingdashboard.net/case



Residence Life &
Facilities Services
Departments

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Sustainable
CWRU

Student Sustainability Council

CON2015

Would your res hall survive?

None can at Southside, even zombies!

Southside's energy reduction has increased
to 11.3%! They are still most likely to survive!

There's still time, NorthSide!

Northwest's is still cutting their energy use, but
only by 1.3% this week. The Village has INCREASED
their energy use by 2.9%

Zombie's gonna get them!



Sponsors:

Student Sustainability Council
The Office for Sustainability
Office of Residence Life
Facilities Services
Residence Hall Associations

2.9+% The Village can still turn it around, and
cut energy use like it's the zombie apocalypse
Learn more at www.buildingdashboard.net/case



CASE WESTERN RESERVE
UNIVERSITY EST. 1826

think beyond the possible™

GREEN BAG LUNCH SERIES



- Green Your Lawn
- Alternative Fuel Vehicles
- Green Design for Your Home
- Greening Your Holiday w/ Upcycled Gifts (November 29!)
- + Monthly Newsletters
- Solar for Your Home
- Biking to Work
- Recycle Like a Master
- Tink's Green Building Features
- Our Energy Grid
- + Social Media

Green Your Lab Certification Program w/ Student Audit Option

Green Lab Check List - Certification Program For CWRU Labs

Energy

Electronics & Lights

No.	Question	Possible Ans.
E1	Does the lab have proper shutdown procedures for equipments such as computers, monitors, printers, cell phone & battery chargers, etc.?	Y - 2 point / N - 0 point
E2	Does last person in the lab turns off lights & other equipments?	Y - 1 point / N - 0/ NA
E3	Are there reminder signs for shutting the equipments?	Y - 1 point / N - 0/ NA
E4	Do the lab members make an effort to use natural light when possible?	Y - 1 point / N - 0/ NA



CLIMATE & ENERGY

Planning Plans!

Master Plan FY16

Painted a new picture of our energy intensity

Climate Action Plan Refresh FY17

On target in reductions but have not implemented but do date
have not called for anything out of the ordinary

Energy Plan FY17

Need stronger energy standards for renovations and new
construction and a documented process and more

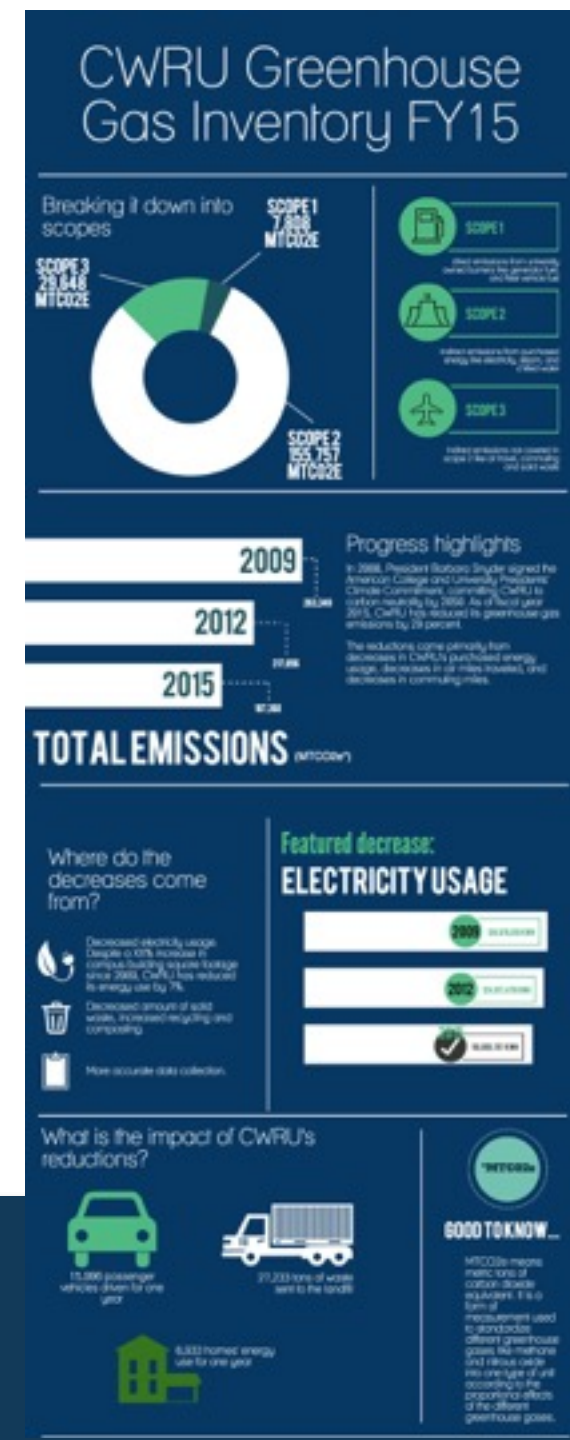
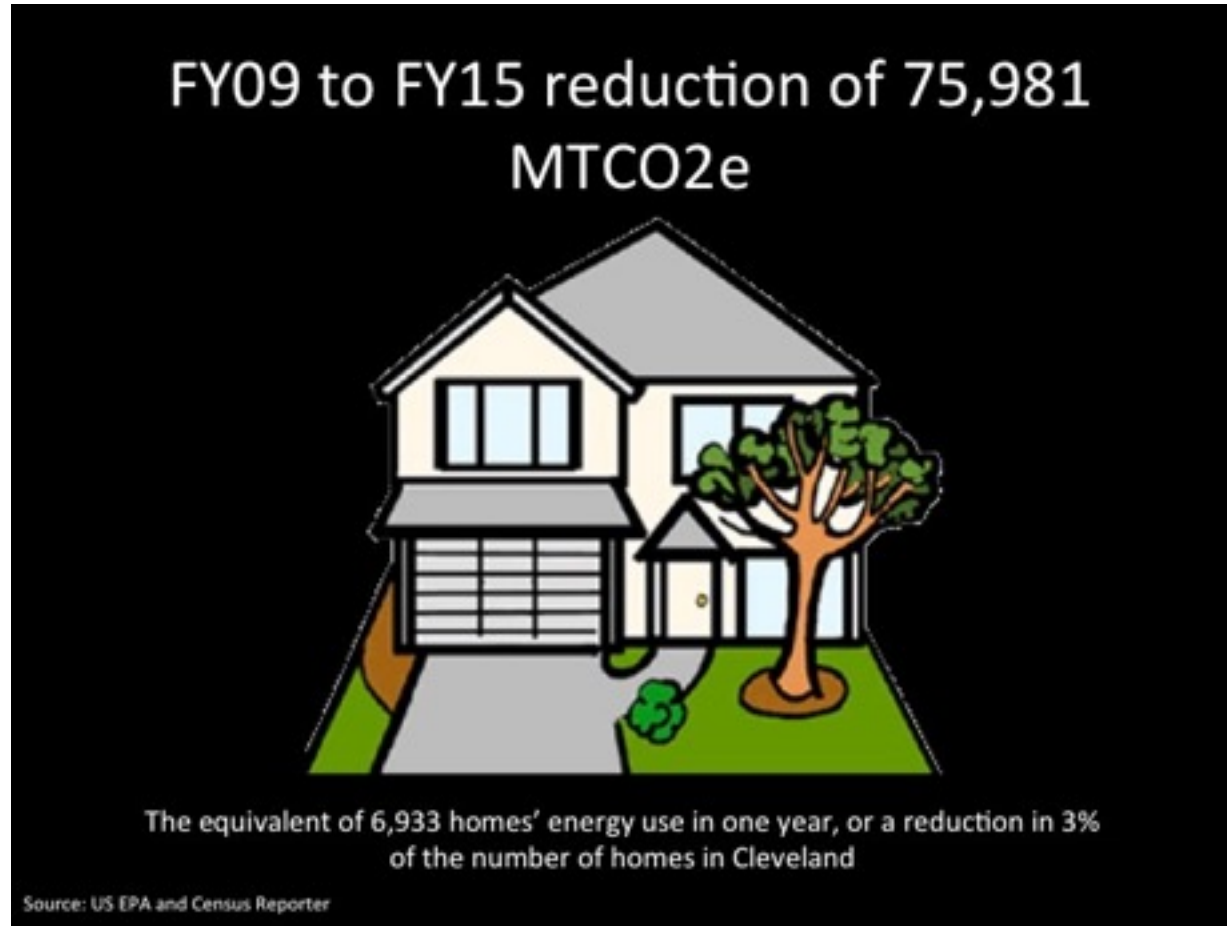
Climate Action Plan (CAP) Commitment

Signed ACUPCC 2008 / CAP published 2011



- Publicly report CWRU's GHG emissions inventory every year
- Report on CAP progress every 2 years
- Build min. LEED silver new construction
- Update plan every 5 years
- Expand sustainability literacy academically

Communications



Replace Your Ultra-Low Temperature Freezer

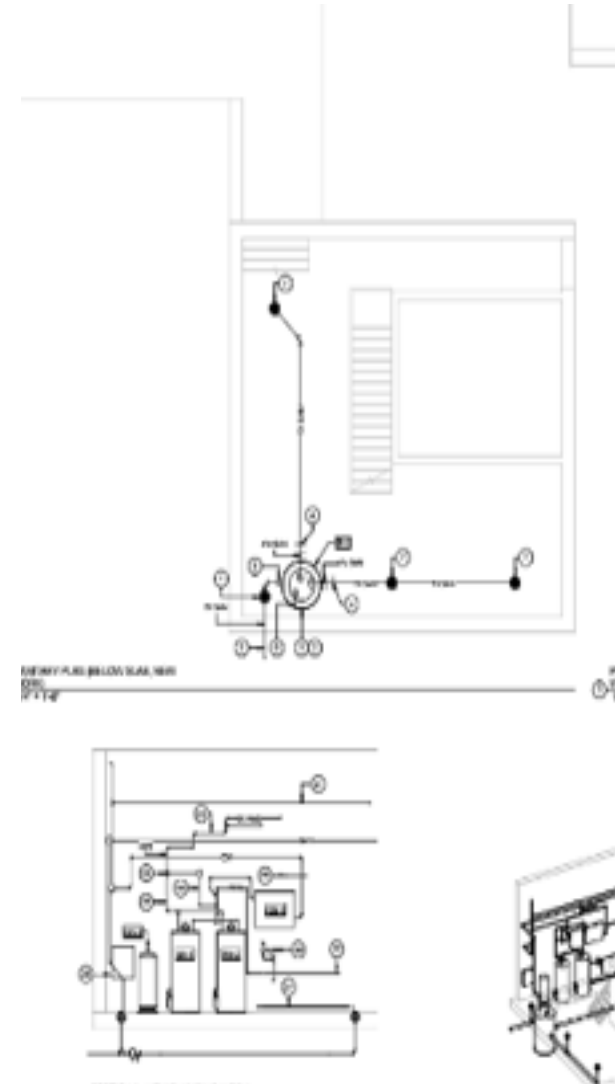


- Lowest cost of ownership
- Low waste heat
- High sample integrity

***Upgrade your -80° C Freezer
and receive a \$3000 rebate
from Facilities Services***

Thermal Improvements

- Insulation on steam components
- Domestic hot water project using waste heat
- Steam trap repairs

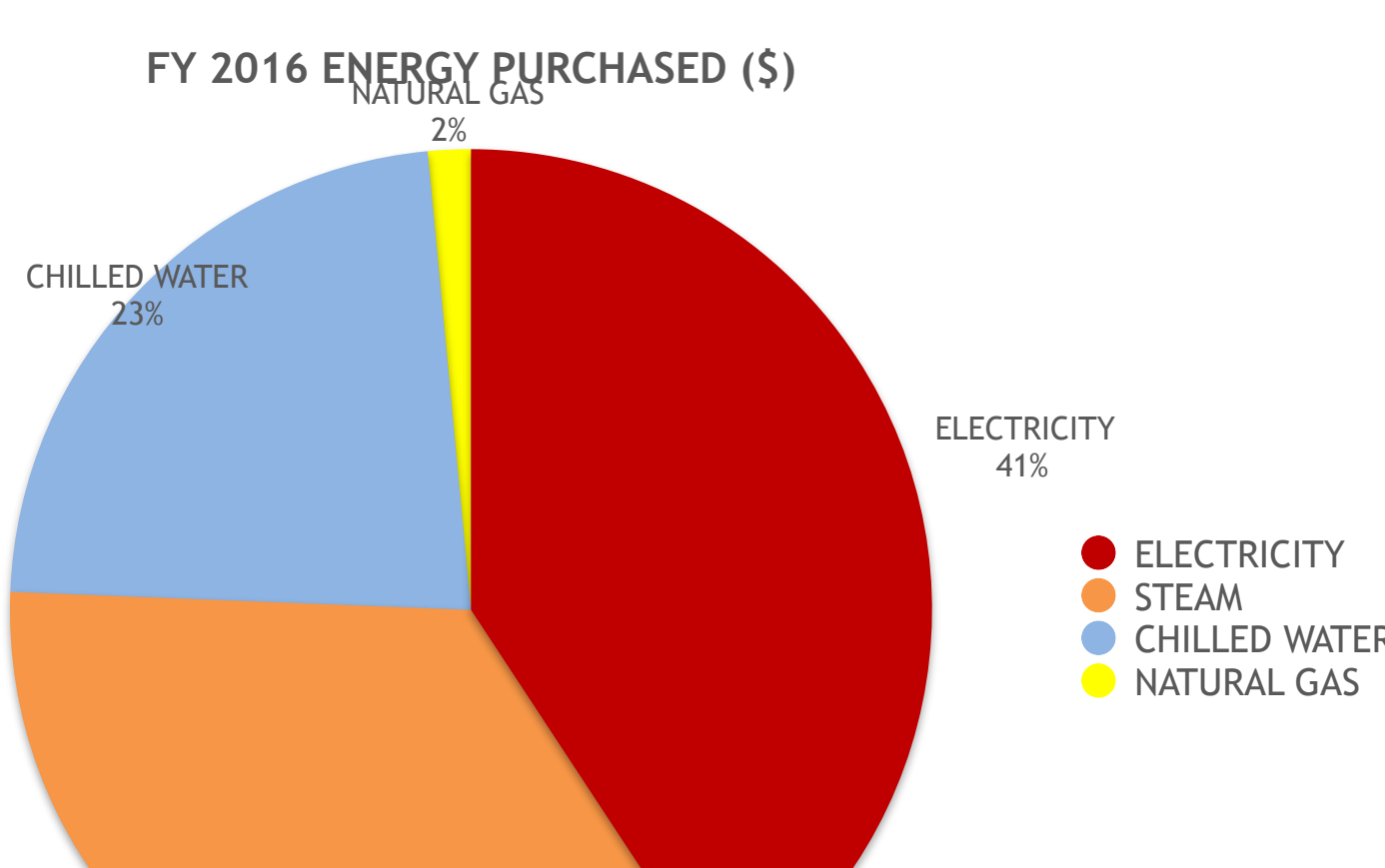
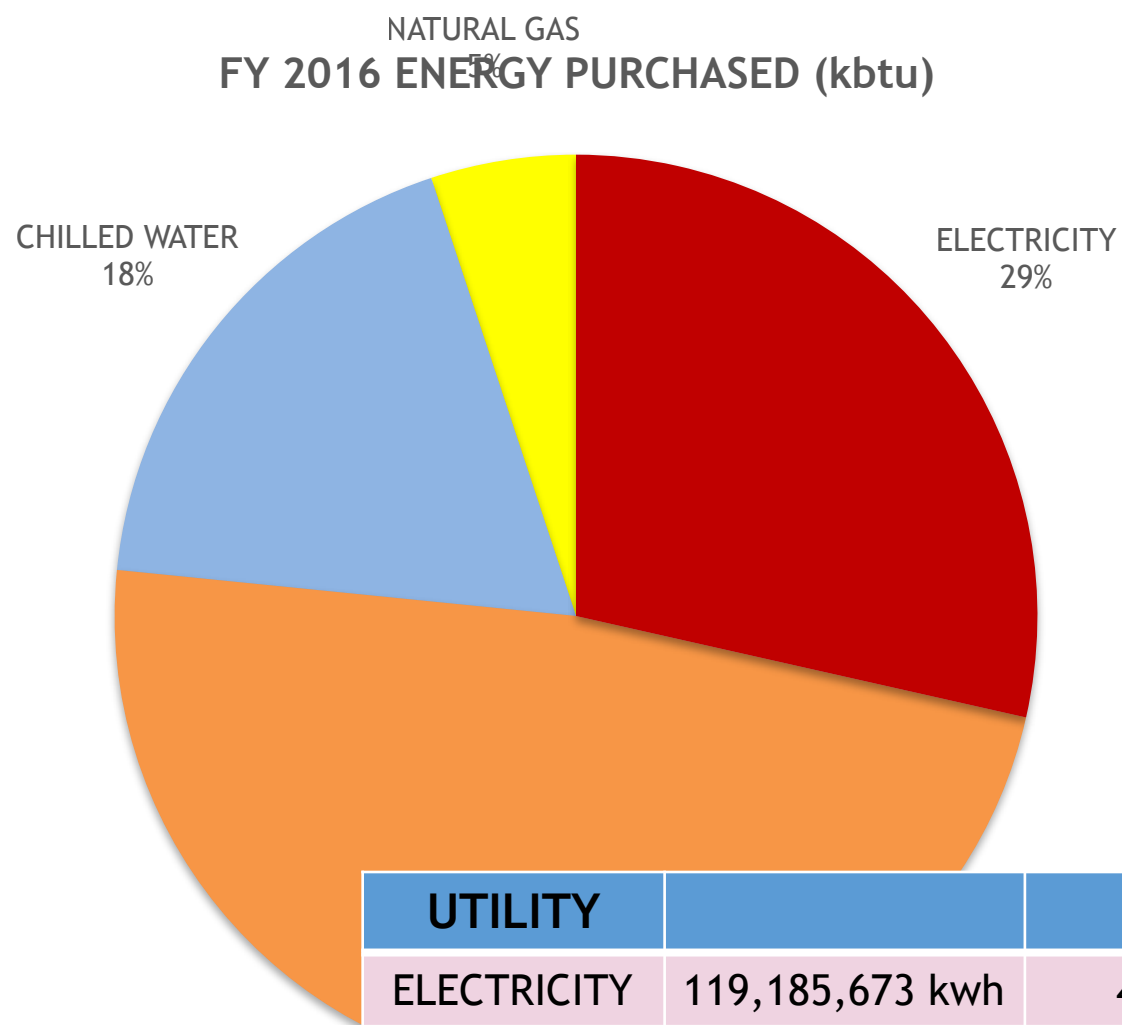


Lighting Improvements



- Case Quad Exterior LED lighting
- KSL interior LED lighting





- ELECTRICITY
- STEAM
- CHILLED WATER
- NATURAL GAS

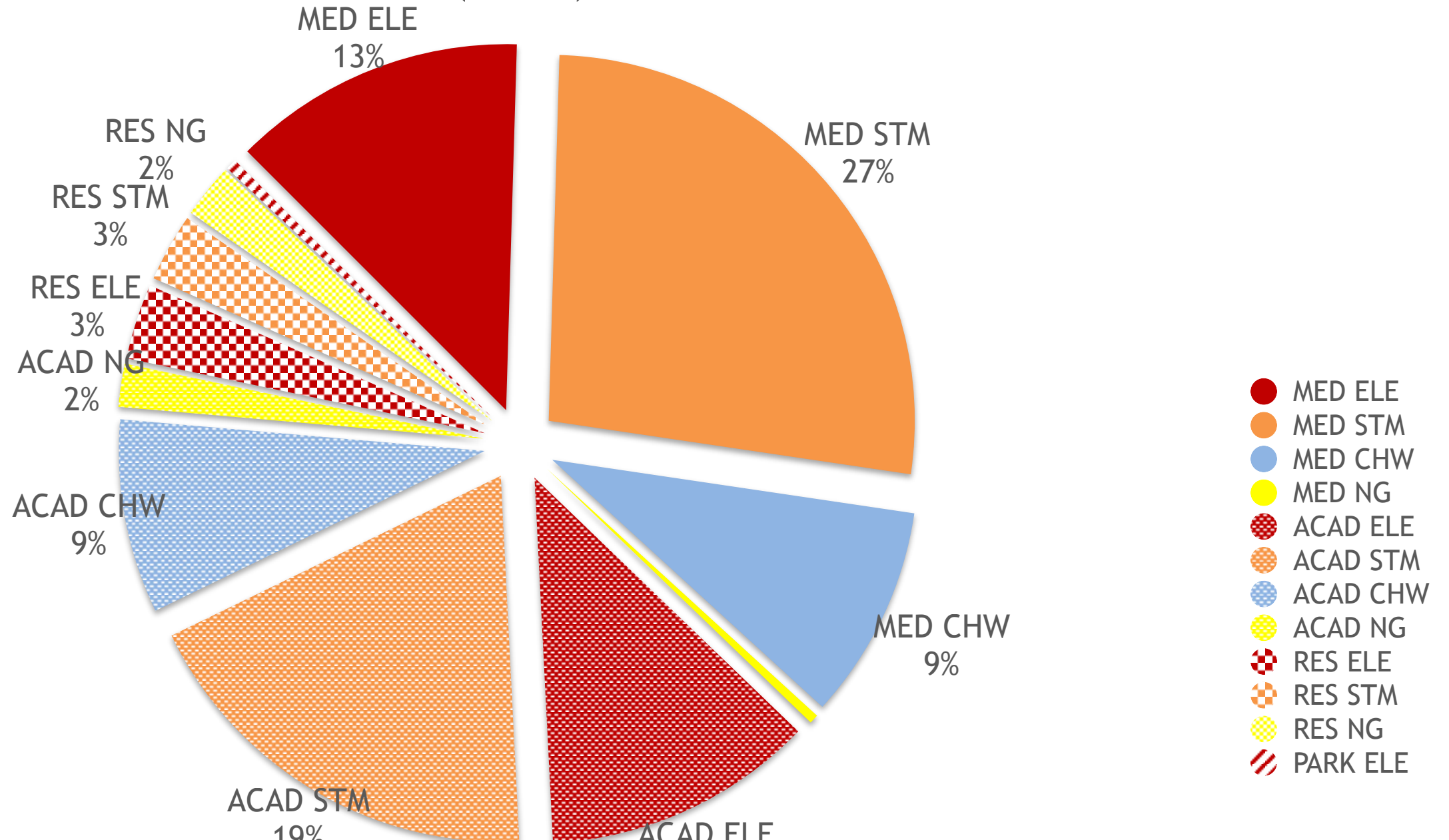
UTILITY		kbtu	\$	\$/kbtu
ELECTRICITY	119,185,673 kwh	406,661,516	\$ 9,383,811	\$23.08
STEAM	573,767 klbs	685,077,554	\$ 8,032,732	\$11.73
CHILLED WATER	21,767,777 ton-hrs	261,213,324	\$ 5,267,803	\$20.17
NATURAL GAS	70,344 mcf	72,454,320	\$ 345,837	\$4.77

TOTAL

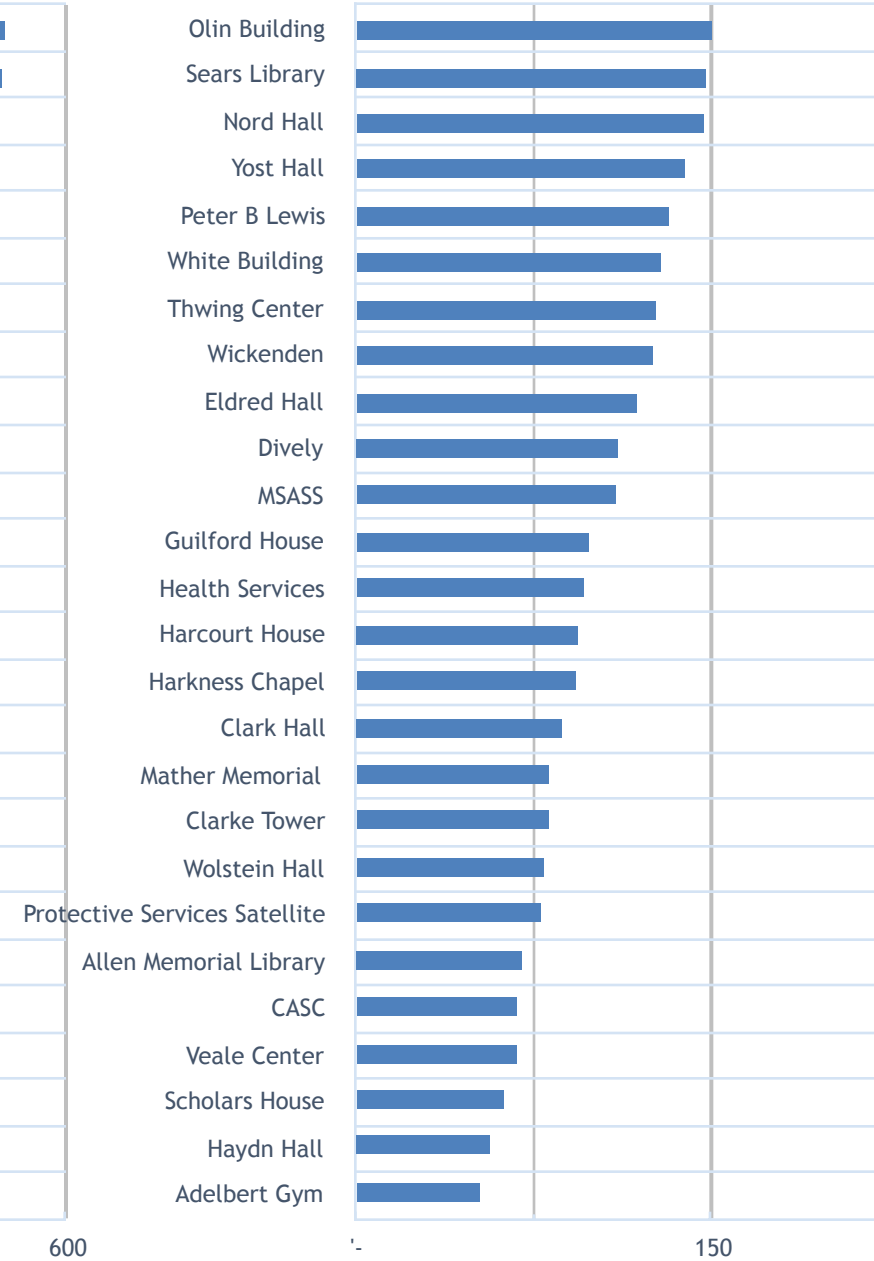
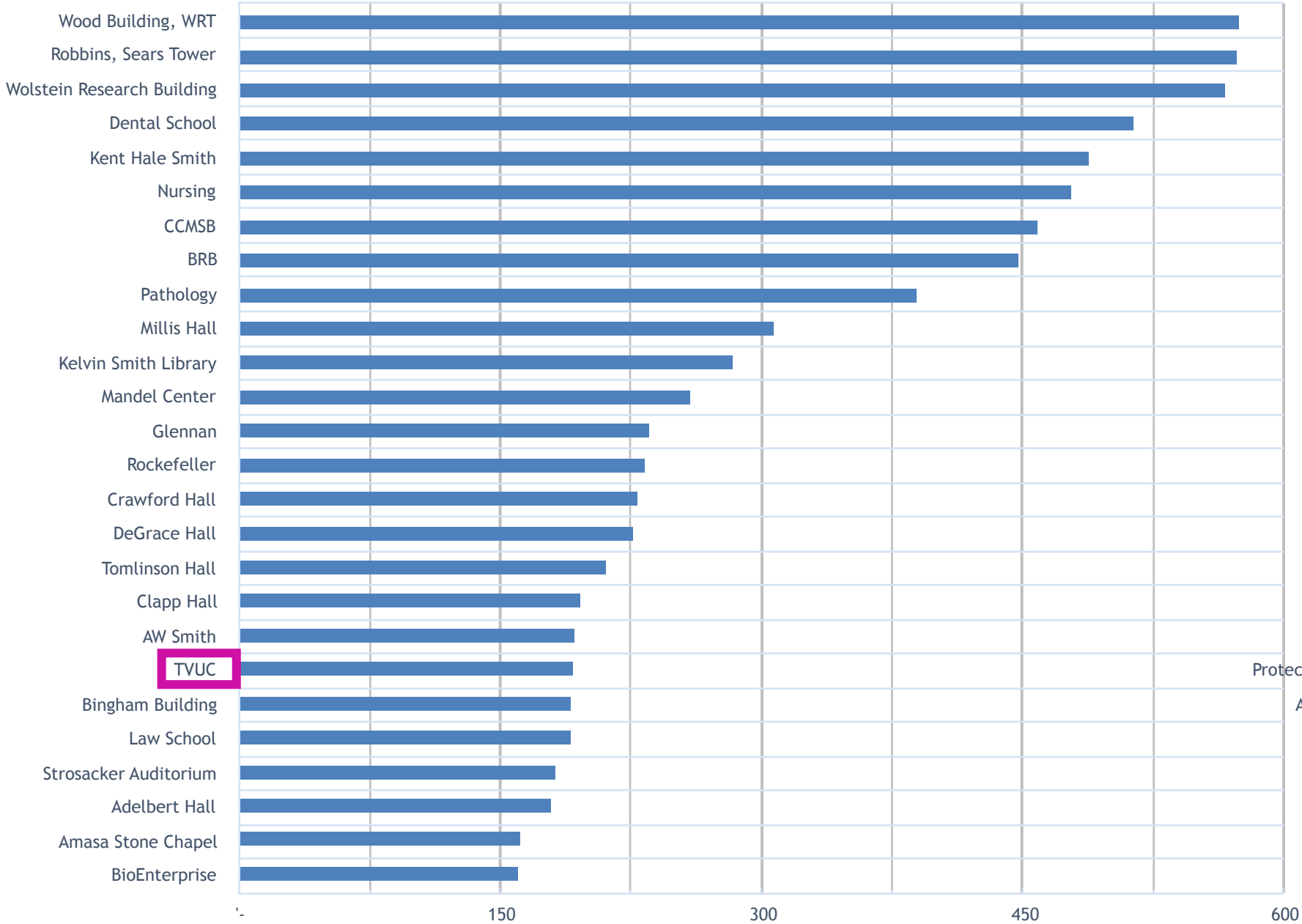
1,425,406,714

\$23,030,183

FY 2016 ENERGY PURCHASED (kbtu)



FY 2016 kBTU/SF



GREEN BUILDING GROUNDS TRANSPORTATION



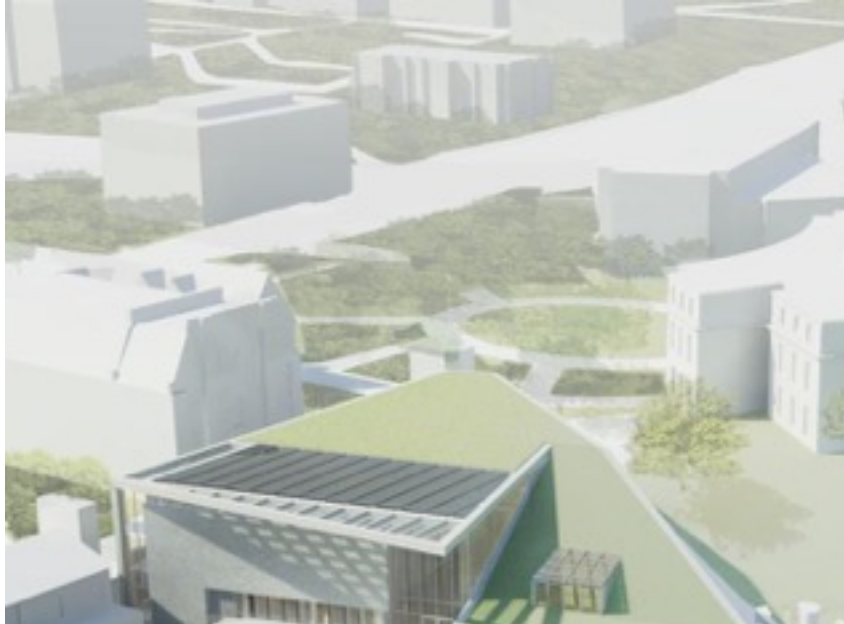
Leadership in Energy and Environmental Design

A leading-edge system
for certifying the
greenest performing
buildings in the world



University Green Buildings

1. North Residential Village - Silver House 1-4, 6-7 & Gold/House 5 only
2. Tomlinson Hall - Silver
3. Tinkham Veale University Center - Gold
4. Wyant Athletics and Wellness Center - Silver
5. LS Think Box - Projecting Silver
6. New STJ Residence Hall - Projecting Border Gold/Silver
7. Mandel School of Applied Social Sciences - LEED Interior project Silver
8. LS Alumni Center
9. Health Education Campus - Goal of Gold
10. New Dental Clinic



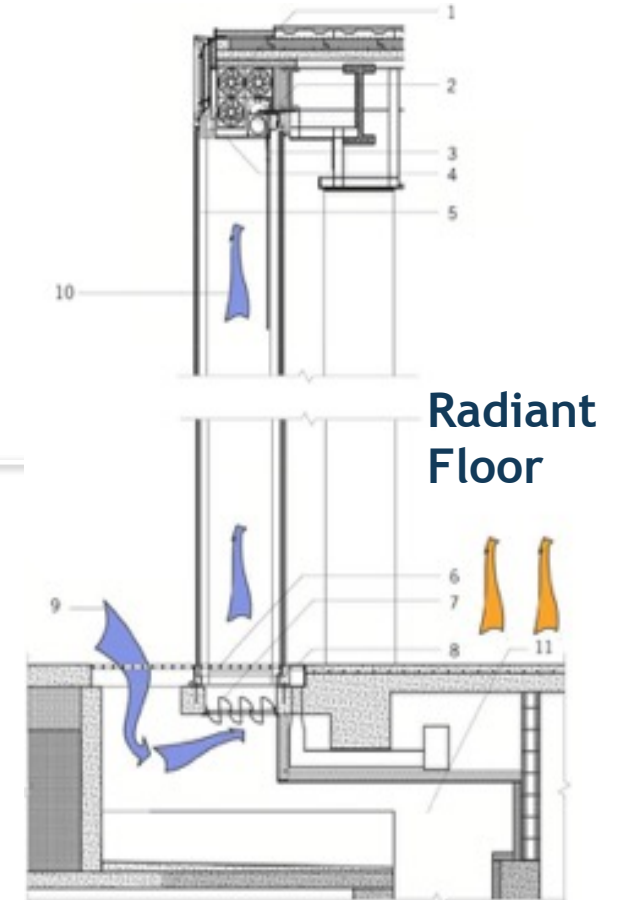
Tink Green Building Technology Features

40kW Solar Array



Live Roof

Double-Skin Facade



Beyond Pesticides & Green Grounds Strategy

WHITE HOUSE

Pollinator Health Task Force:

Planting flowers is **NOT ENOUGH** to save bees.

Tackle the core problem: **PESTICIDES!**

#NationalHoneyBeeDay



Tree Campus USA

Awarded to Campuses that:

- Form a Campus Tree Advisory Committee
- Develop a campus tree care plan
- Create campus tree program with annual expenditures
- Participate in Arbor Day observance
- Complete a service learning project



[FIU: Tree Campus USA Video](#)

Transportation

- Bike Sharing
- Safe biking education (coming soon)
- Campus bike infrastructure (coming soon)
- Shuttle system
- Car sharing
- Carpooling
- RTA – new van pool
- Green fleet practices

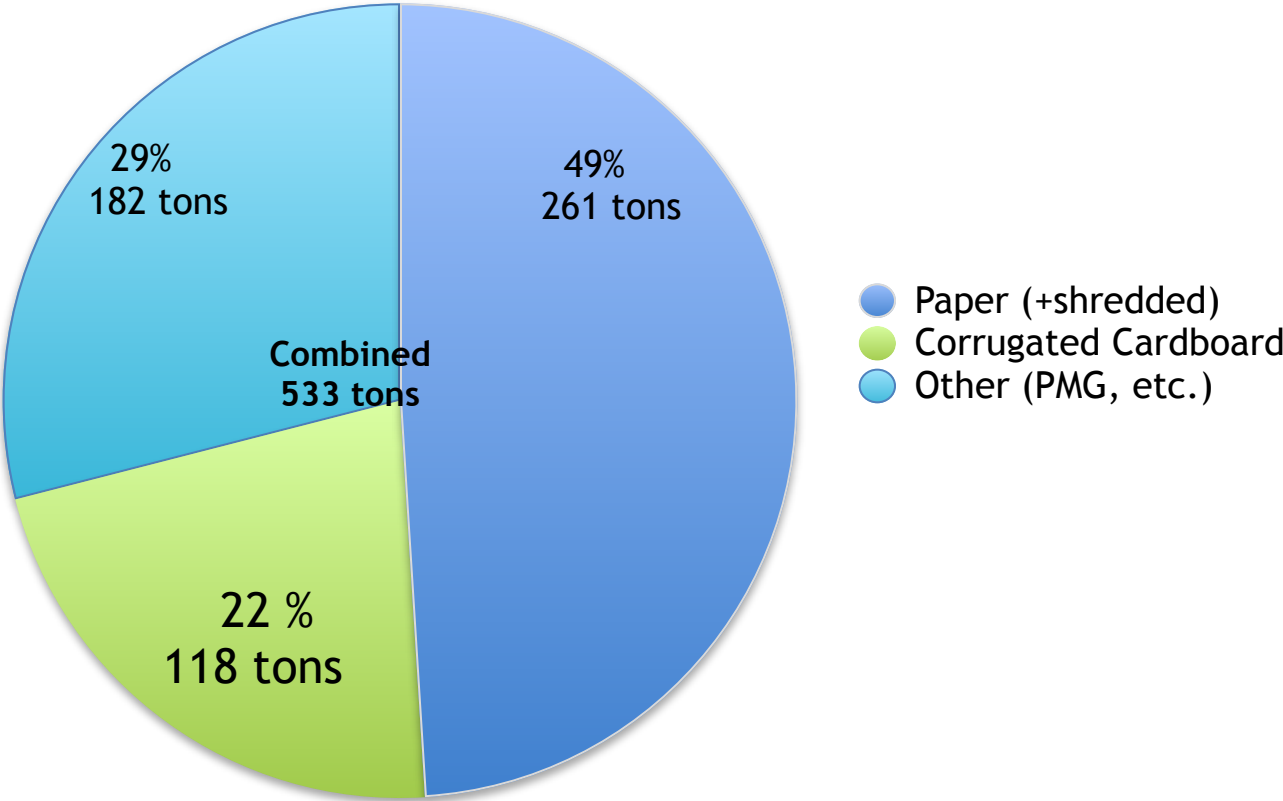
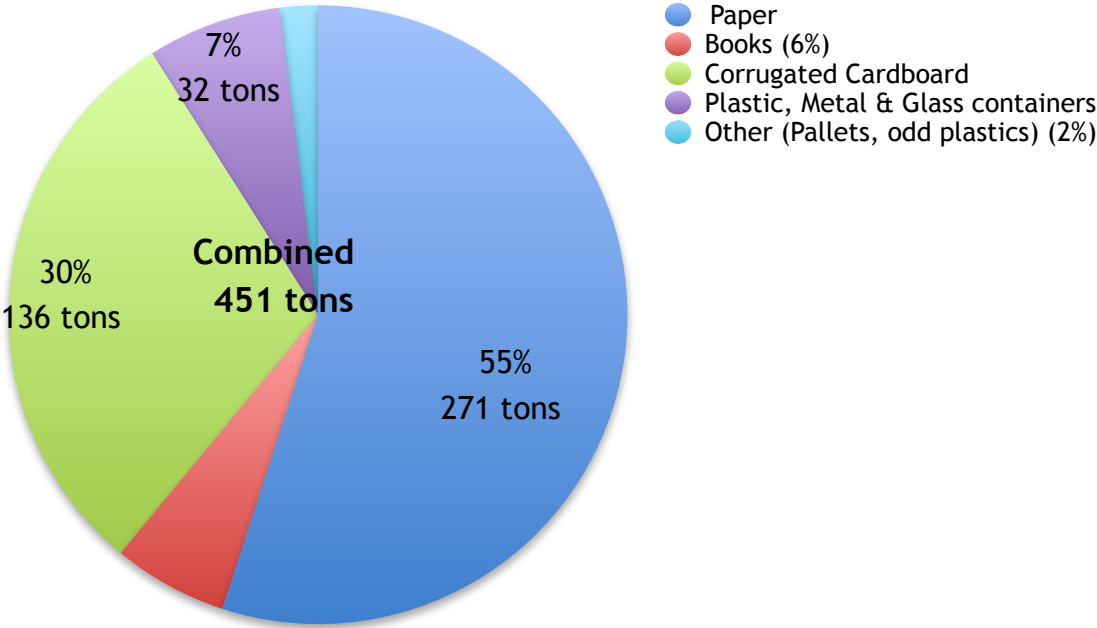


RECYCLING & COMPOSTING

Recycling Volumes: 18 % Increase

FY 16

FY 14





Different Streams of Campus Compost:

- Pre-consumer
- Post-consumer
- Events

Welcome Home to Case Western Reserve University

The University is striving to use less and recycle the rest - thank you for your assistance in reducing, reusing & recycling!

In Your Room:



when your bin fills,
empty it into the
appropriate bins in
the common area



In Common Areas:



plastic, metal & glass



corrugated cardboard
- break it down
- put it between bins



#AllinOne #AllinONE



OWRUSINGLE-STREAM RECYCLING: YOU CAN NOW
PUT PLASTIC, METAL, GLASS & PAPER INTO ONE BIN!

On The Horizon

Transition from multi-stream
operation to single stream
collection - COMING SOON

- Infrastructure changes
 - Inside and outside of buildings
 - New vehicles tbd
 - Audit all of the bins
- Education campaign
 - Students, staff, faculty
 - Collection staff - BSWs, MMWs, Contracted custodial

REScycle Spring 2016



- Almost 8 tons of clothing, household goods, furniture, etc. donated
- Almost 500 pounds of food donated to Cleveland Food Bank
- Collection boxes in every residence hall for



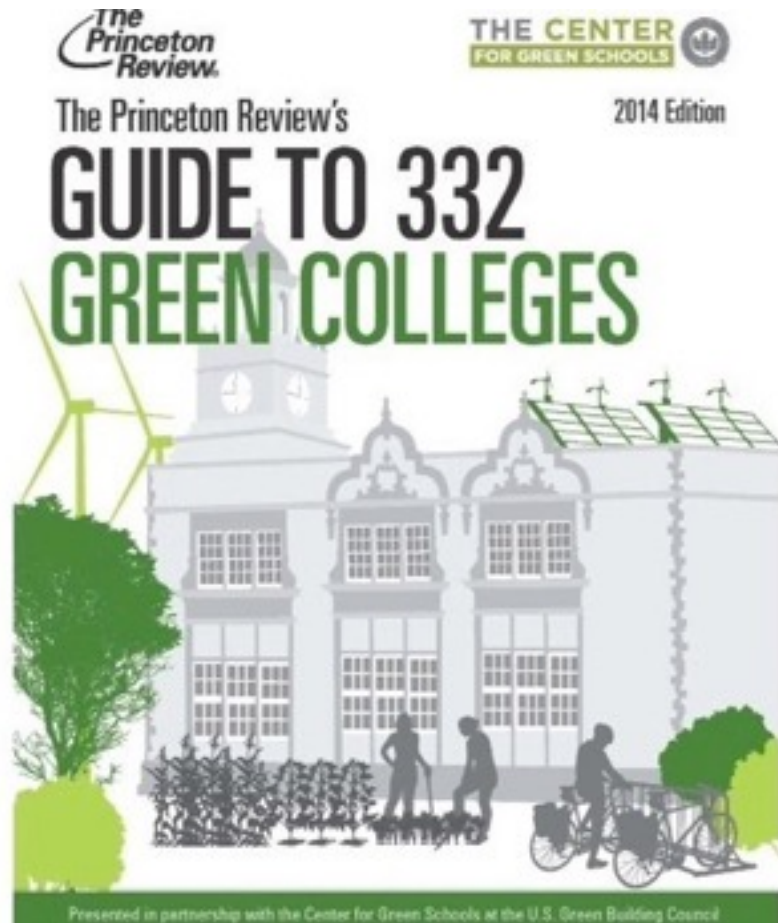
OUTSIDE THE BUBBLE

Community Partners



- City & County Sustainability Offices
- Green City Blue Lake Institute
- Green Energy Ohio
- Environmental Health Watch
- Earth Day Coalition
- Cuyahoga County Solid Waste District
- Cuyahoga County Soil & Water Conservation District
- Fresh Water Cleveland
- NEO Chapter of the US Green Building Council
- CSU Corporate Sustainability Roundtable

Recent Accolades



- NOACA Commuter Challenge Award for 3 years
- Princeton Review Green Colleges Awarded for 5+ years
- Sierra Club Cool Schools Awarded for 5+ years

Shelli Snyder Information



Shelli Snyder, a long time employee of the CWRU School of Nursing, founding board member of Bike Cleveland, critically injured biking across country

Follow her progress via the [Go Fund Me campaign or Facebook, Cle for Shelli](#)

THANK YOU FOR COMING!

SPECIAL THANK YOU TO:

Upcycle Parts Shop



CWRU Sustainability Team — sustainability@case.edu



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