UA Sustainability Council || Agenda

UNIVERSITY OF ARKANSAS
Office for Sustainability

Feb 11th, 2020
3:30-5:00PM
Davis Hall Rm. 111 (Conference Room)
Tuesday

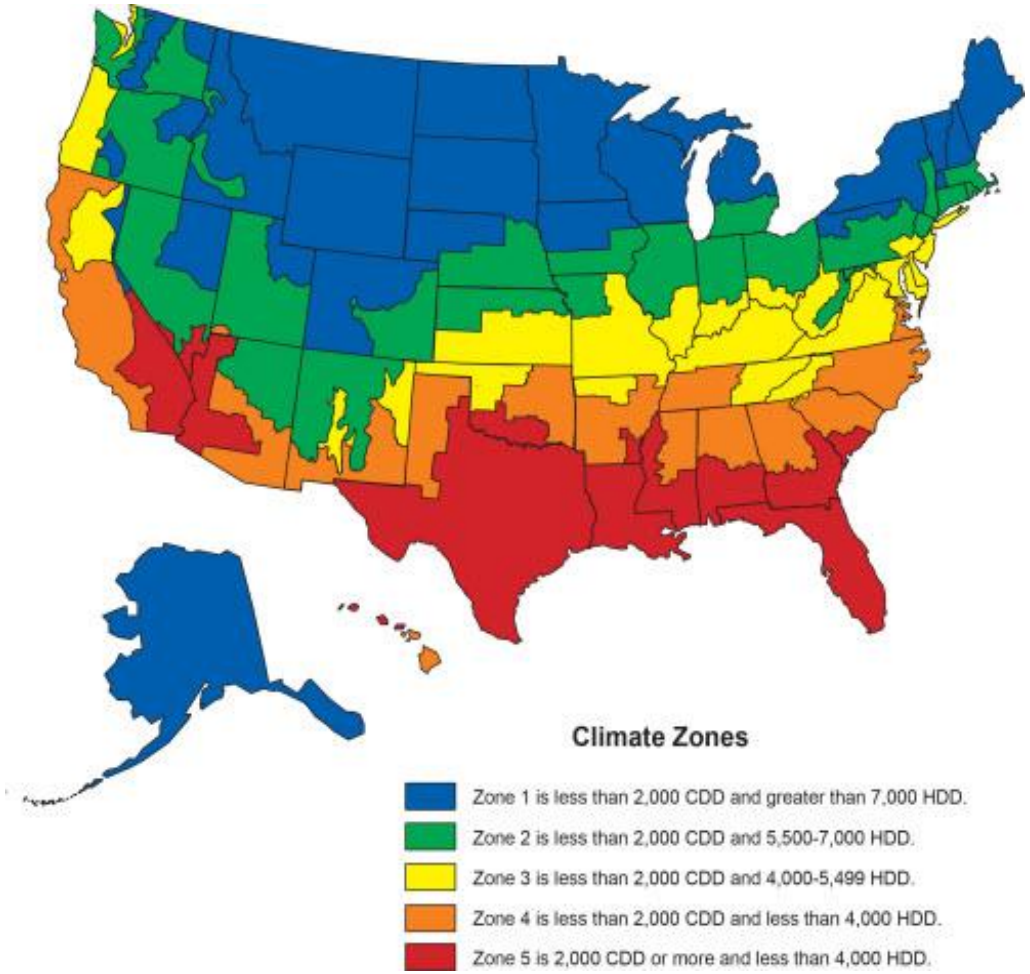
Meeting Agenda:

1. Introductions
2. Co-chair updates
    a. Executive Director, University Arkansas Resiliency Center, Marty Matlock
    b. Associate Vice Chancellor, Facilities Management, Mike Johnson
    c. ASG Sustainability Chair, Sophie Hill
3. UA carbon footprint 2020 update, Eric Boles
4. Campus temperature setpoints, Jeff Siebler or Scott Turley
5. Zero Waste 2020 update, Eric Boles
6. Good-of-the-Order
7. Adjourn

sightlines
a GORDIAN company

Energy Consumption and Sustainability

Choosing a Regionalized Energy Peer Group



Institution
American University
Arizona State University
Clemson University
Nova Southeastern University
Texas A&M University
The University of Alabama (Tuscaloosa)
The University of Tennessee
University of Texas Rio Grande Valley
Towson University
Virginia Commonwealth University

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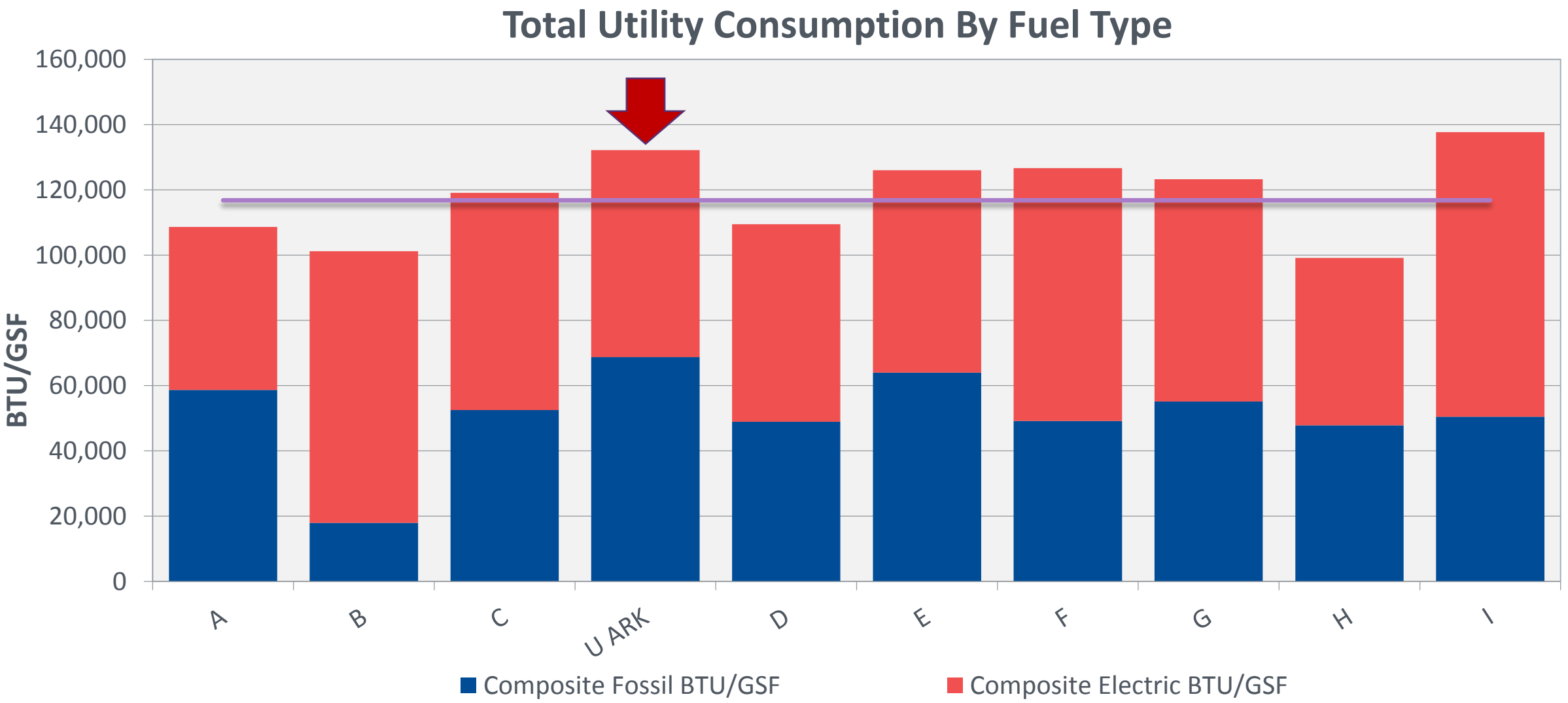
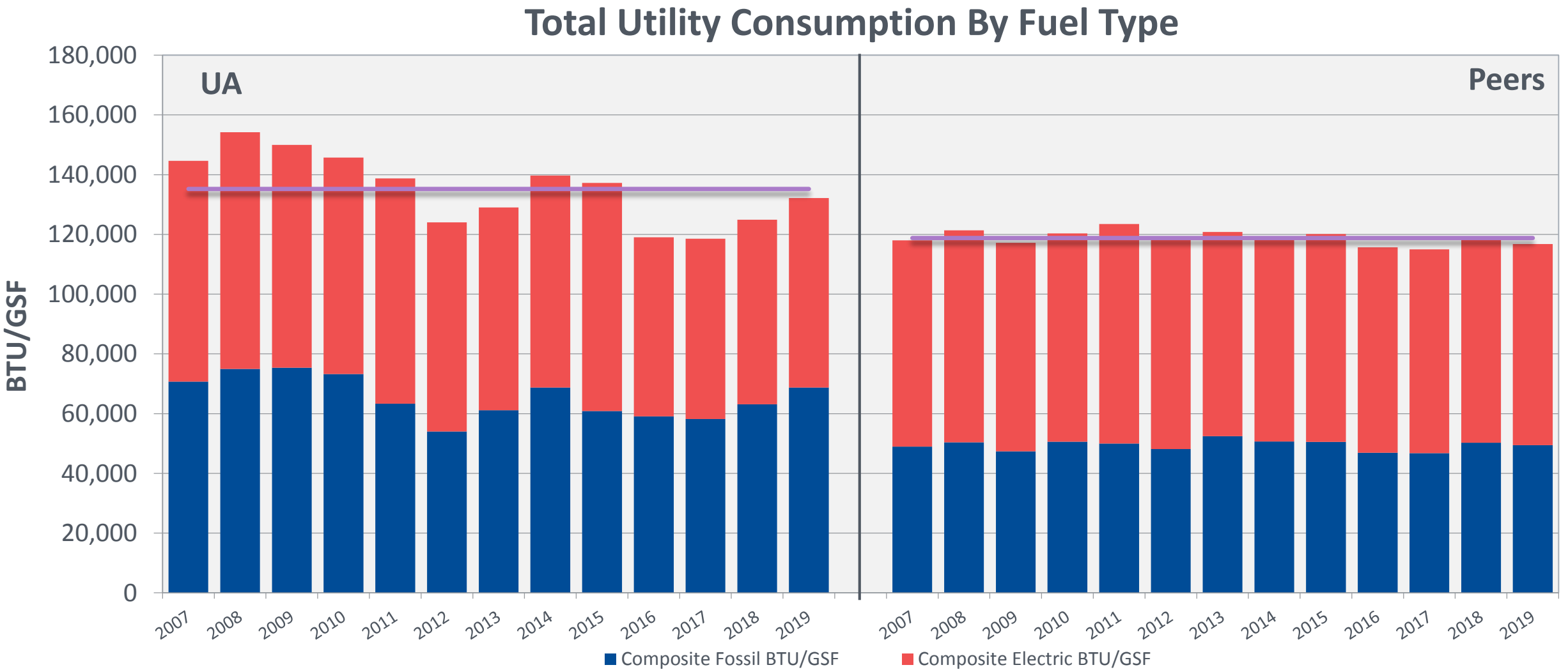
a GORDIAN company

FY19 Energy Consumption vs. Peers



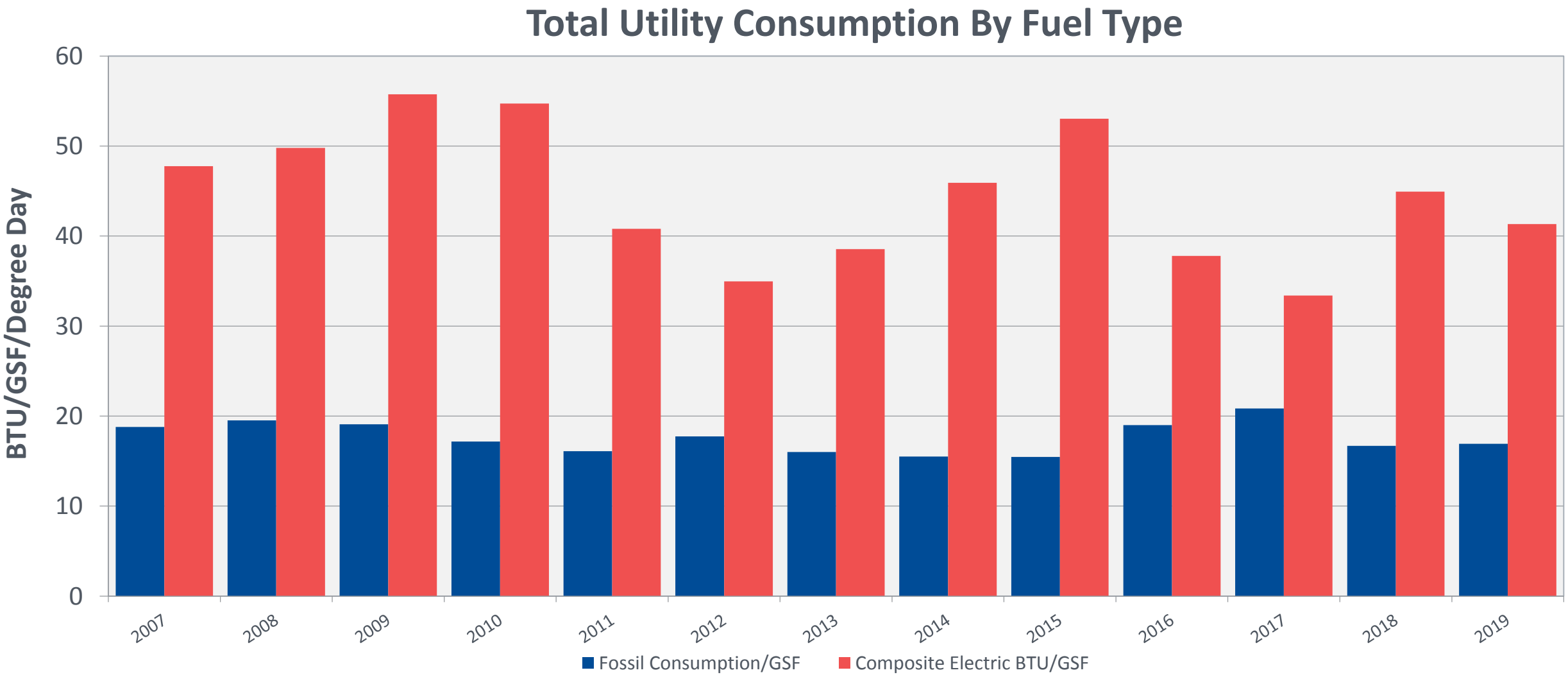
**Energy Analysis includes Total GSF*

UA Consumes Slightly More Energy Than Peers

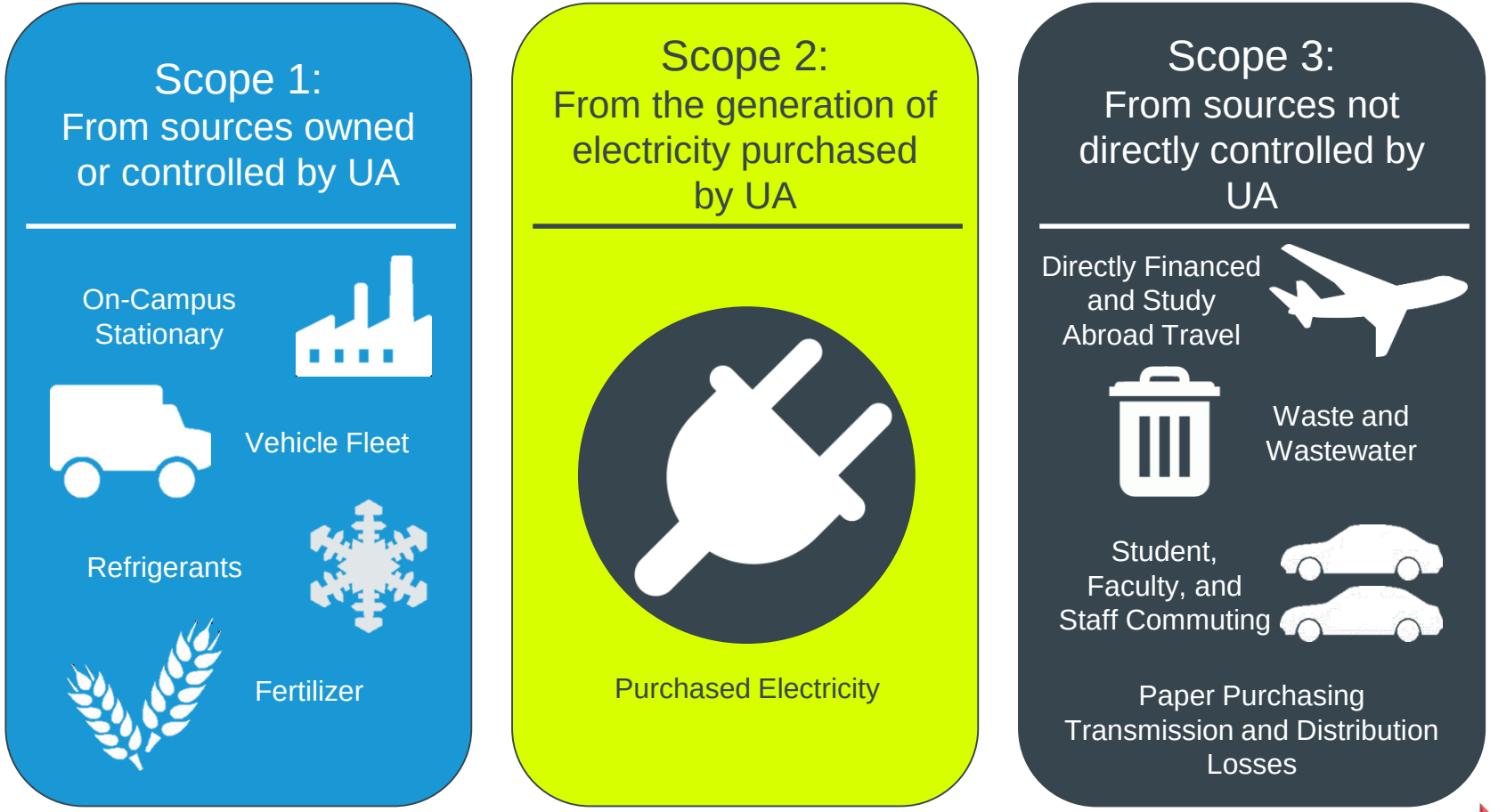


**Energy Analysis includes Total GSF*

External Factors Played A Key Role in Energy Increase

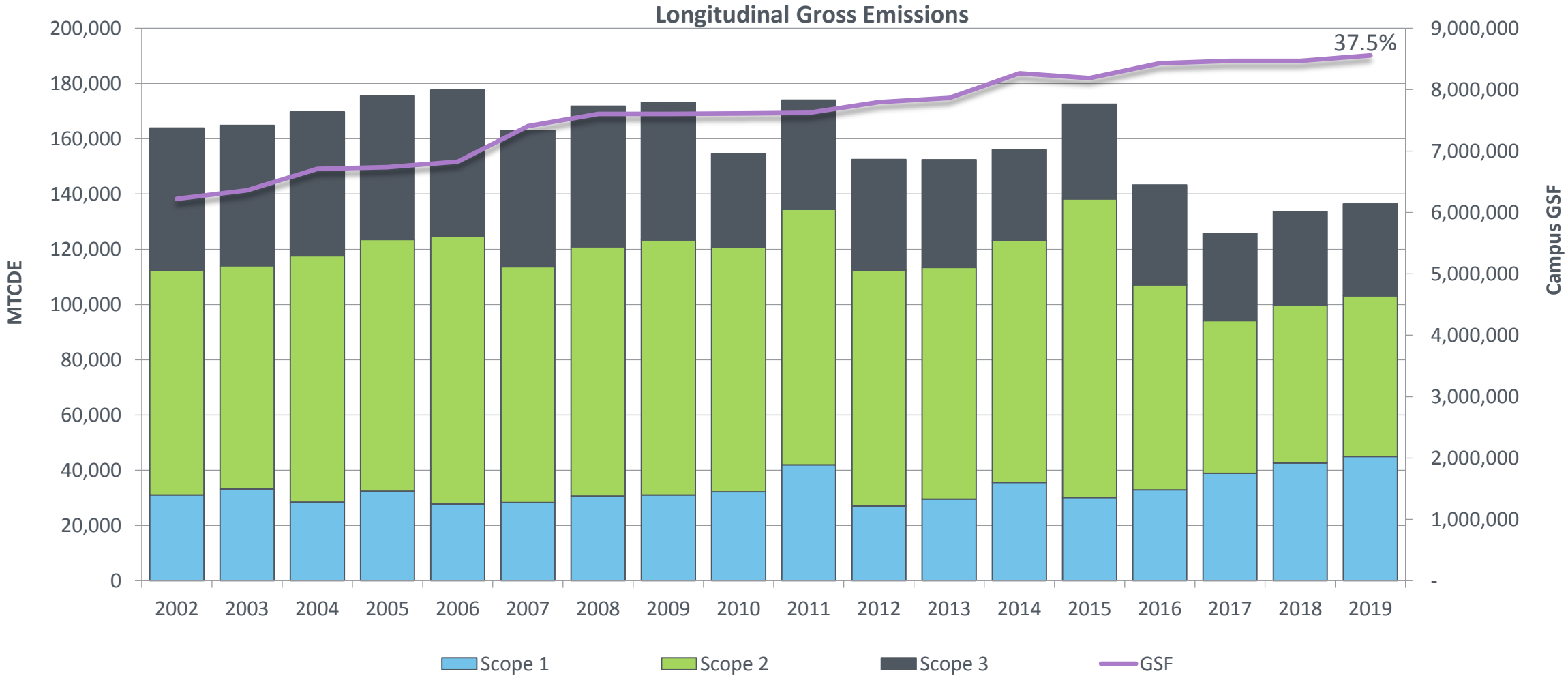


Sources of Campus Emissions



Emissions Grow Slightly in FY19

Overall emissions had increased primarily from scope 1 emissions



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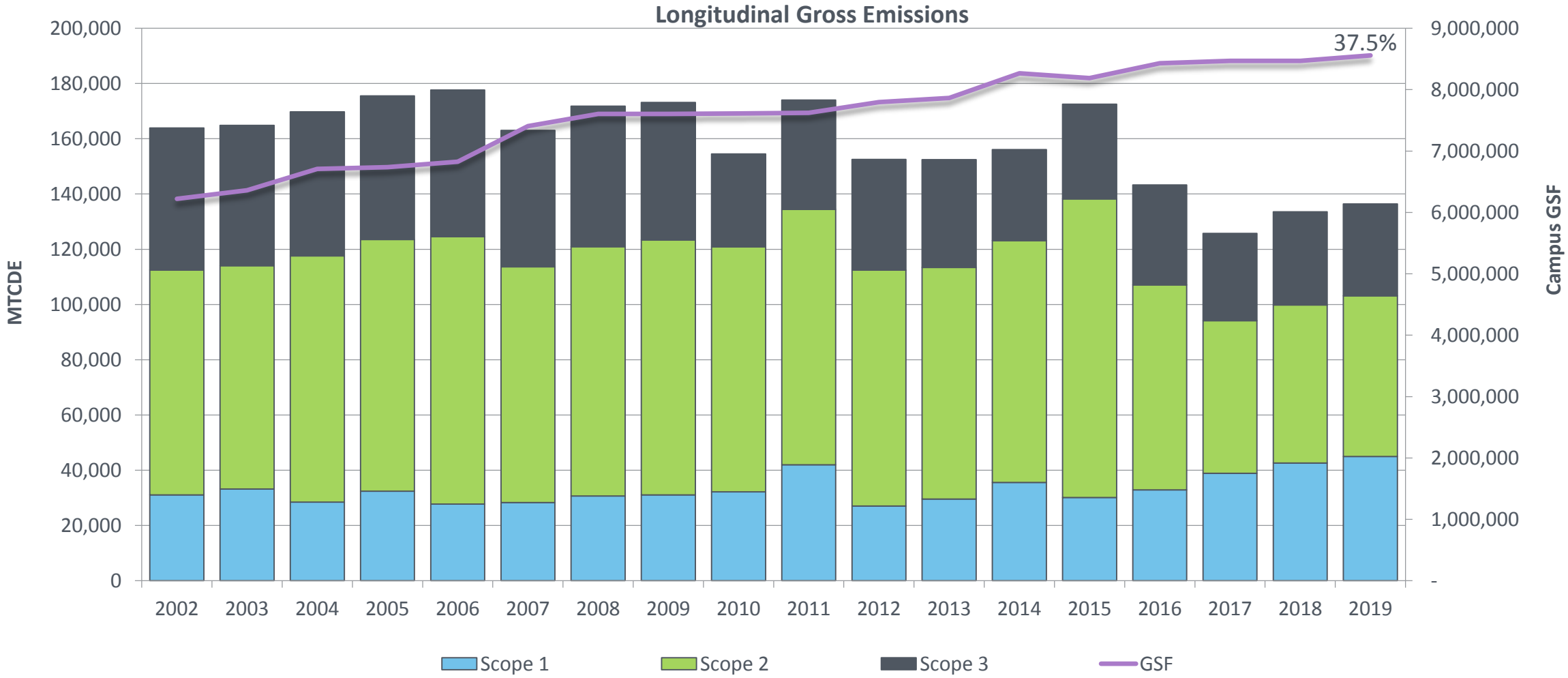
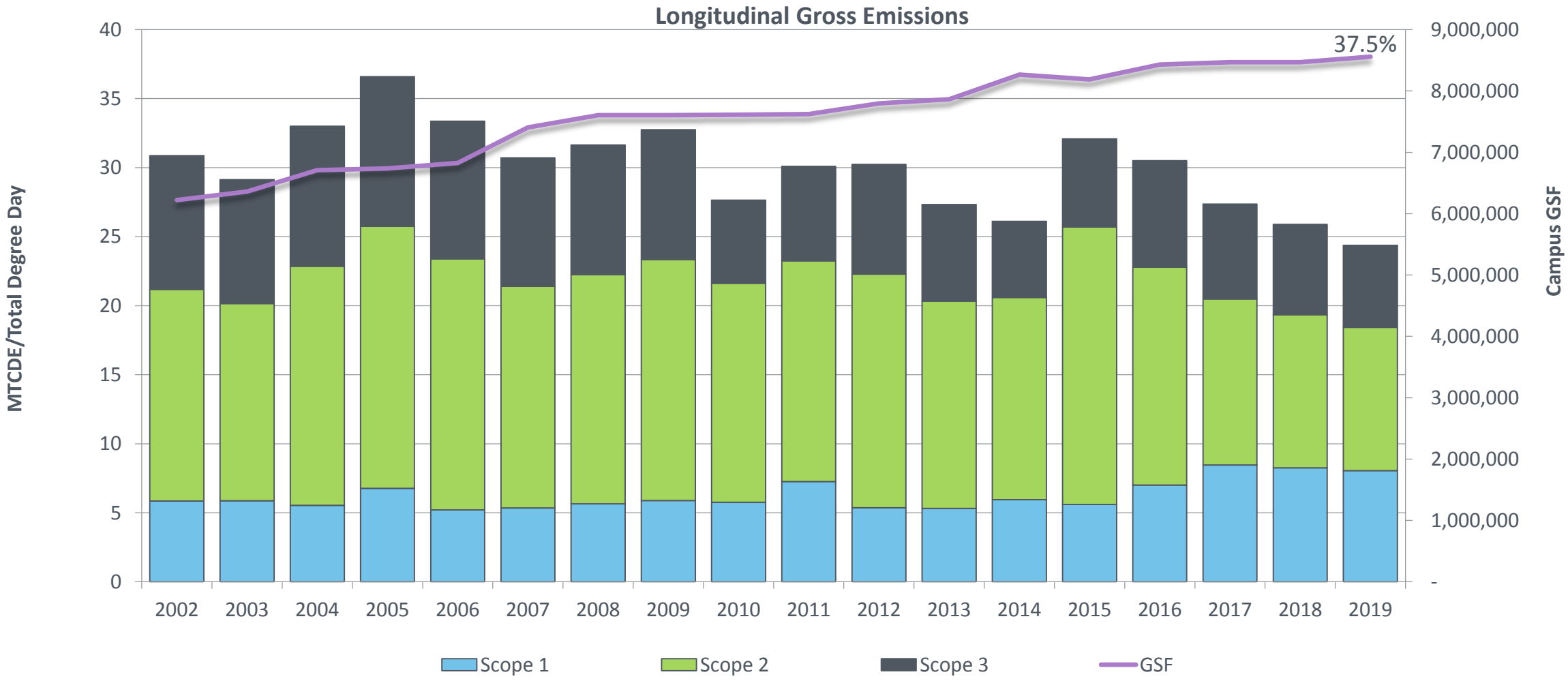
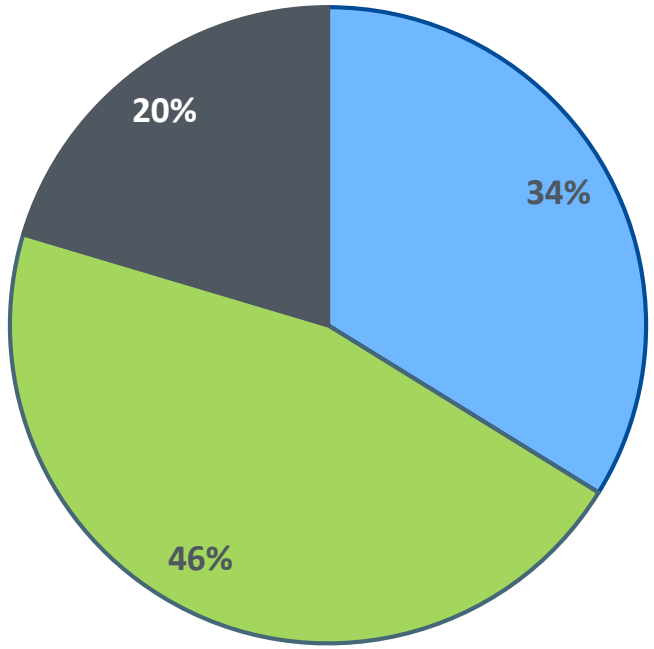


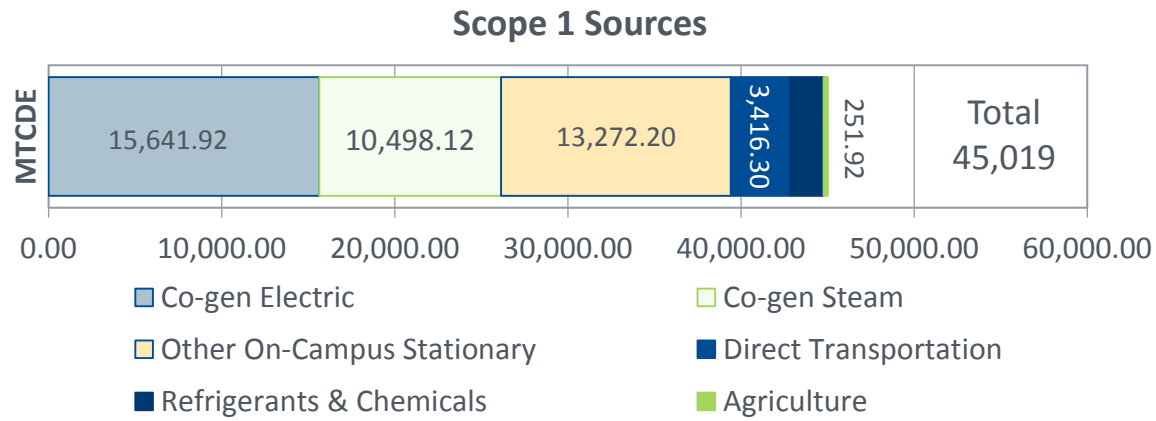
Emissions By Degree Day

Controlling for degree days less was emissions have been steadily dropping

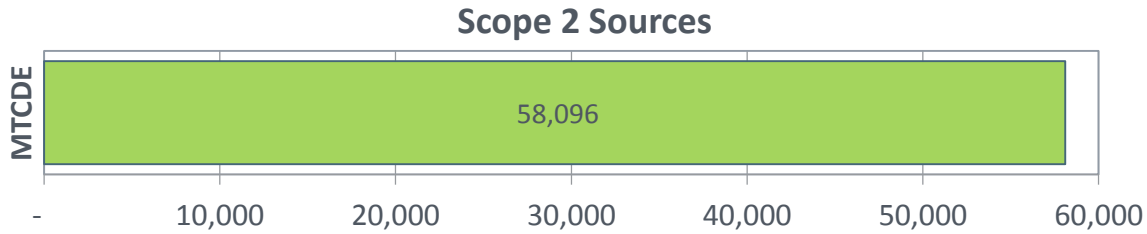


Distribution of Emissions by Source

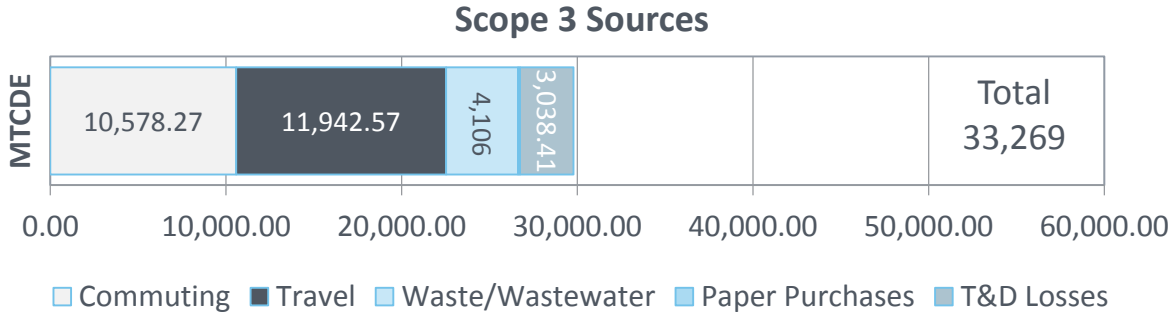




FY18: 42,595

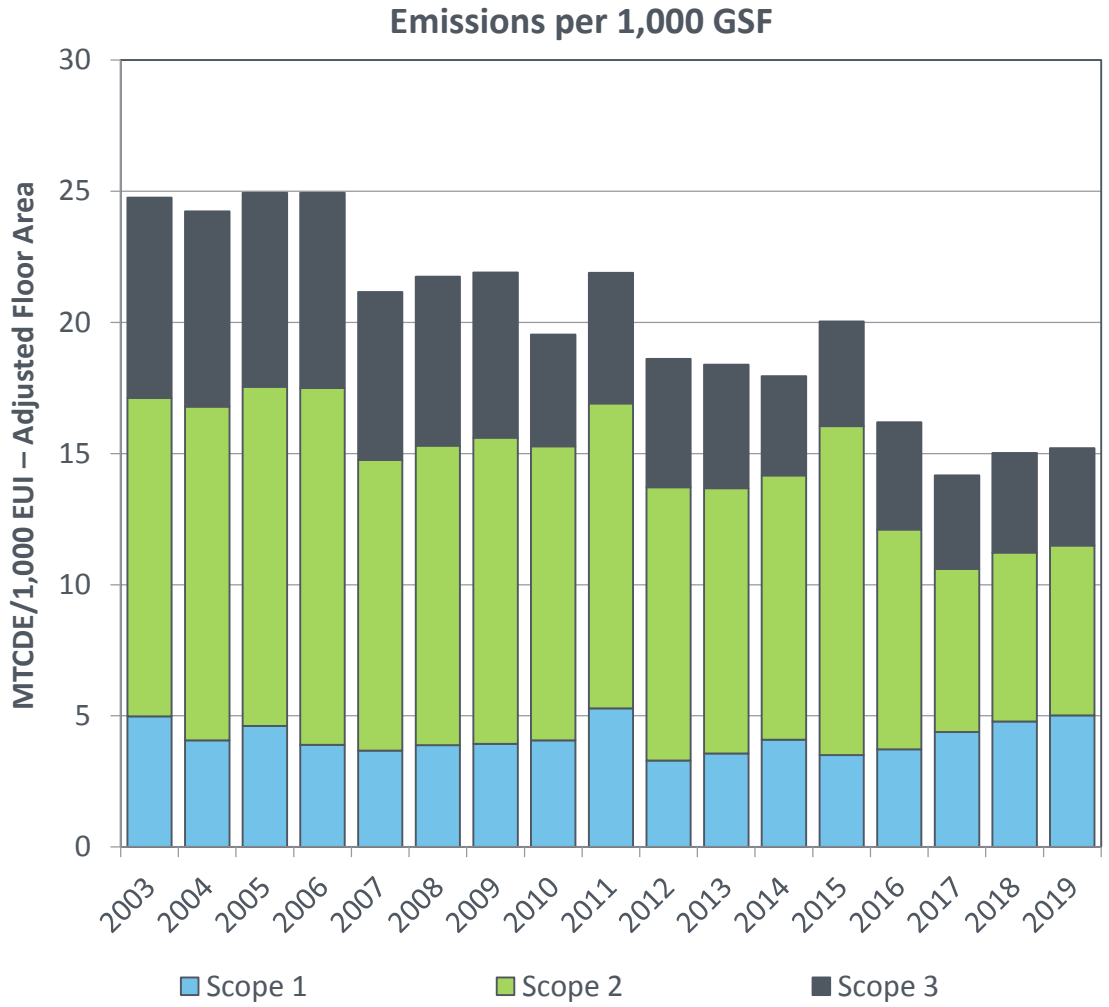


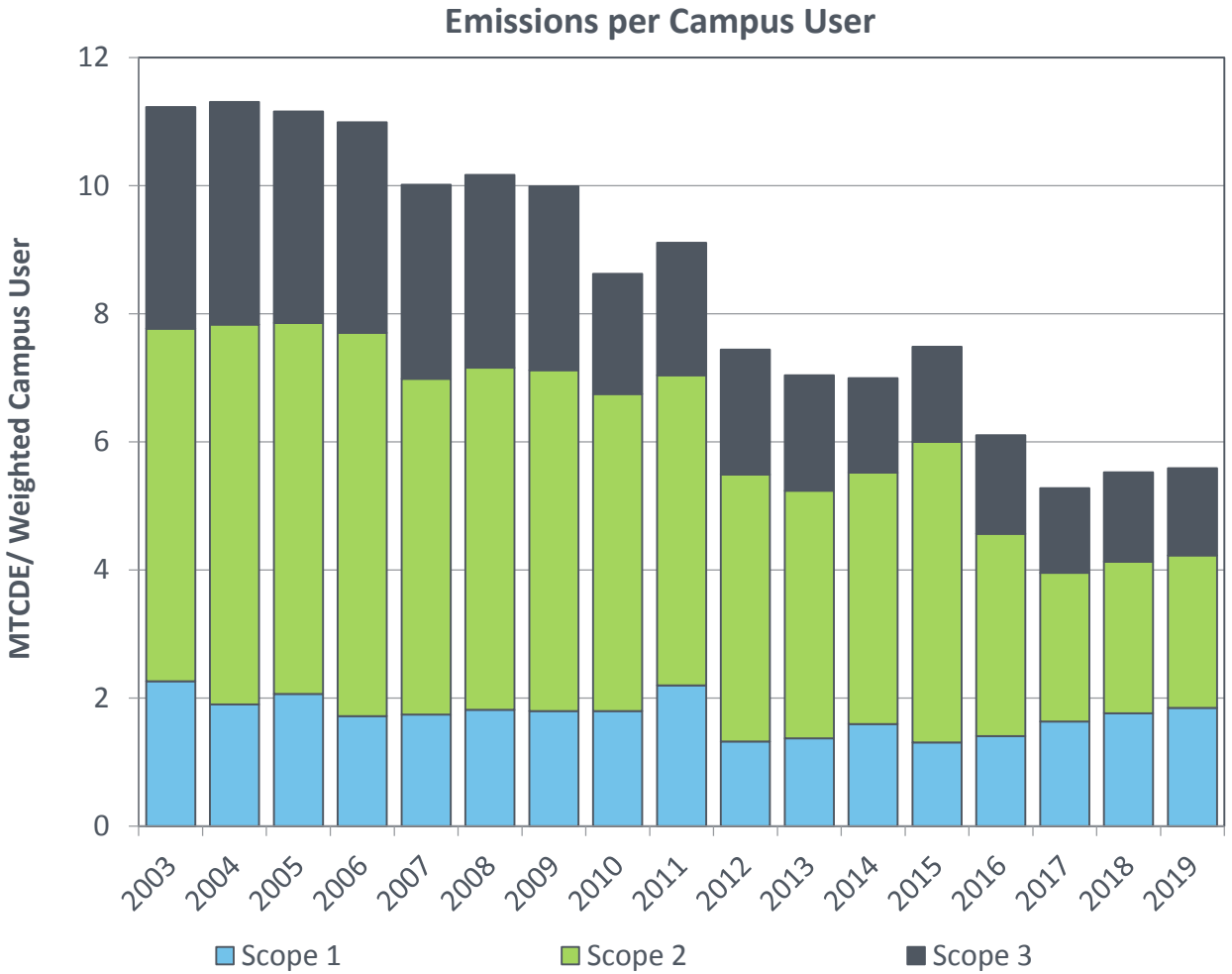
FY18: 57,249



FY18: 30,696

Emissions Trending is Consistent with FY18

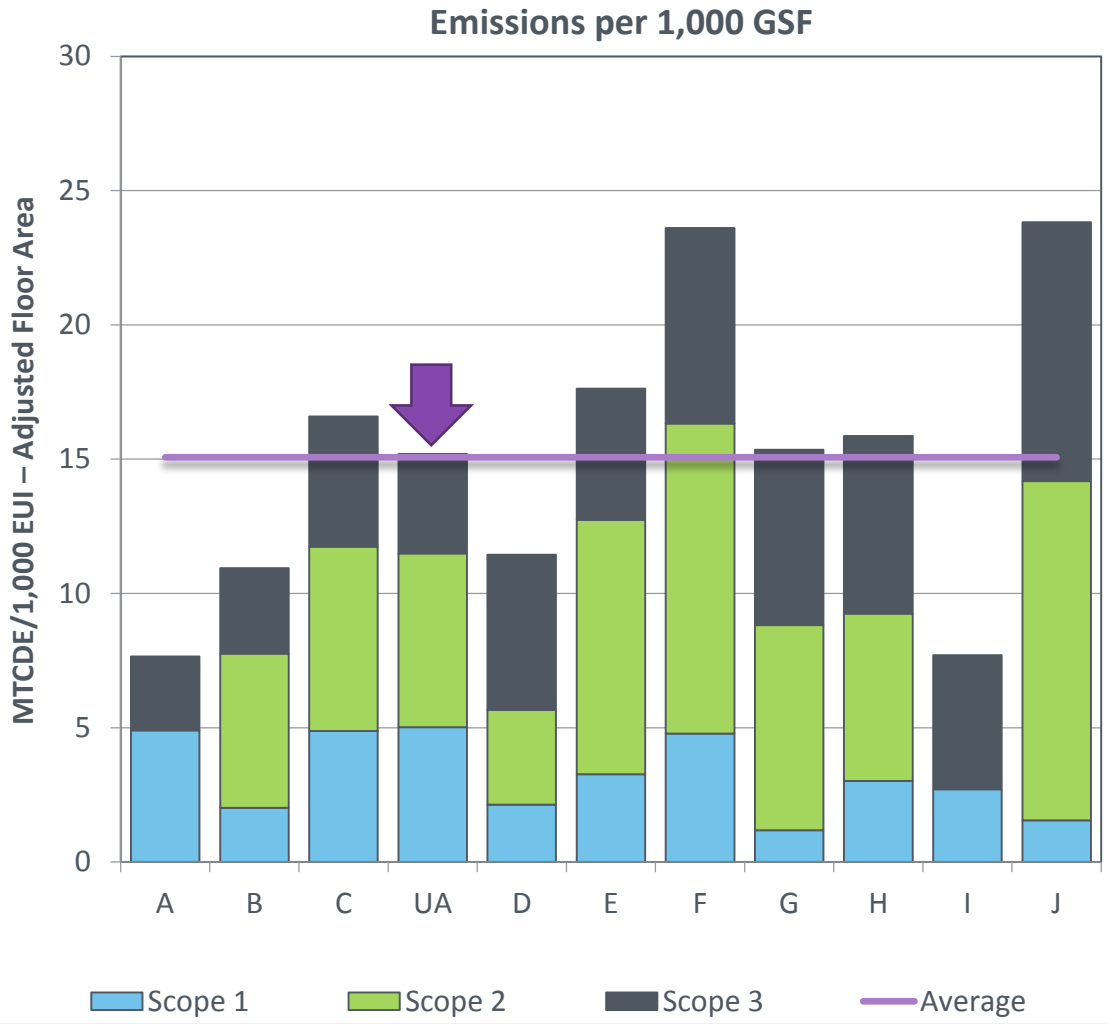


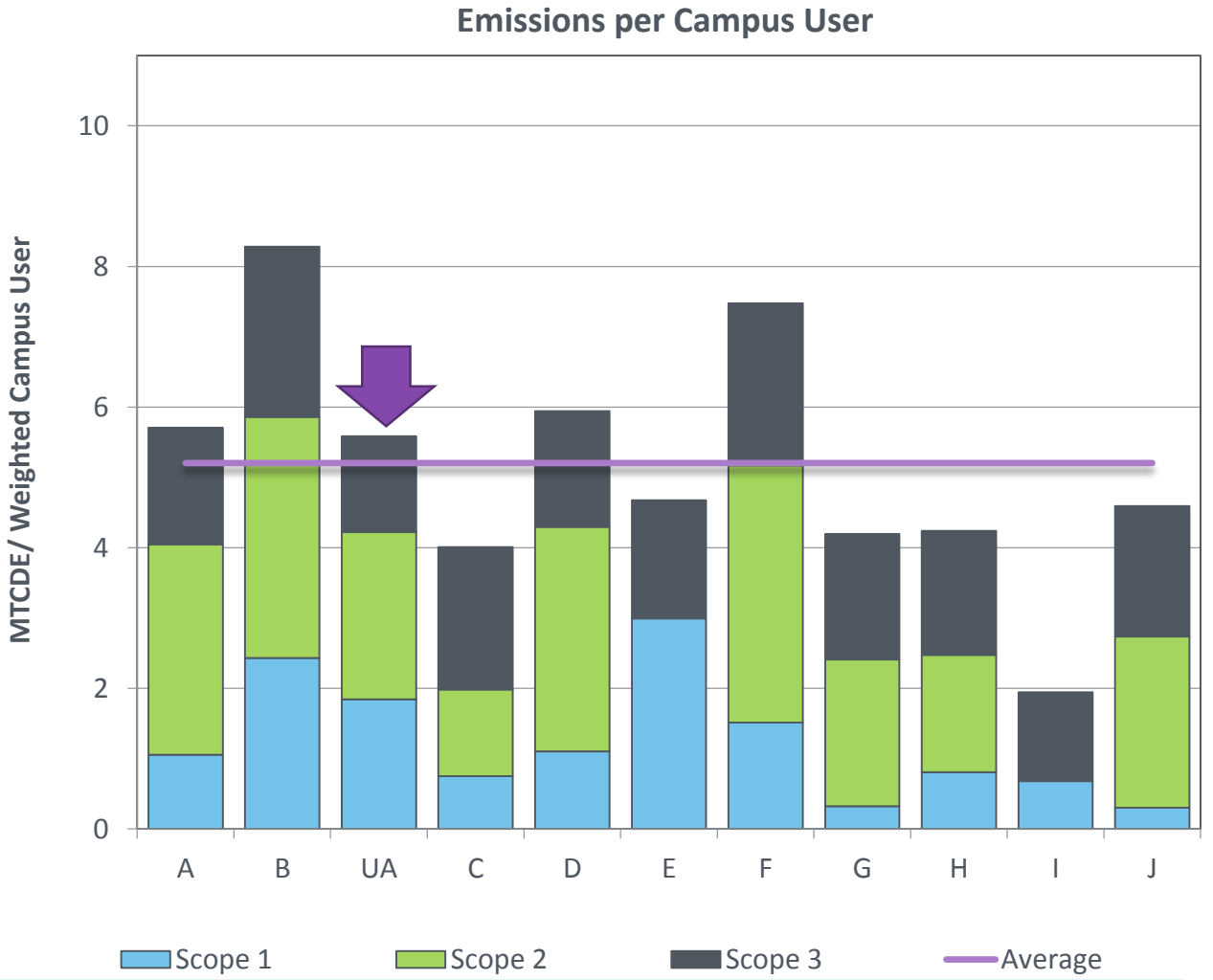


sightlines
a GORDIAN company

UA: Emissions Consistent With Peer Levels

UA emits slightly more per campus user



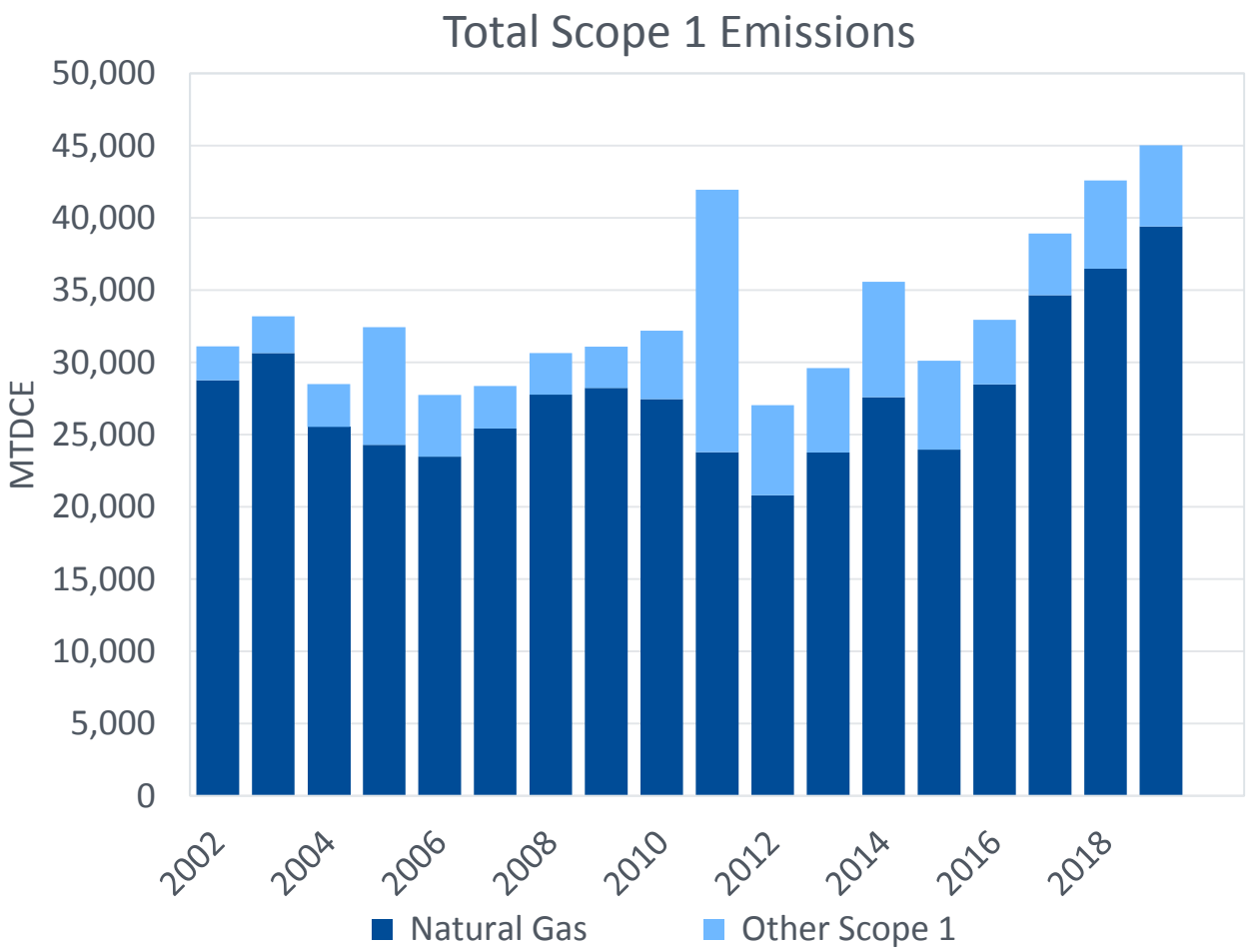


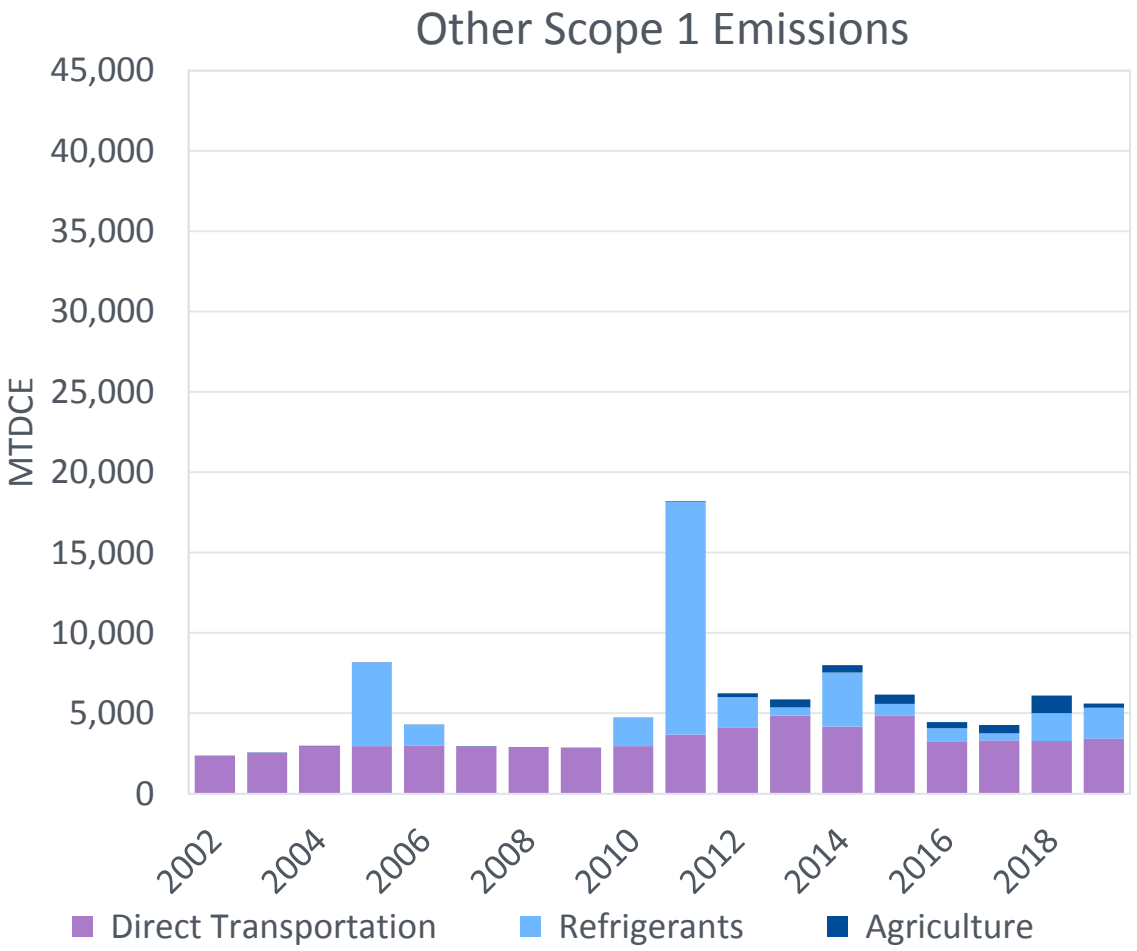
*Arrayed by density

sightlines
a GORDIAN company

Increase in Degree Days Led to Higher Scope 1 Emissions

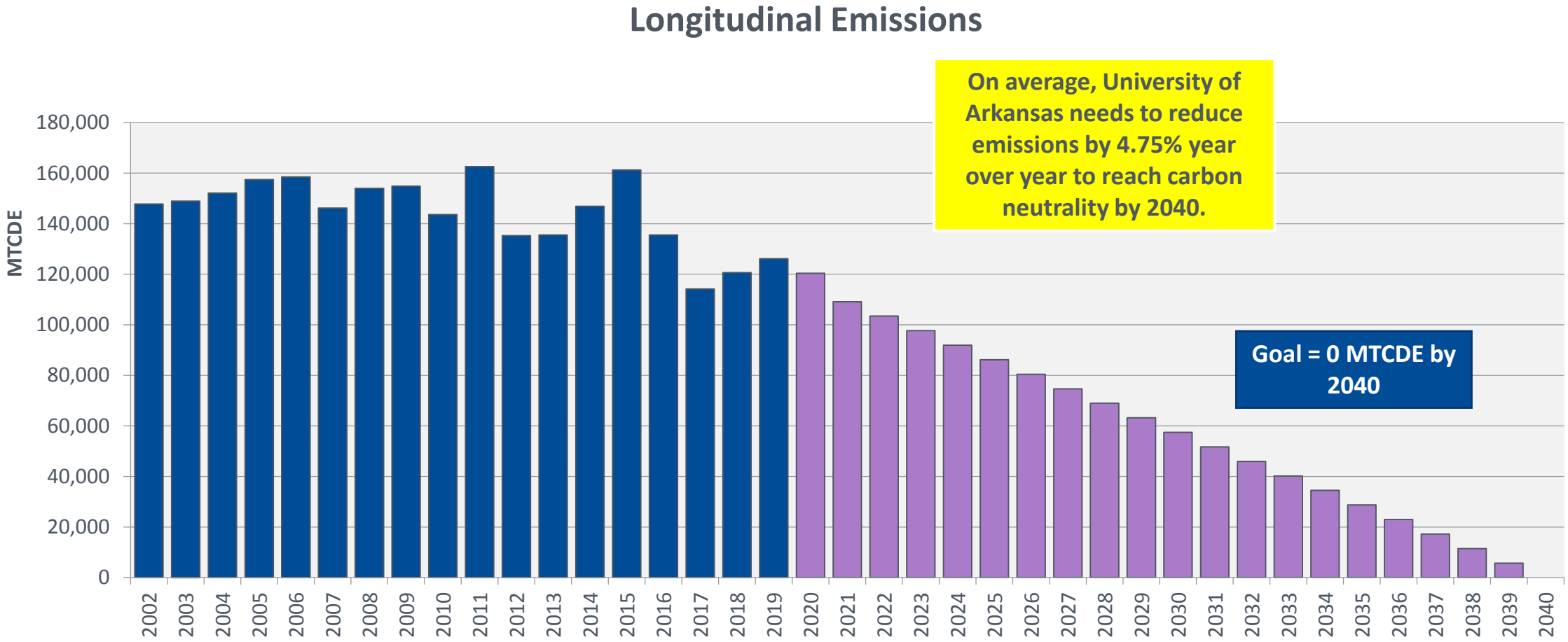
Increase in scope 1 emissions largely due to increased natural gas usage





Progress Towards Neutrality Date (21 Years Remaining)

.8% year over year reduction since 2002



Power Purchase Agreements – RECs with Additionality

Power Purchase Agreement:

An agreement in which an institution or business agrees to purchase the power generated from a green energy project, allowing the project to be financed, and the purchaser to obtain RECs.

-A PPA can be virtual or physical (must be virtual in Arkansas)

-Additionality

-Fiscally strategic - Avoid the volatility of the commodities market.

-Avoid grid fees and taxes (depending on local legislature)

Best Practices When Entering Into a PPA:

1. Research if tax credits are available.
2. Negation of PPA: it is an open market - put out a bid.
3. Assemble project team with legal knowledge.
4. Conduct economic analysis. Set targets - can you make up costs in x number of years?
5. Include performance clauses within agreement.

Boston University – A Case Study

Scope:

BU agreed to purchase 205K megawatt hours of wind power from ENGIE North America annually for 15 years. Coming online in 2020 in North Dakota, this project will produce power that will then be resold for use in the mid-west. BU intentionally purchased from a coal heavy grid in order to have the greatest impact in emissions reduction.

Additionality realized: "BU's financial strength and a 15-year cash flow to the seller would enable the project to get financed and move forward."

Strategy and Goal:

1. Formed the Advisory Committee on Socially Responsible Investing which addressed the question of how to divest from fossil fuel.
2. Led to the creation of a climate action plan and climate action task force.
3. Task force Identified PPA as key aspect of plan.
4. Climate action task force obtained approval from trustees and entered into PPA with ENGIE North America.
5. Goal: Reach carbon neutrality date by 2040

Case Study – Joint Investment in Renewables

“Five leading liberal arts colleges partner to create new solar energy facility in Maine”
https://www.competitive-energy.com/news/five-leading-liberal-arts-colleges-partner-to-create-new-solar-energy-facility-in-maine

- 5 of the nations leading liberal arts colleges have formed a pioneering collaborative that will allow them to offset 46,000 megawatt hours per year of their collective electrical needs with electricity created at a new solar power facility to be built in Farmington, Maine.
- Partnered with a subsidiary of NextEra Energy Resources, the worlds largest generator of renewable energy from the wind and the sun
- The company will construct a universal-scale solar power facility that annually will create enough electricity to power about 5,000 New England homes.
- Each of the colleges will purchase zero-carbon electricity from the Maine site to reduce carbon emissions from campus electricity use. The facility is expected to open in 2019.

Sustainability - Key Takeaways

Recent Progress, But Facing Potential Slow-Down

- The introduction of cogeneration on campus has resulted in a significant decrease in emissions. However, in order to achieve neutrality by 2040, emissions will need to continue to decrease by 4.75% annually. In each of the last two years emissions have risen slightly.
- UA's Transportation Survey has revealed that within recent years both students, faculty and staff have all made significant shifts to reduce commuting emissions; utilize survey data to further target additional reductions, but more importantly to increase campus engagement

Achieving Carbon Neutrality – Going on the Offensive

- Campus utilities continue to represent the bulk of the emissions profile. As the campus continues to grow in both GSF and FTE, consider the creative strategies shared via case study: renewable fuel oil, power purchase agreements, "green" travel tax and/or sequestration

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UA Zero Waste
2020 Update

GOAL

90% DIVERSION BY 2040

DIVERSION vs AVERSION

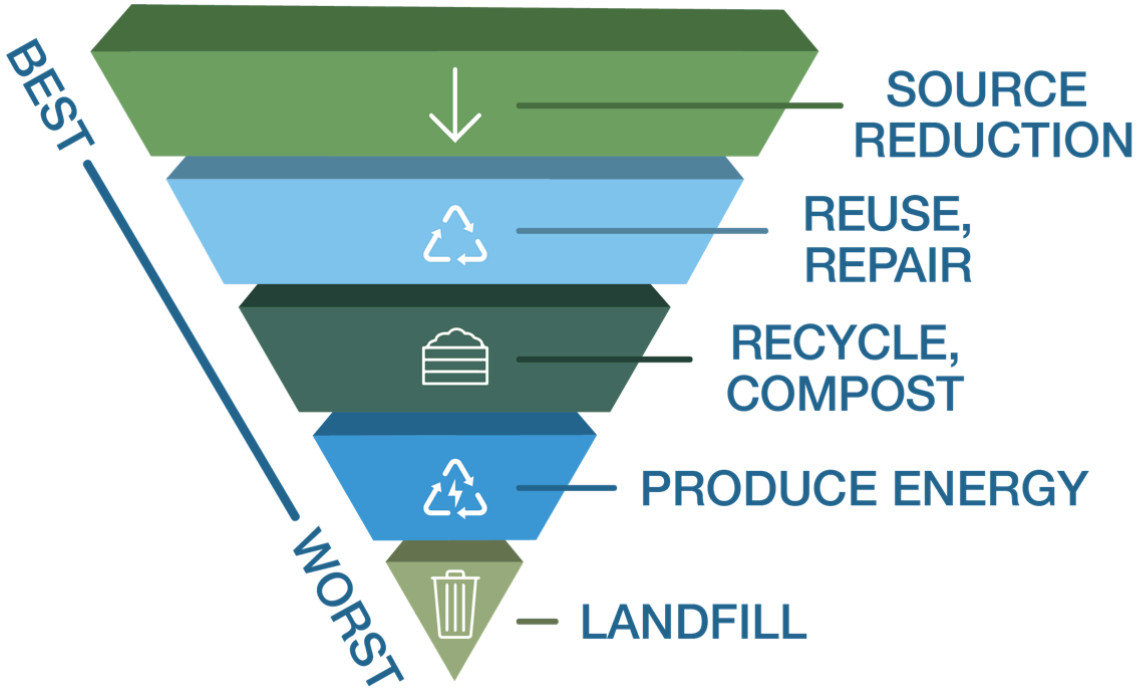
Waste diversion is the repurposing of goods in some shape or form, while waste aversion is the practice of avoiding wasteful goods entirely, For example, one could divert a plastic bottle by recycling it, or avert it completely by bringing one's own bottle.

PROGRESS

INTERMEDIATE GOALS

2021	→	50%
2027	→	70%
2040	→	90%

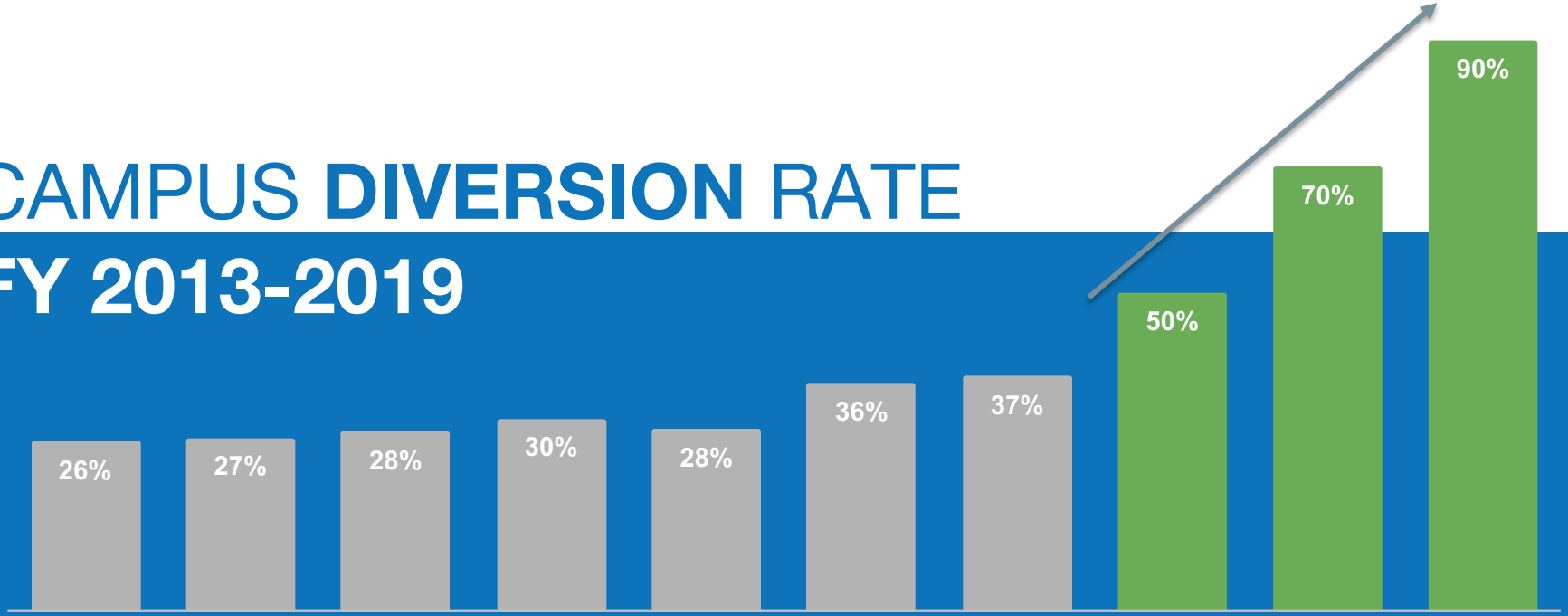
WASTE HIERARCHY



WASTE DIVERSION

CAMPUS **DIVERSION** RATE

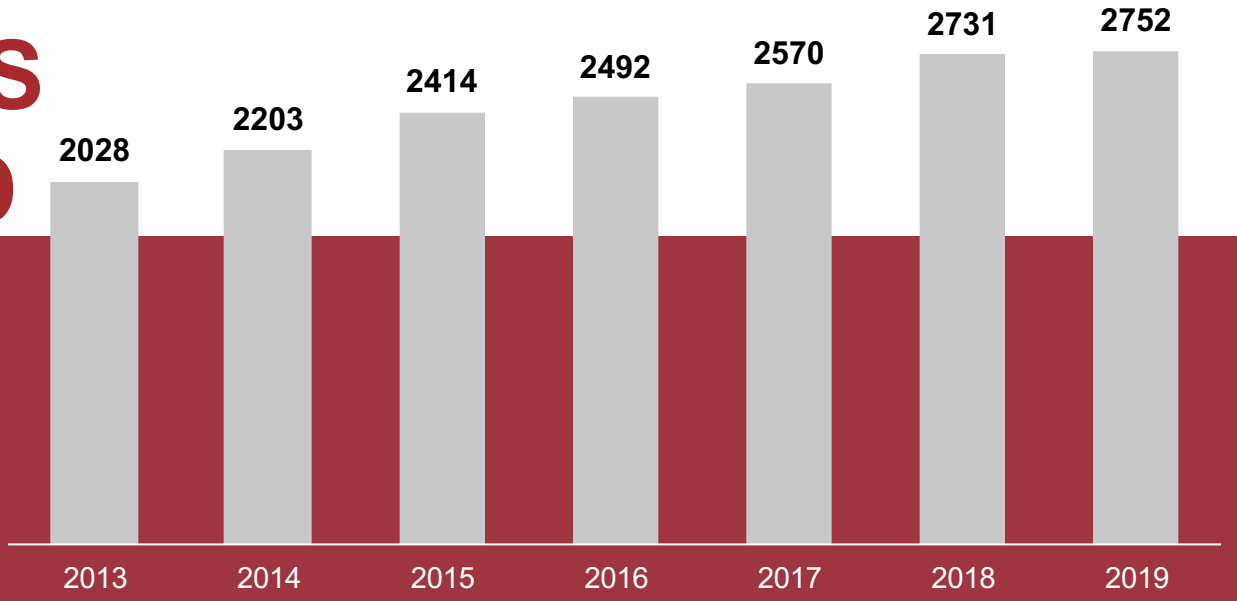
FY 2013-2019



LANDFILL

SHORT TONS LANDFILLED

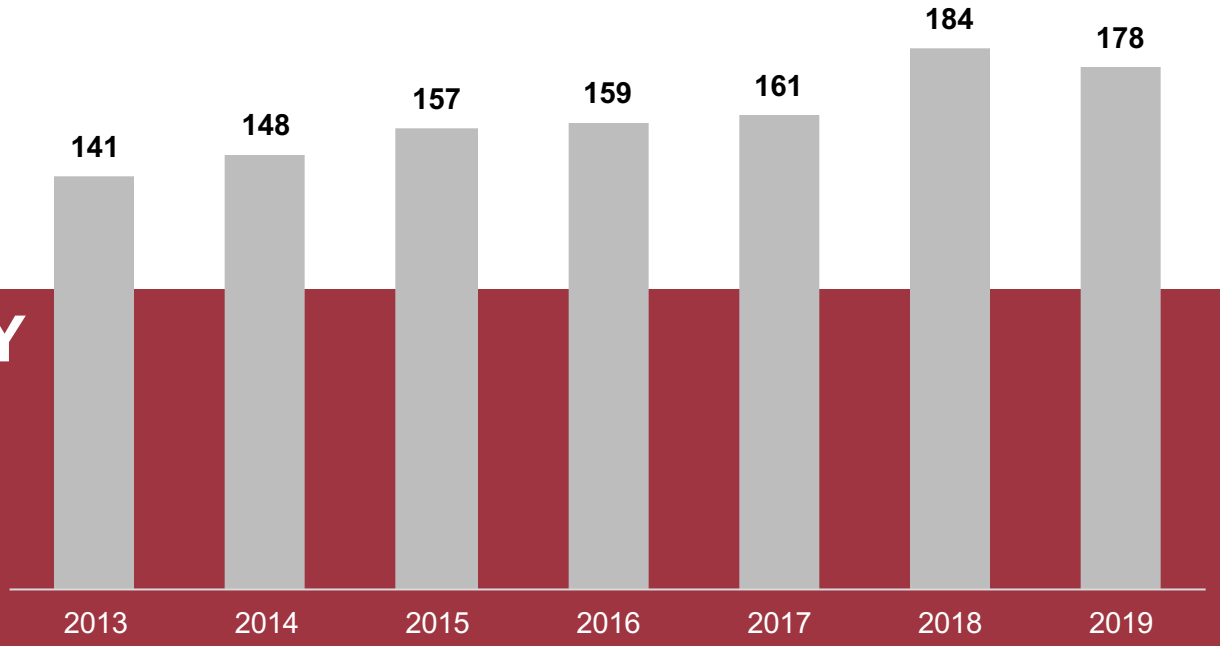
FY 2011-2019



LANDFILL

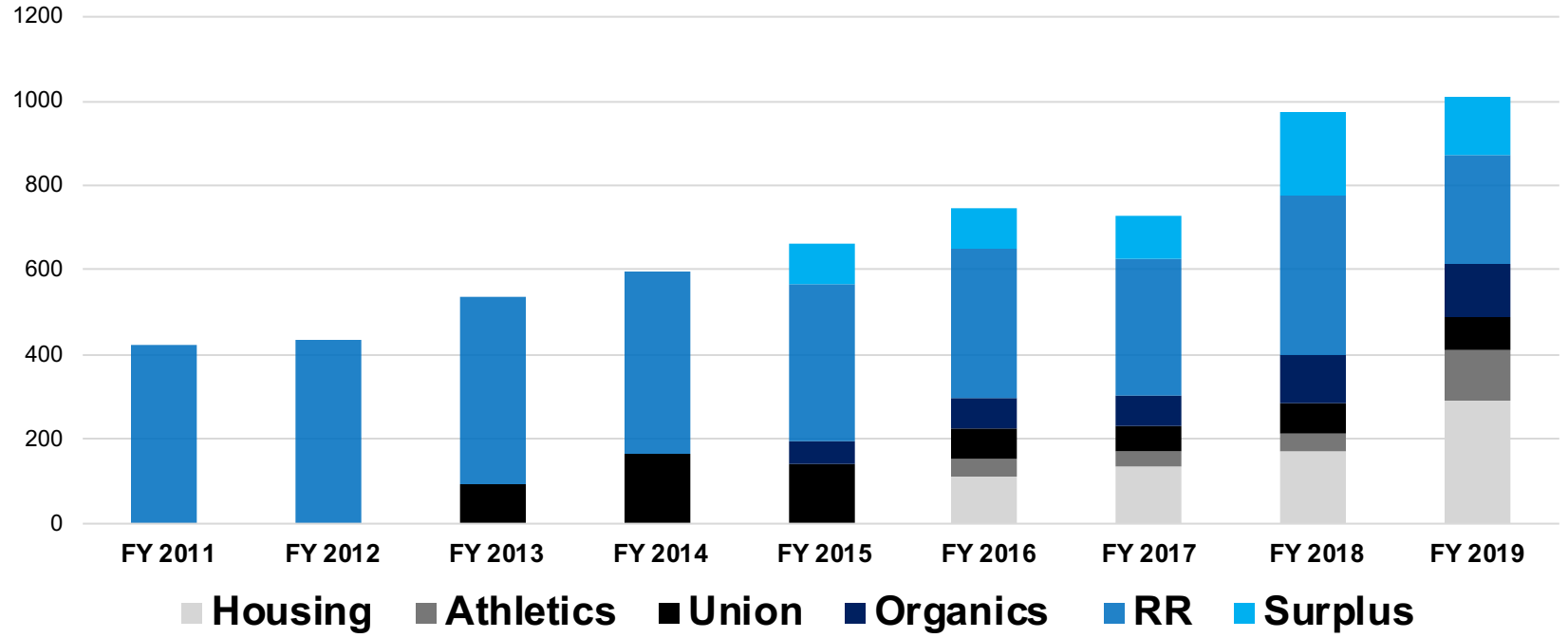
POUNDS LANDFILLED

Per Campus User FY 2011-2019



DIVERSION

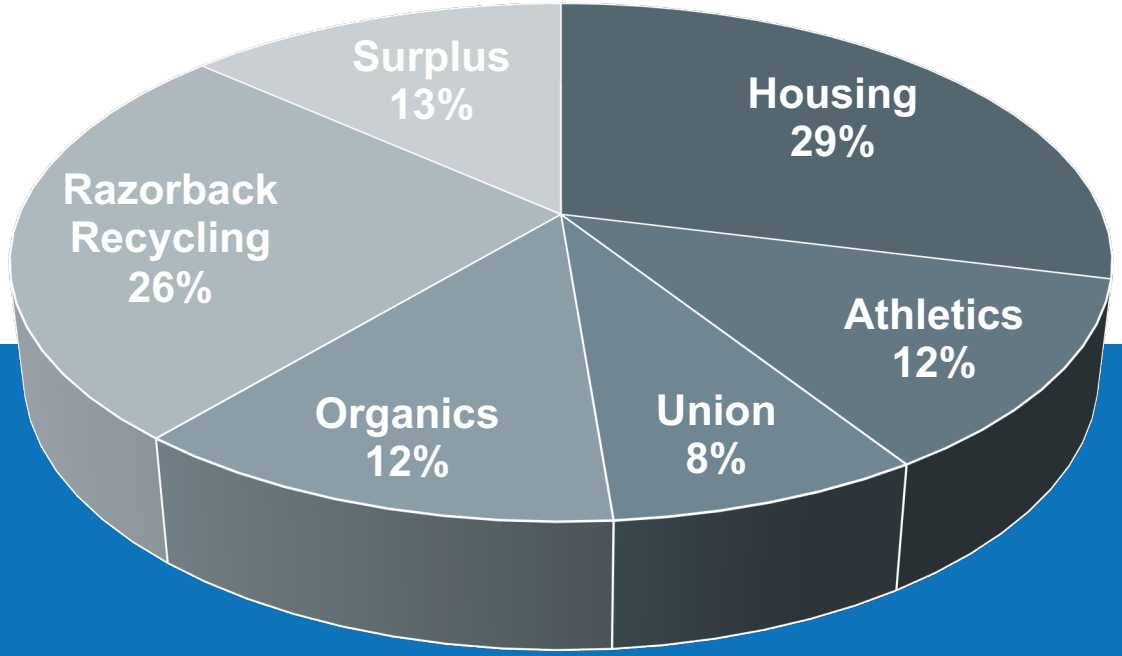
TOTAL SHORT TONS DIVERTED BY DEPARTMENT



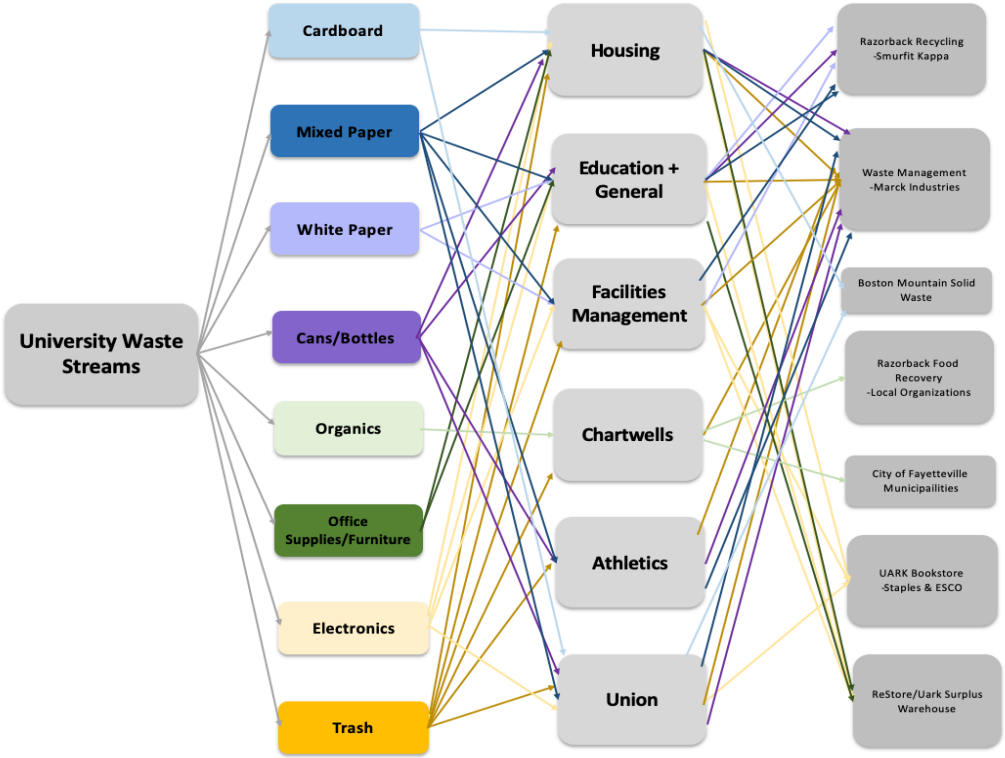
DIVERSION

1009 SHORT TONS DIVERTED

FY 2019



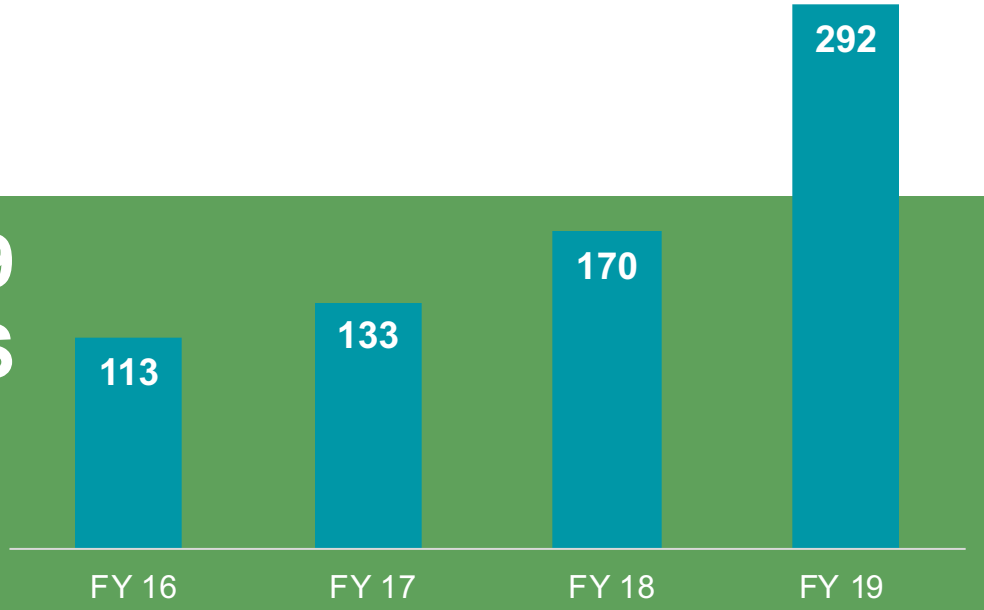
UA RECYCLING



RECYCLING

HOUSING

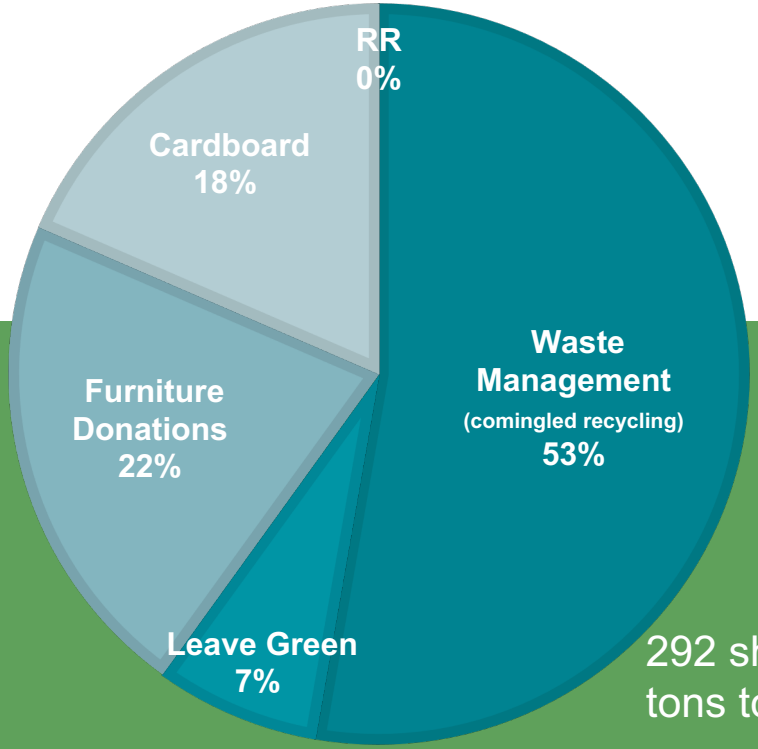
FY 2016-2019
DIVERTED MATERIALS



RECYCLING

HOUSING

FY 2019 DIVERTED MATERIALS

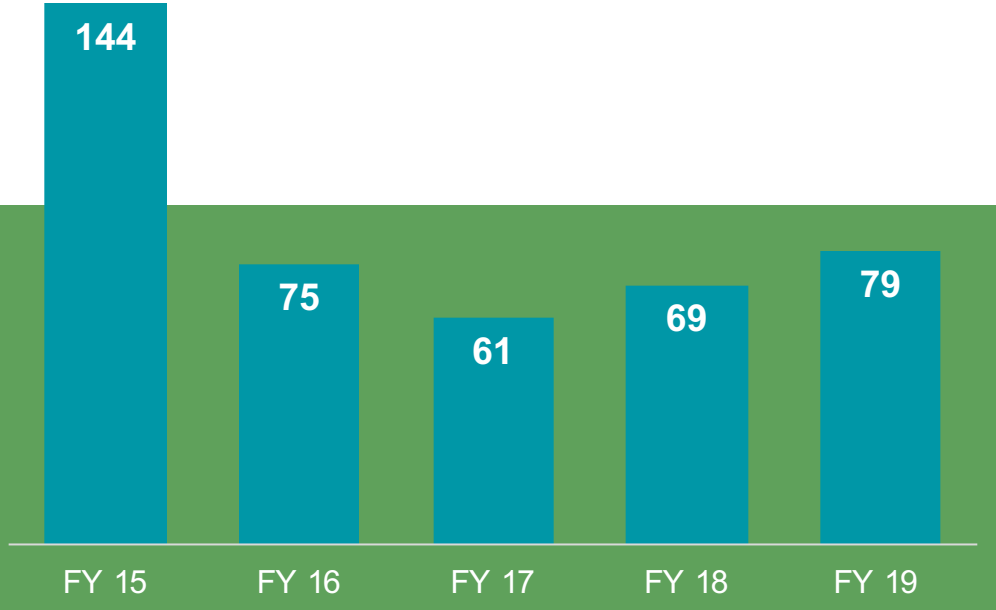


292 short tons total

RECYCLING

UNION

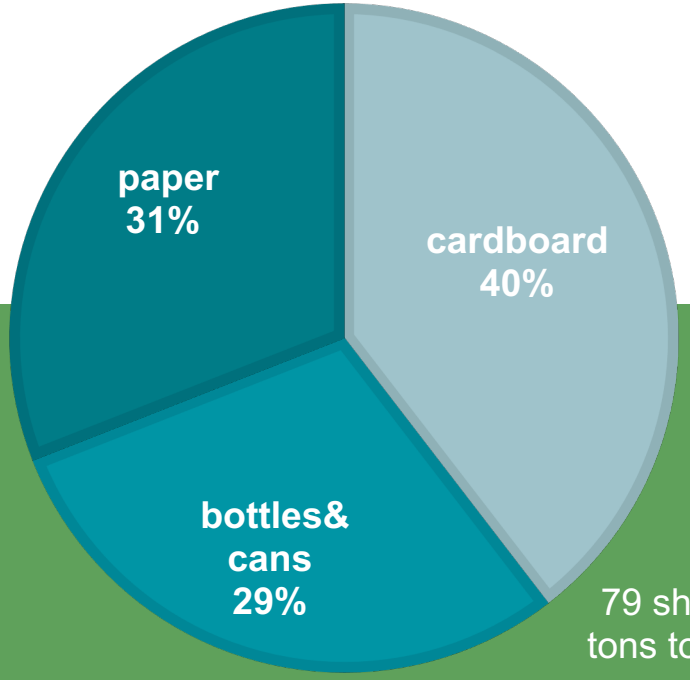
FY 2015- 2019
TONS RECYCLED



RECYCLING

UNION CONTRIBUTIONS

FY 2019 RECYCLED MATERIALS

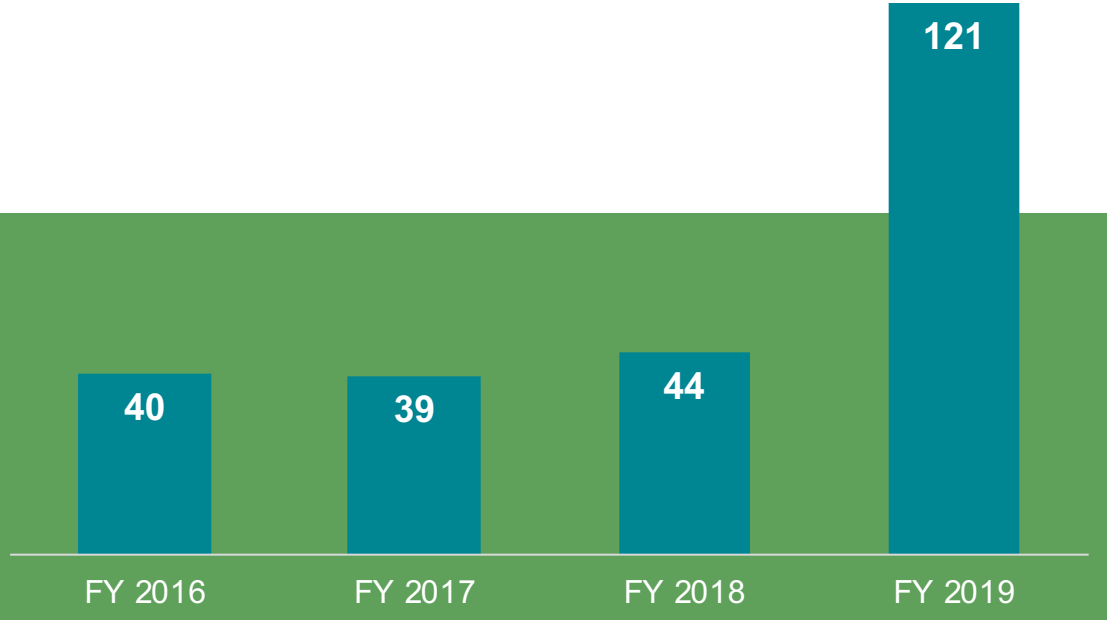


79 short tons total

RECYCLING

ATHLETICS

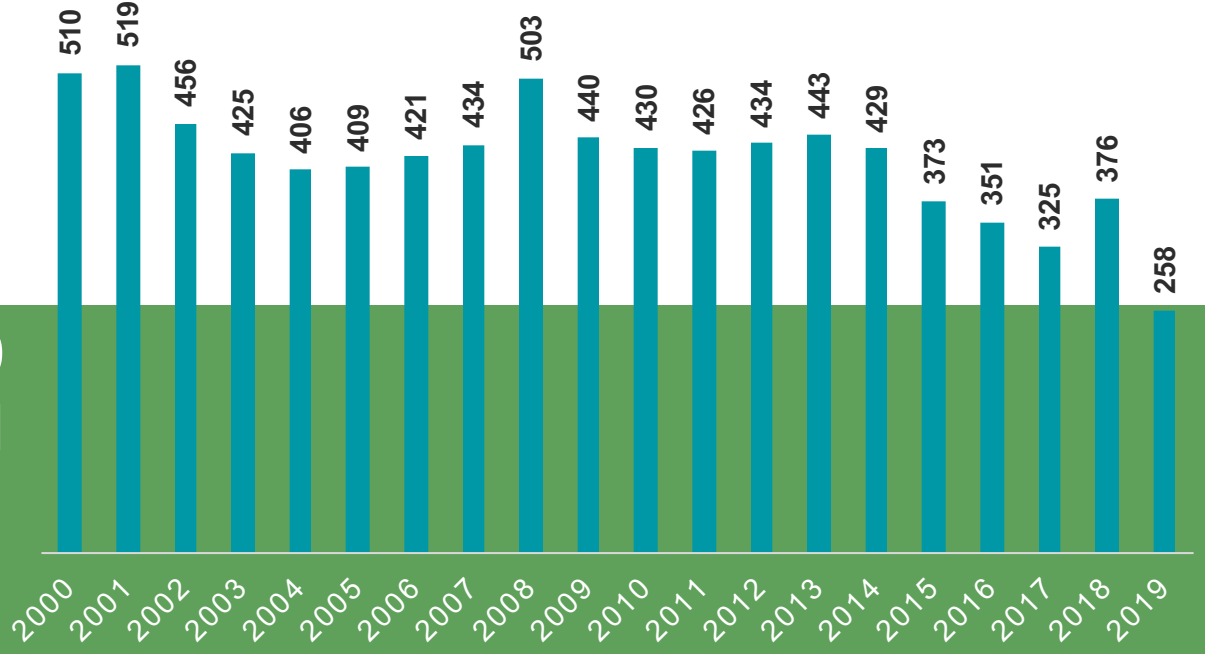
FY 2016- 2019
TONS RECYCLED



RECYCLING

RAZORBACK RECYCLING

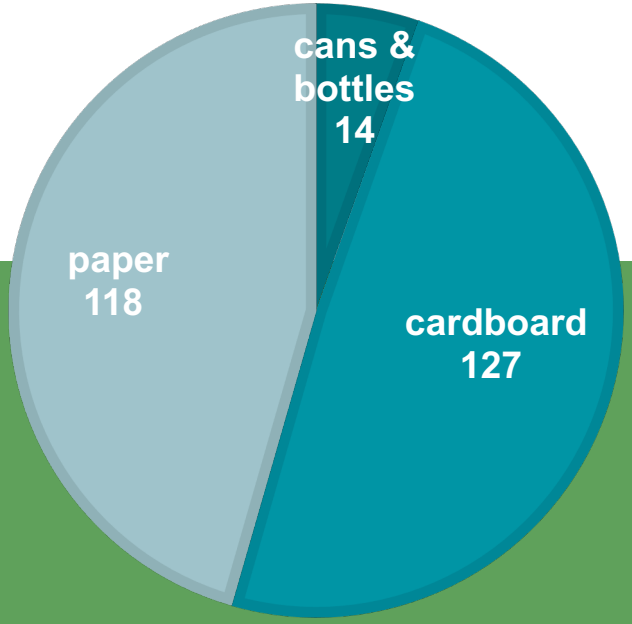
FY 2000-2019 DIVERSION



RECYCLING

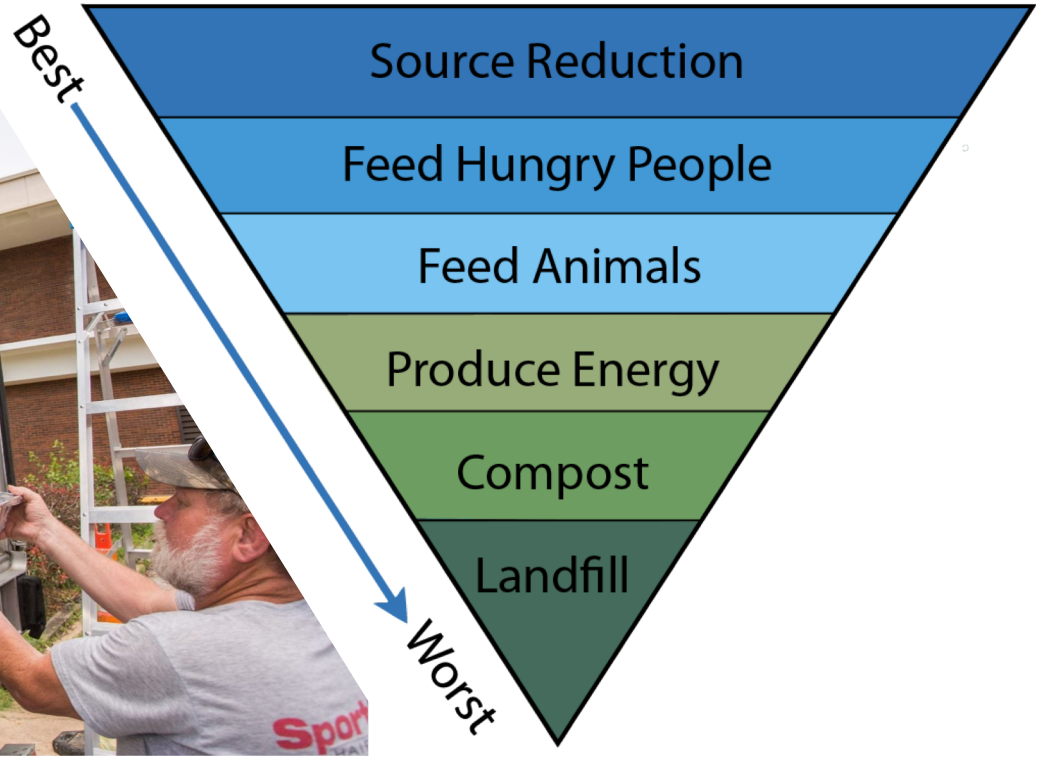
RAZORBACK RECYCLING

FY 2019

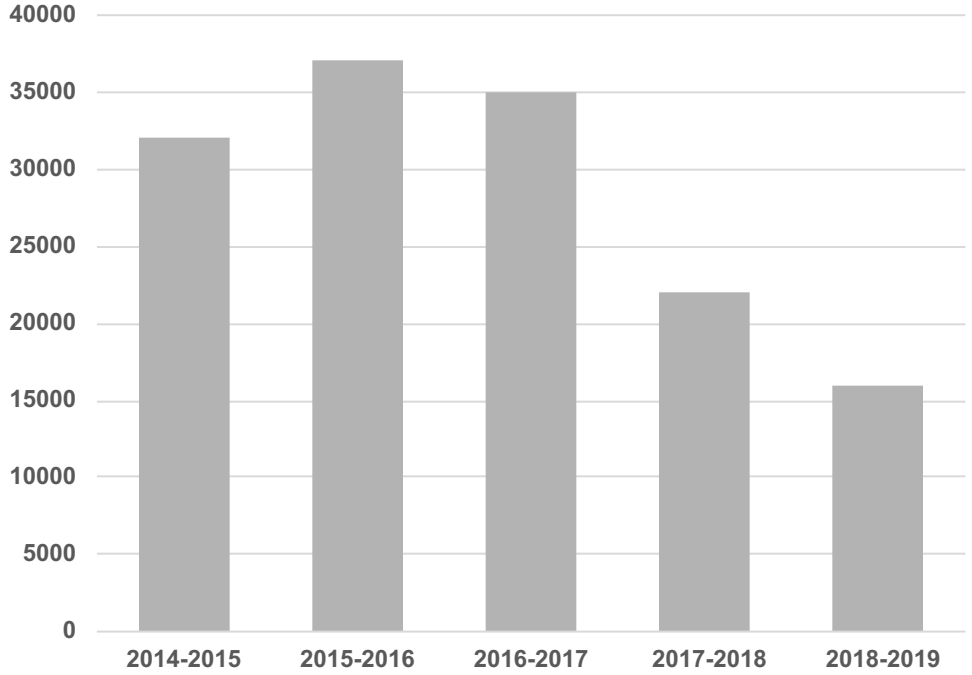


258 short tons total

ORGANIC MATERIAL



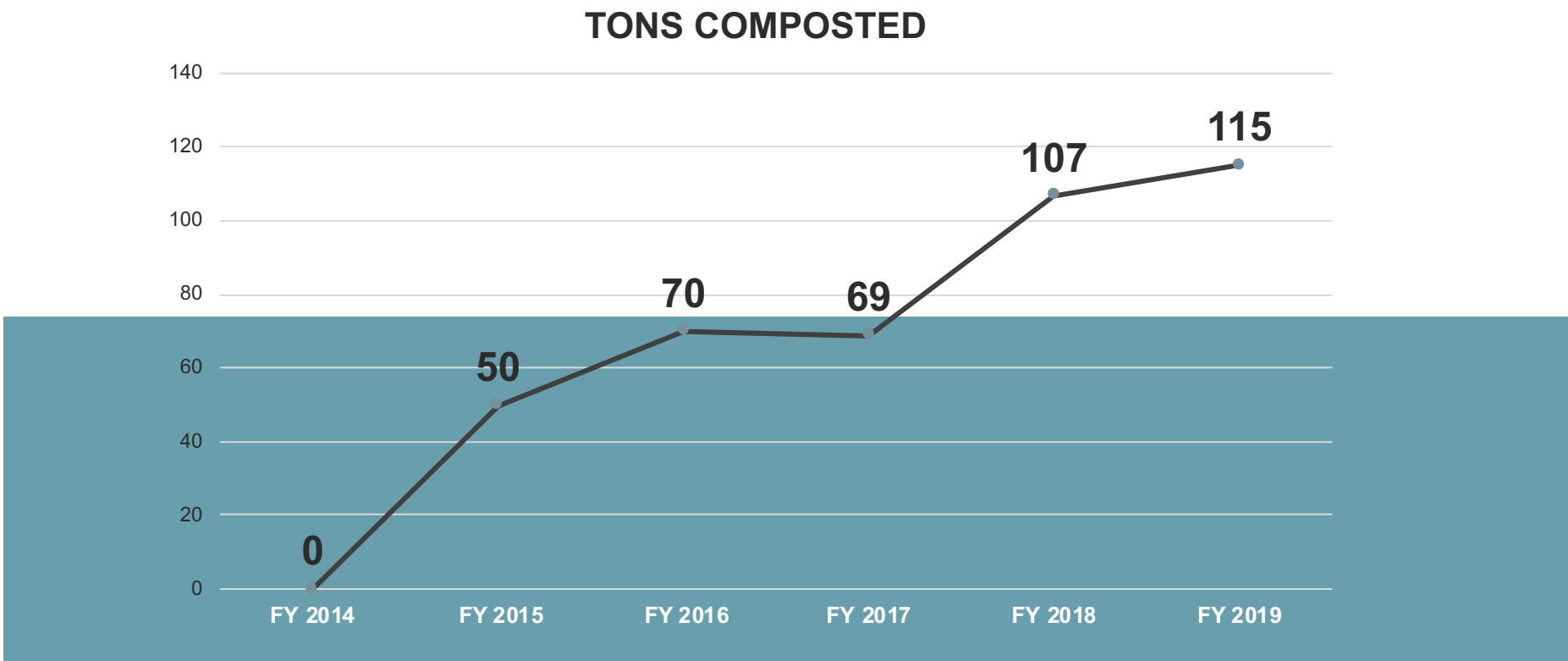
RAZORBACK FOOD RECOVERY



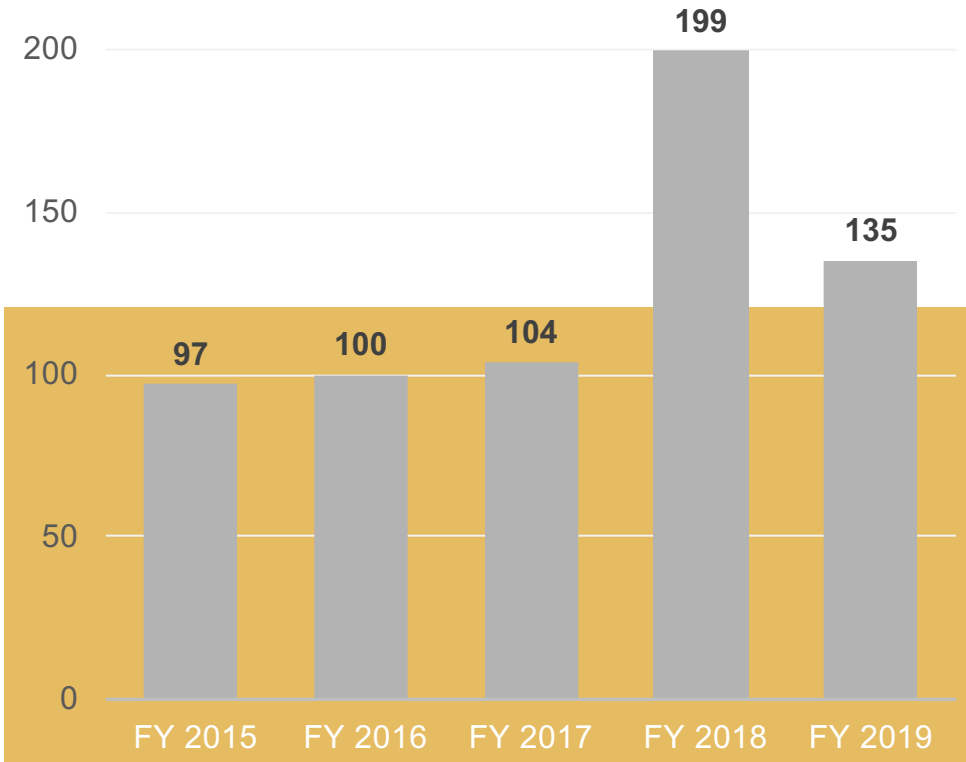
COMPOSTING


Fruits
Coffee grinds & tea with filters
Eggs & egg shells
Food-soiled paper: paper bags, paper towels, paper napkins, waxed cardboard boxes
Cooked meats & fish: shells, bones, wooden skewers, wooden cocktail sticks
Vegetables
Consumable liquids
Acceptable Food Waste Materials
Processed Foods: pizza, cereal, chips, crackers, cooked meats, plate scraps
Bread, dough, bakery items, pasta, grains
Dairy: milk, cheese, yogurt
Items NOT Accepted:
• Raw Meats (fish, poultry, pork, seafood)
• Plastic bags, serveware, utensils, twist ties, rubberbands
• Wood, metal, glass or other non-food items
• Fats, oils, grease, non-consumable liquids, vegetable oil, lard

COMPOSTING


TONS COMPOSTED
140
120
100
80
60
40
20
0
0
50
70
69
107
115
FY 2014
FY 2015
FY 2016
FY 2017
FY 2018
FY 2019

SURPLUS WAREHOUSE



2019 FY DIVERSION

-Electronics and Research Equipment
-University Vehicles
-Various Recycled Metals

ELECTRONIC WASTE

INDIVIDUAL **E-WASTE** RECYCLING & TRADE IN

Hosted by the University of Arkansas Bookstore

Accepted Materials

Most handheld, desktop, and office devices will be accepted.

GREEK LIFE SUSTAINABILITY SCORECARD

36% INCREASE IN **PARTICIPATION** FROM 2018-2019

7 of the 11 Panhellenic chapters participated in 2019

Zero Waste is the **largest category** with the **most points**

CITY OF FAYETTEVILLE

REDUCE

REUSE

RECYCLE

STUDENT EFFORTS

RSO
SUSTAINABILITY
coalition

ASSOCIATED STUDENT GOVERNMENT ASG 1921

NET IMPACT

University Programs

Recycle Backs


Recycle
aluminum, glass
plastic

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