

University of Tennessee Health
Science Center
University of Tennessee, Knoxville
University of Texas at Dallas
University of the Sciences in
Philadelphia
University of Toledo
University of Vermont
University of Washington
University of West Florida
University of Wisconsin - Madison
Vanderbilt University
Virginia Commonwealth University
Virginia Department of General
Services
Wake Forest University
Washburn University
Washington University in St. Louis
Wellesley College
Wesleyan University
West Chester University
West Liberty University
West Virginia Health Science Center
West Virginia Institute of Technology
West Virginia School of Osteopathic
Medicine
West Virginia State University
West Virginia University
Western Connecticut State University
Western Oregon University
Westfield State University
Widener University
Williams College
Worcester Polytechnic Institute
Worcester State University
Xavier University
Yale University



ROPA+

Champlain College

Presenters: Dan Willman and Josh Vidro

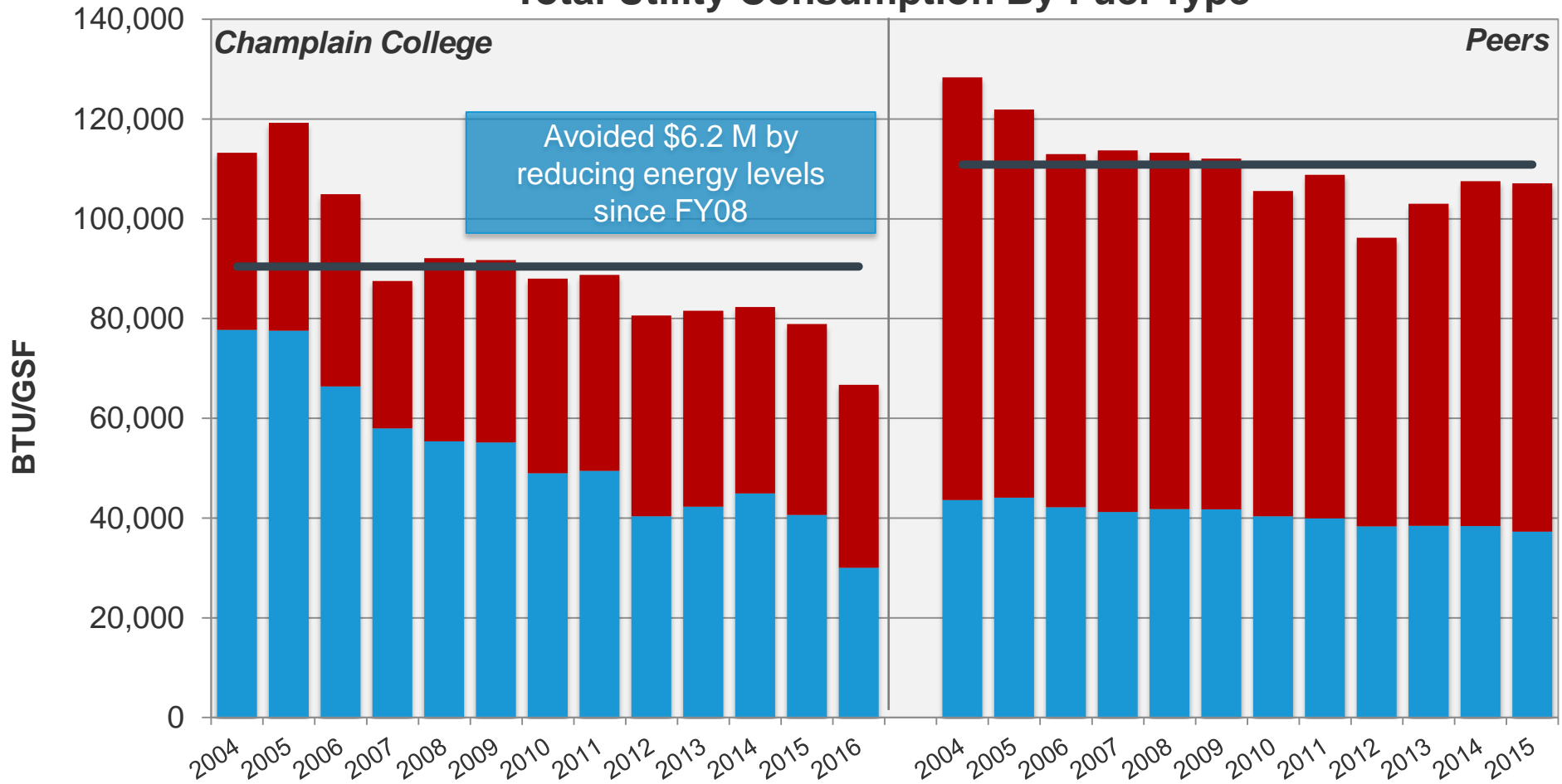
November 2016

Energy Consumption vs. Peers



Major strides made over the last 10 years

Total Utility Consumption By Fuel Type

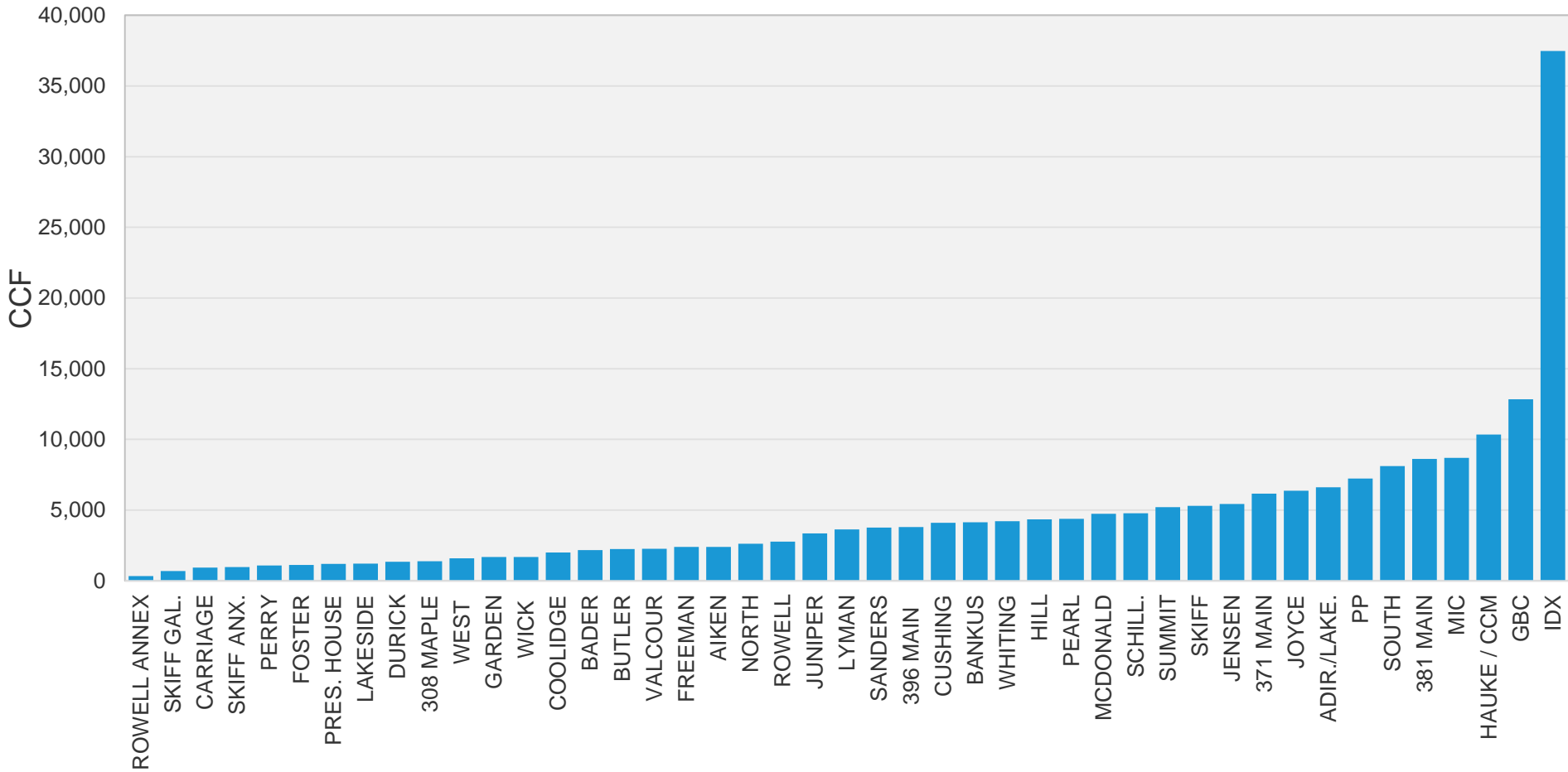


Energy Consumption by Building



Total Consumption

Natural Gas Consumption

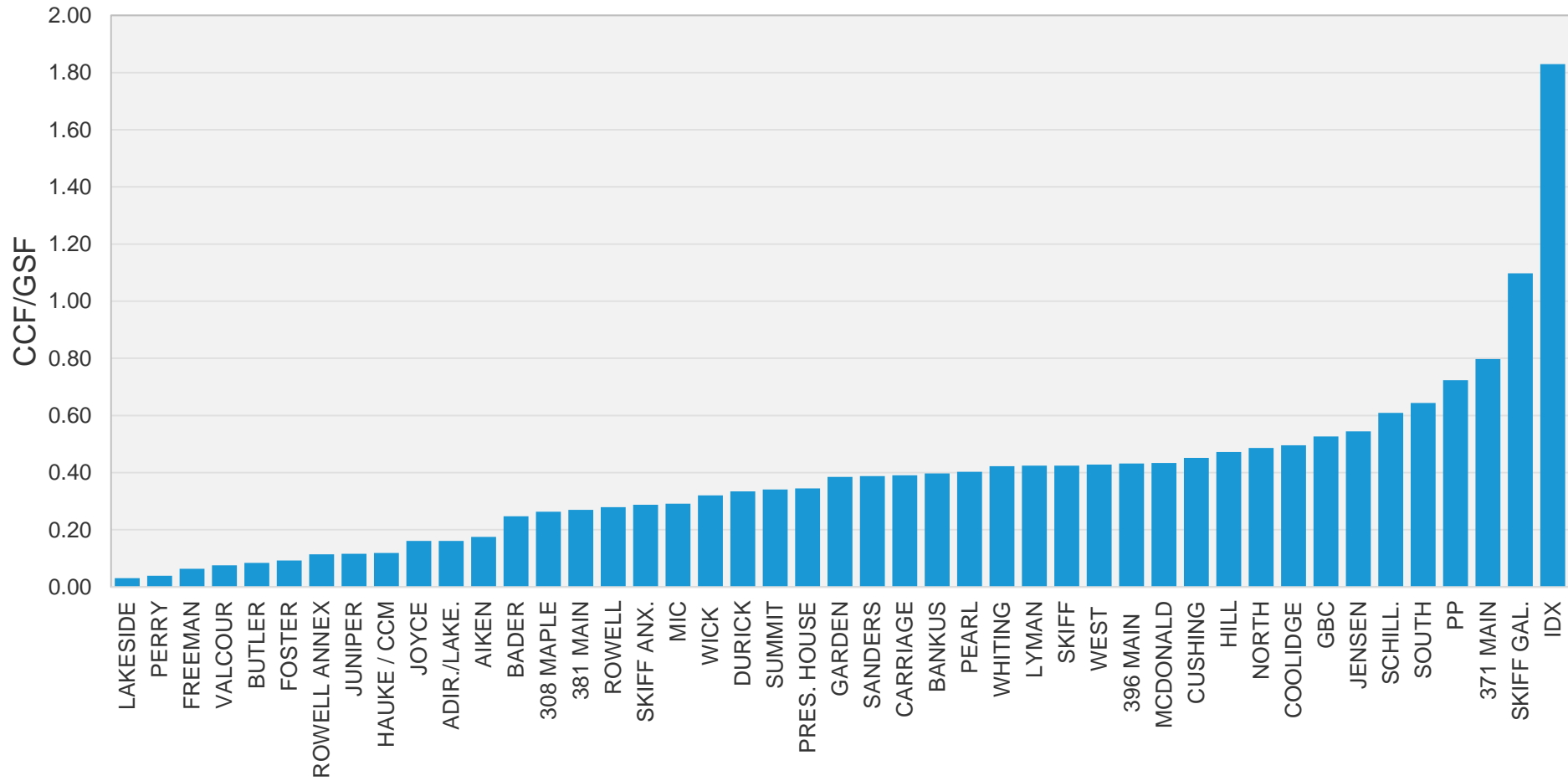


Energy Consumption by Building



Consumption per Gross Square Foot

Natural Gas Consumption

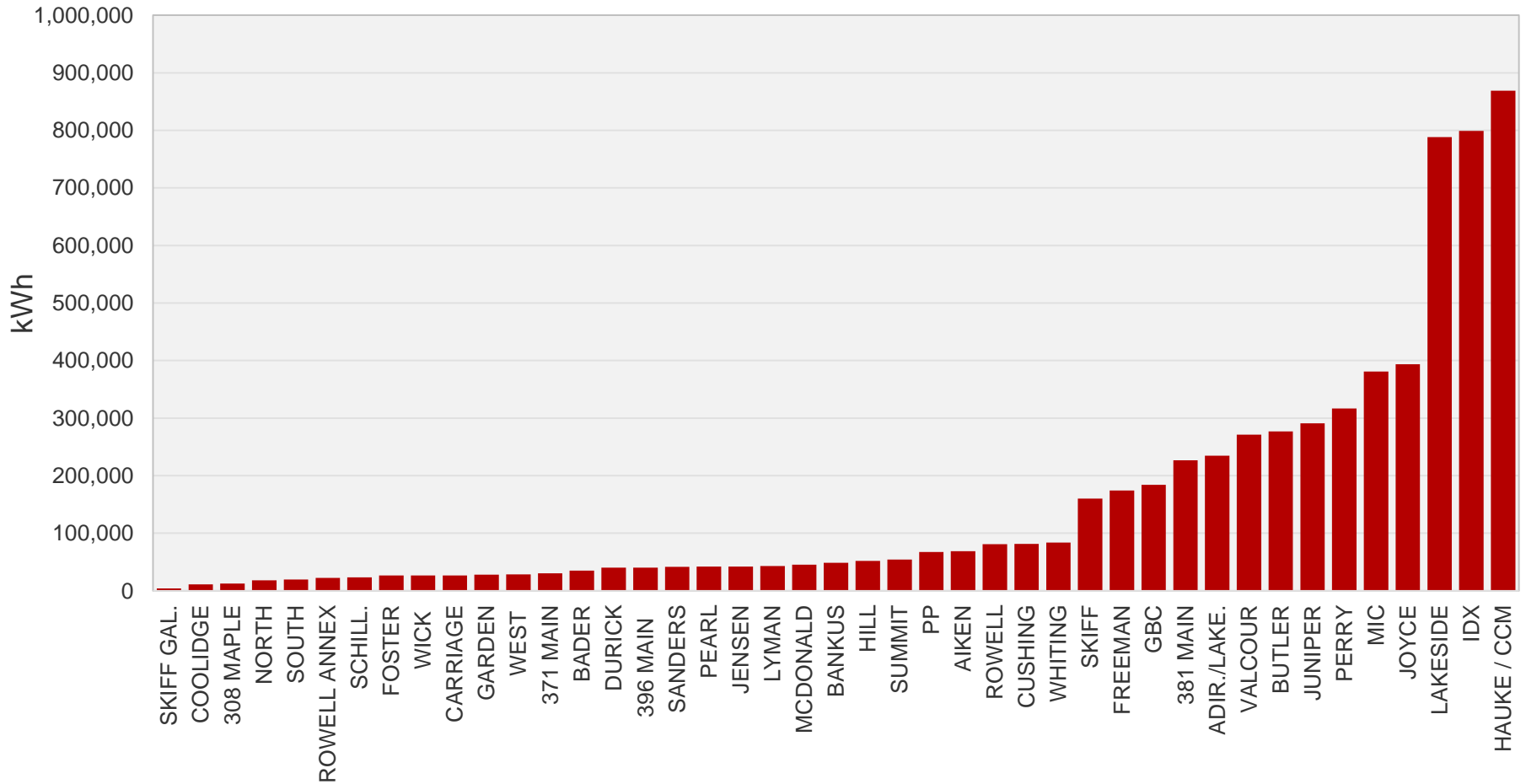


Energy Consumption by Building



Total consumption

Electricity Consumption

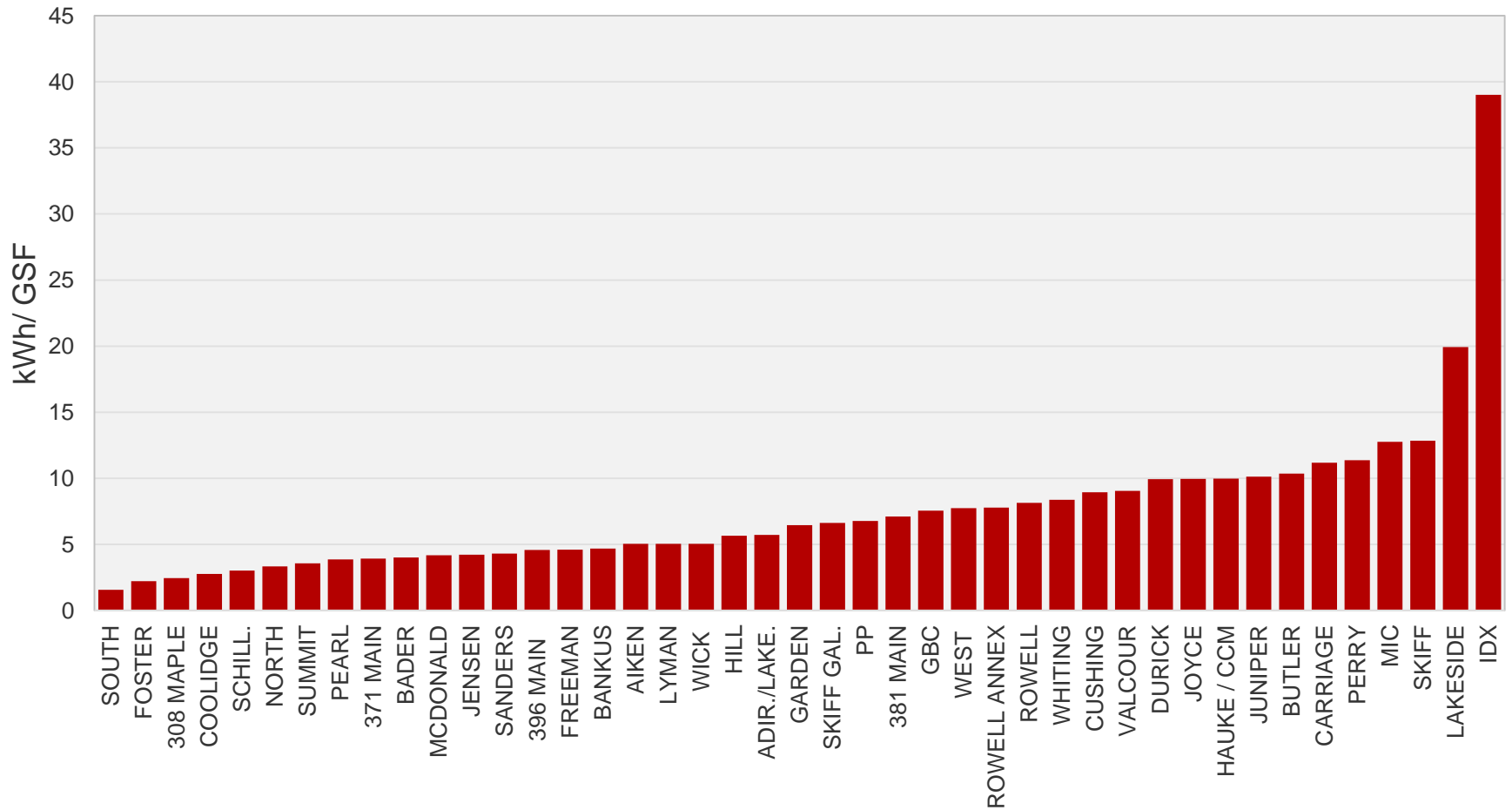


Energy Consumption by Building



Consumption per Gross Square Foot

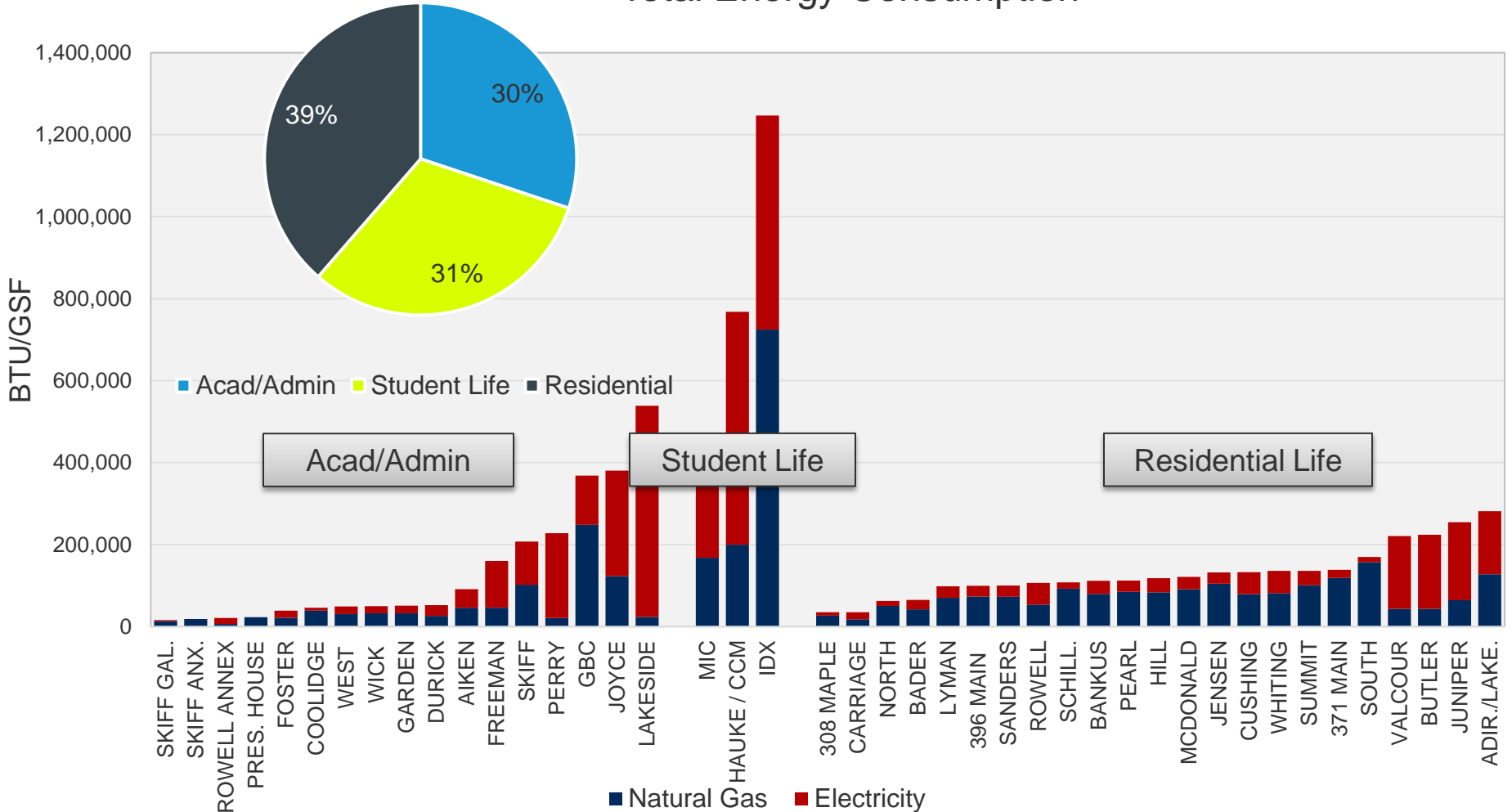
Electricity Consumption



Energy Consumption by Building



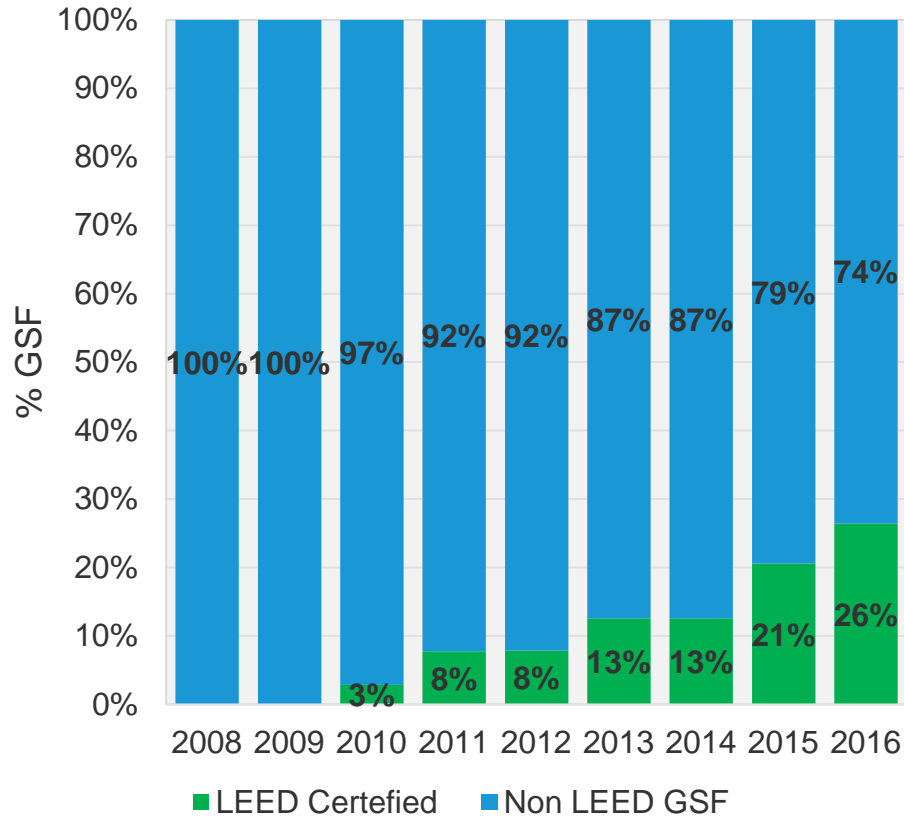
Total Energy Consumption



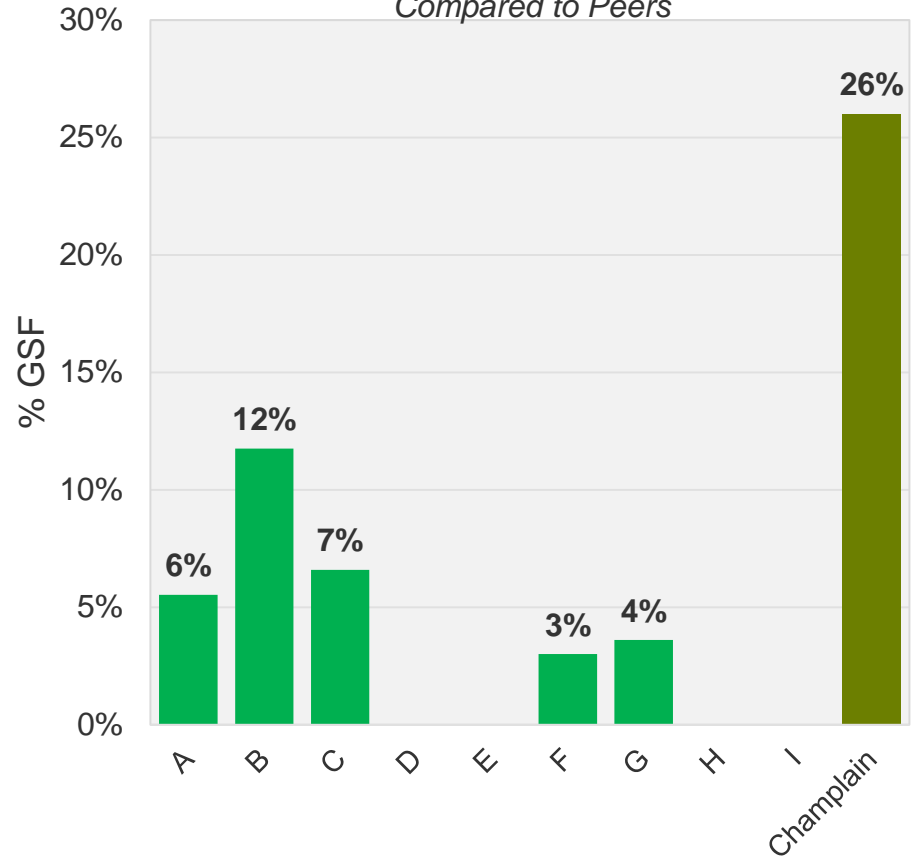
Establishing a sustainable campus



LEED Certified GSF *Historical*



LEED Certified GSF *Compared to Peers*



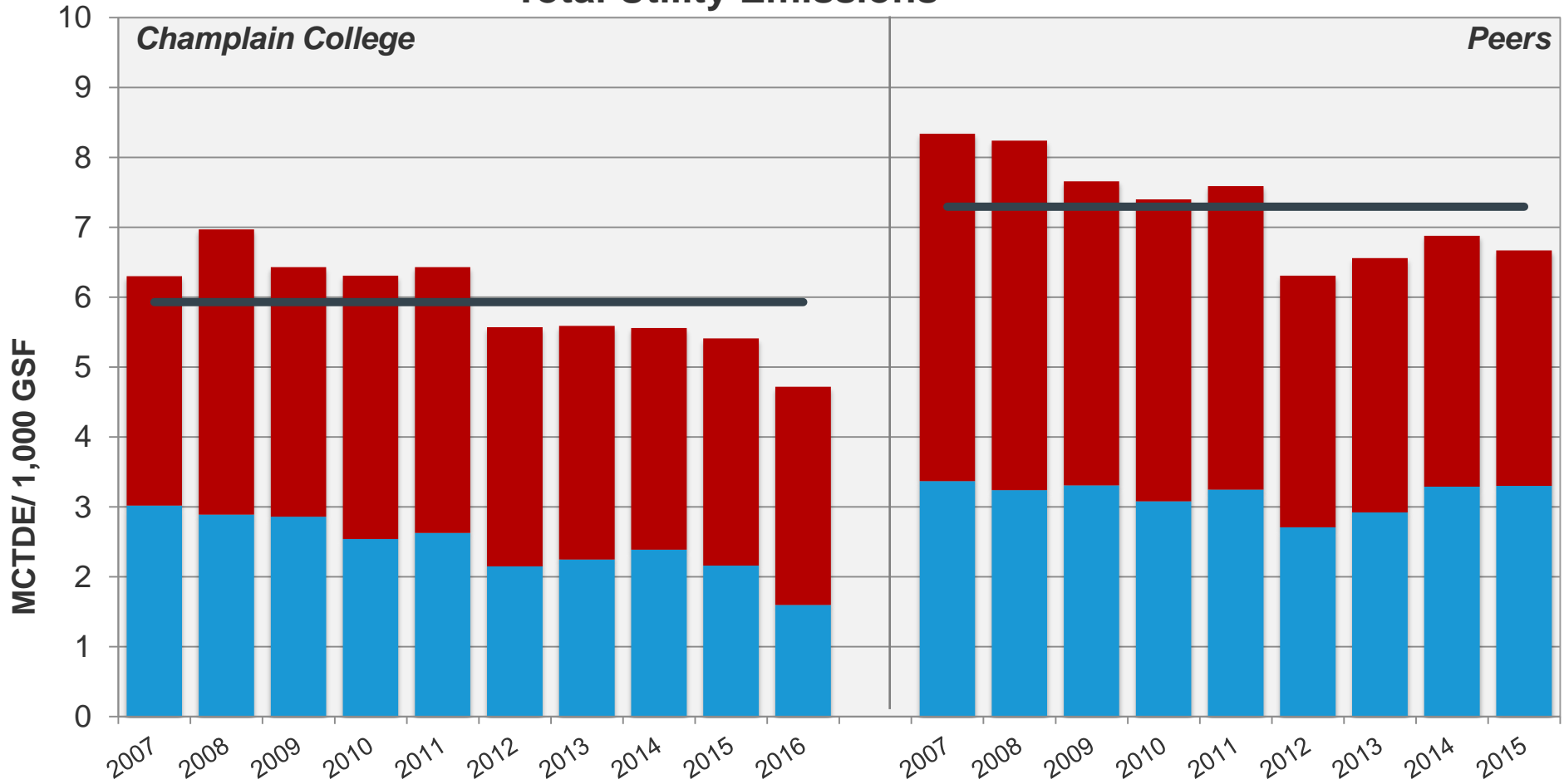
Sustainability Peers: Bentley University, University of Vermont, Boston College, Babson College, Siena College, Wesleyan University, Carleton College, Hamilton College, Hampshire College



Utility Emissions vs. ROPA Peers



Total Utility Emissions



Commuting comparisons



Student commuters updated in FY16

Updated by Sandy Thibault, 10/21/16
To: joshua vidro, Sightlines



Champlain College Students CATMA STUDENT Transportation Survey Data (effective 2010, surveys conducted biennially)

Specific to Champlain College "Commuter" students (combined w/in & outside 1/2 mi of campus)

"In a typical week how do you travel to main campus"
(check all that apply)

	2016	2014
Drive Alone	53.3% 65	55.9% 76
Bus	18.0% 22	9.6% 13
Shuttle	25.4% 31	21.3% 29
Carpool	15.6% 19	14.7% 20
Bike	13.9% 17	12.5% 17
Walk	51.6% 63	56.6% 77
Other**	1.6% 2	1.5% 2

TYPE OF STUDENT / Champlain Response	2016		2014	
Commuter <.5 mile	2.5%		2.5%	
Commuter >.5 mile	3.0%		3.5%	
Residents	15.0%		9.0%	
Overall Response	20.5%		15.0%	

**Other includes Uber; park in Winooski take college shuttle from Spinner Place to Campus

Trip Distribution	FY16%	FY14%
Student % Carbon Free	32%	50%
Student % Drive Alone	35%	37%
Student % Carpool	6%	6%
Student % Bus	27%	6%

Trip Distance	FY16 Miles	FY14 Miles
Carbon Free	4	2
Drive Alone	10	13
Carpool	1	9
Bus	12	14

*Bus includes commuters who use the shuttle

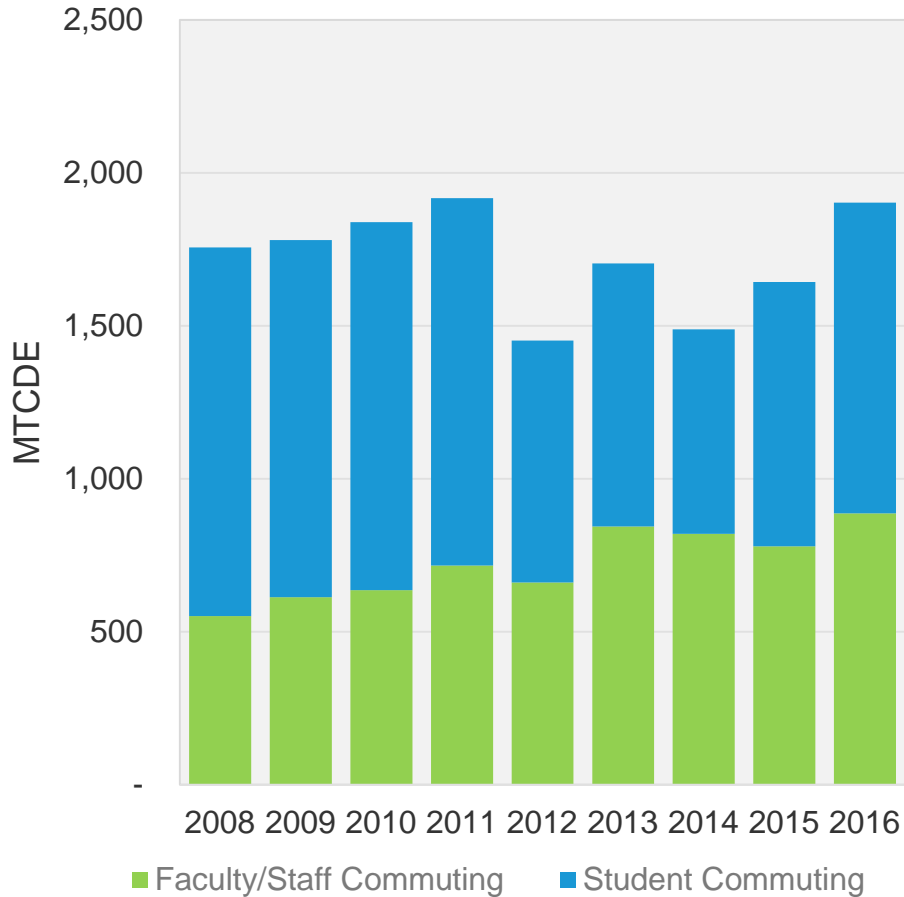
*Assuming 53% of students are residential

Commuting Comparison

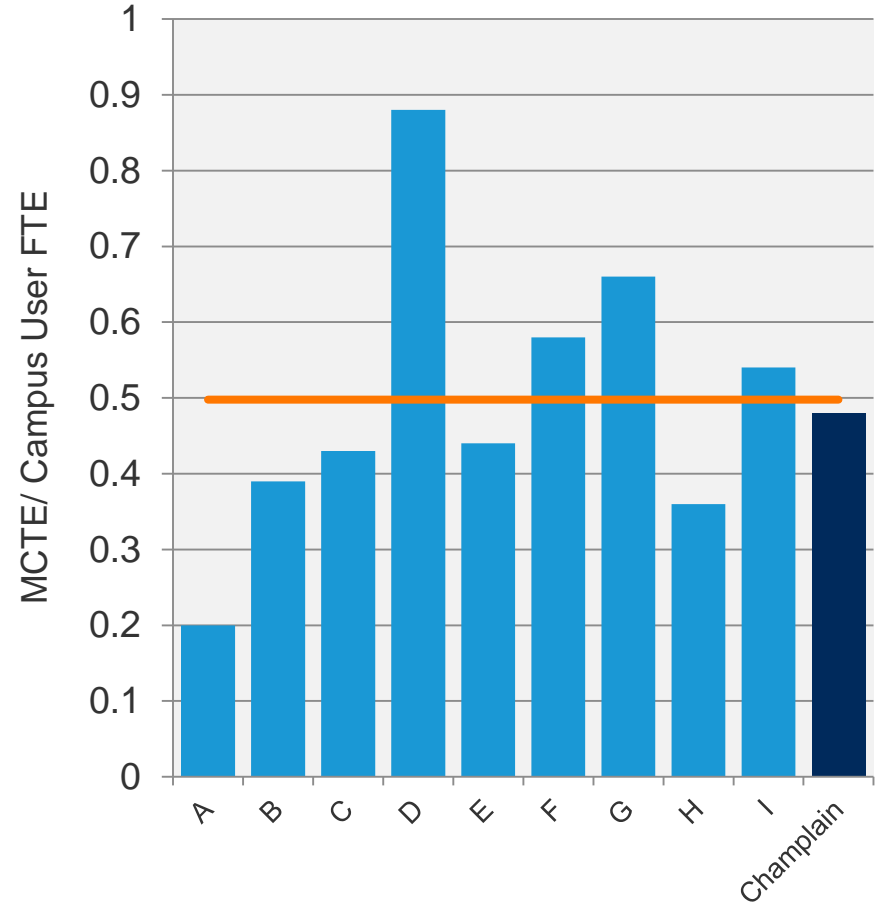


Total Commuting Emissions

Historical



Commuting Emission vs. Peers



Sustainability Peers: Bentley University, University of Vermont, Boston College, Babson College, Siena College, Wesleyan University, Carleton College, Hamilton College, Hampshire College

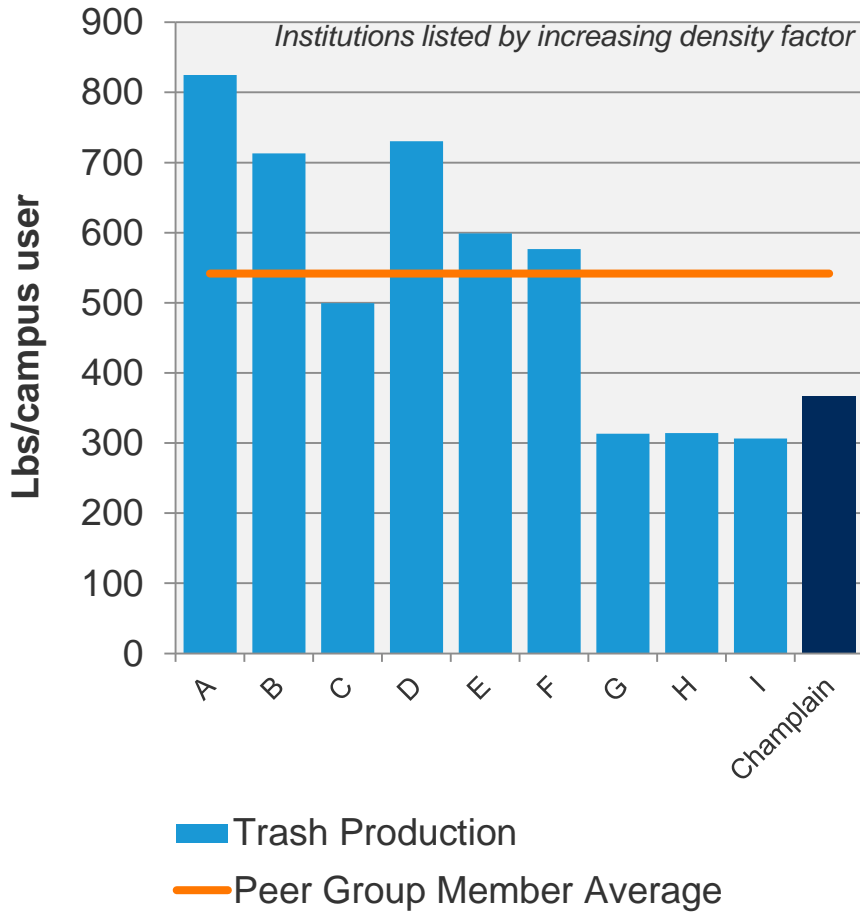


Progress Toward Goals – Waste Management

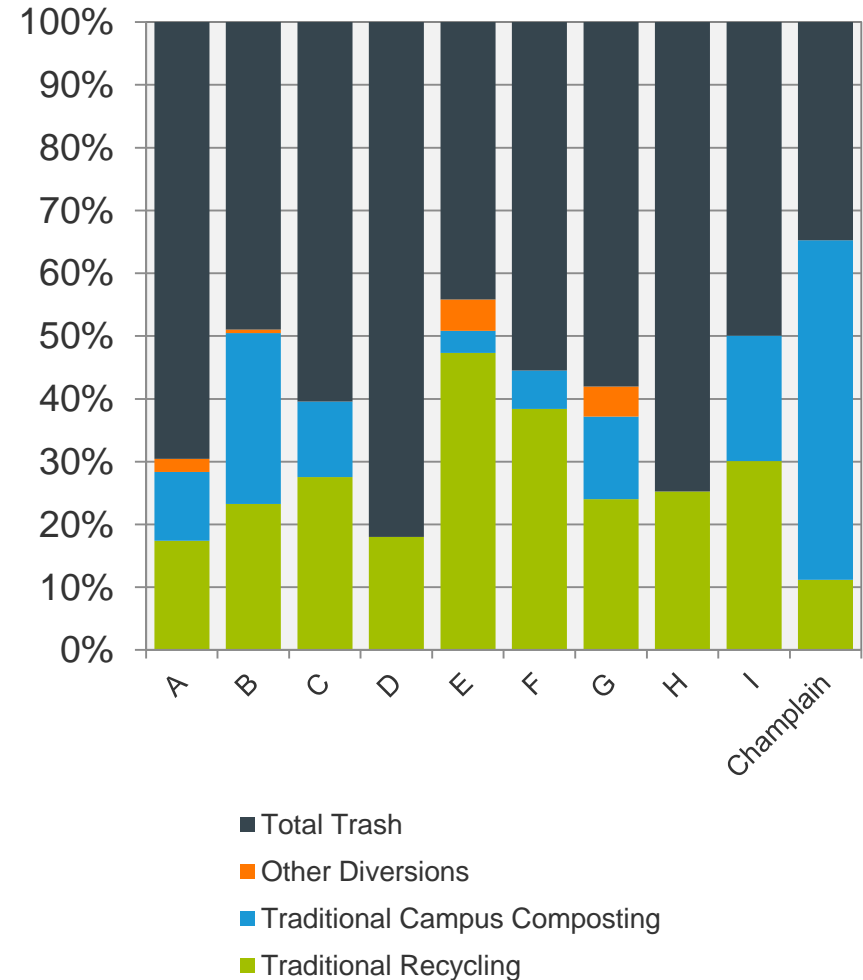


Efforts to decrease waste have brought Champlain below peer average

Institution Waste Output



Total Waste Stream %

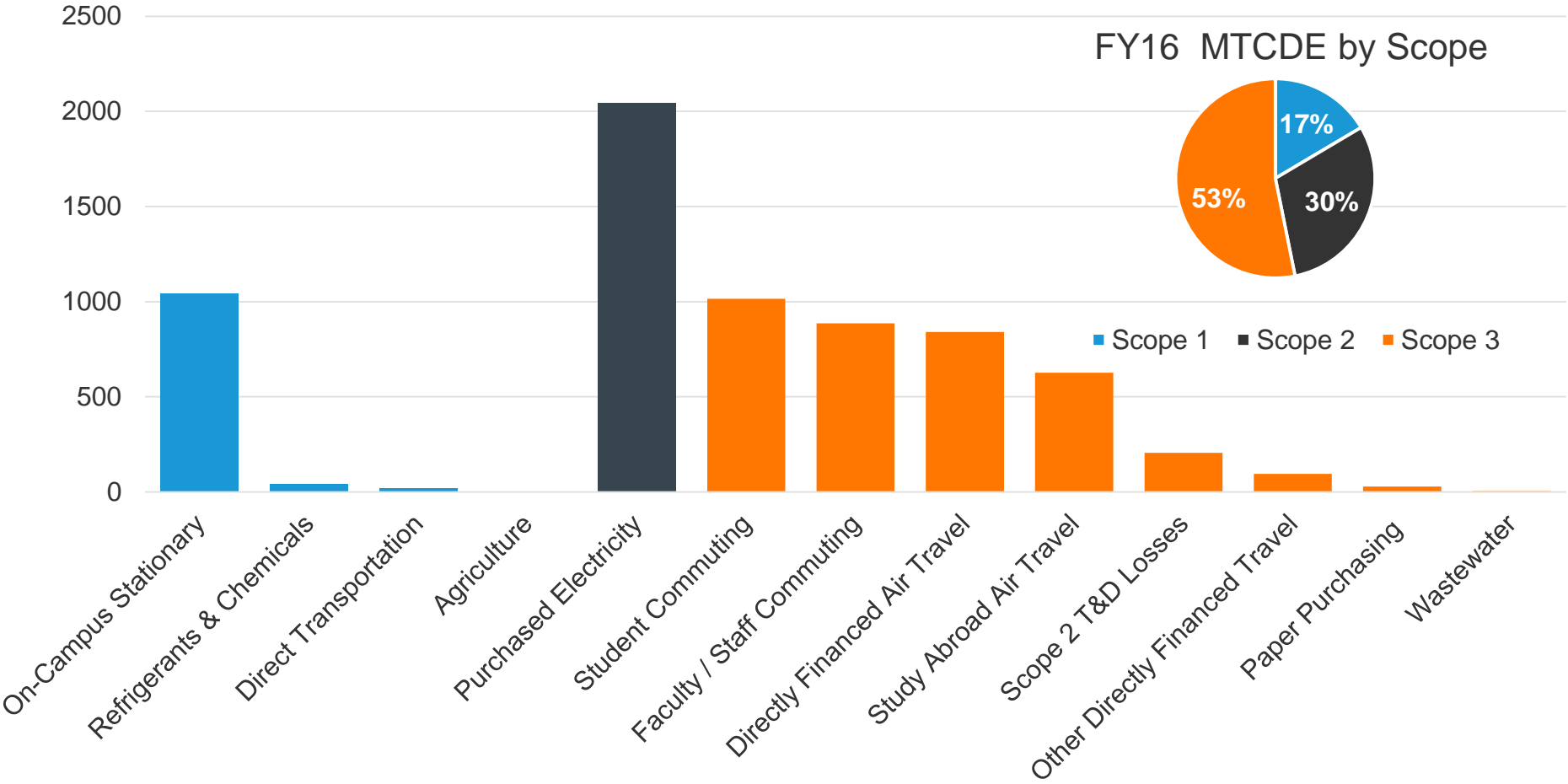


Total Emissions by Source



Solid Waste -7 MTCDE; Composting -116 MTCDE

MTCDE by Source and Scope

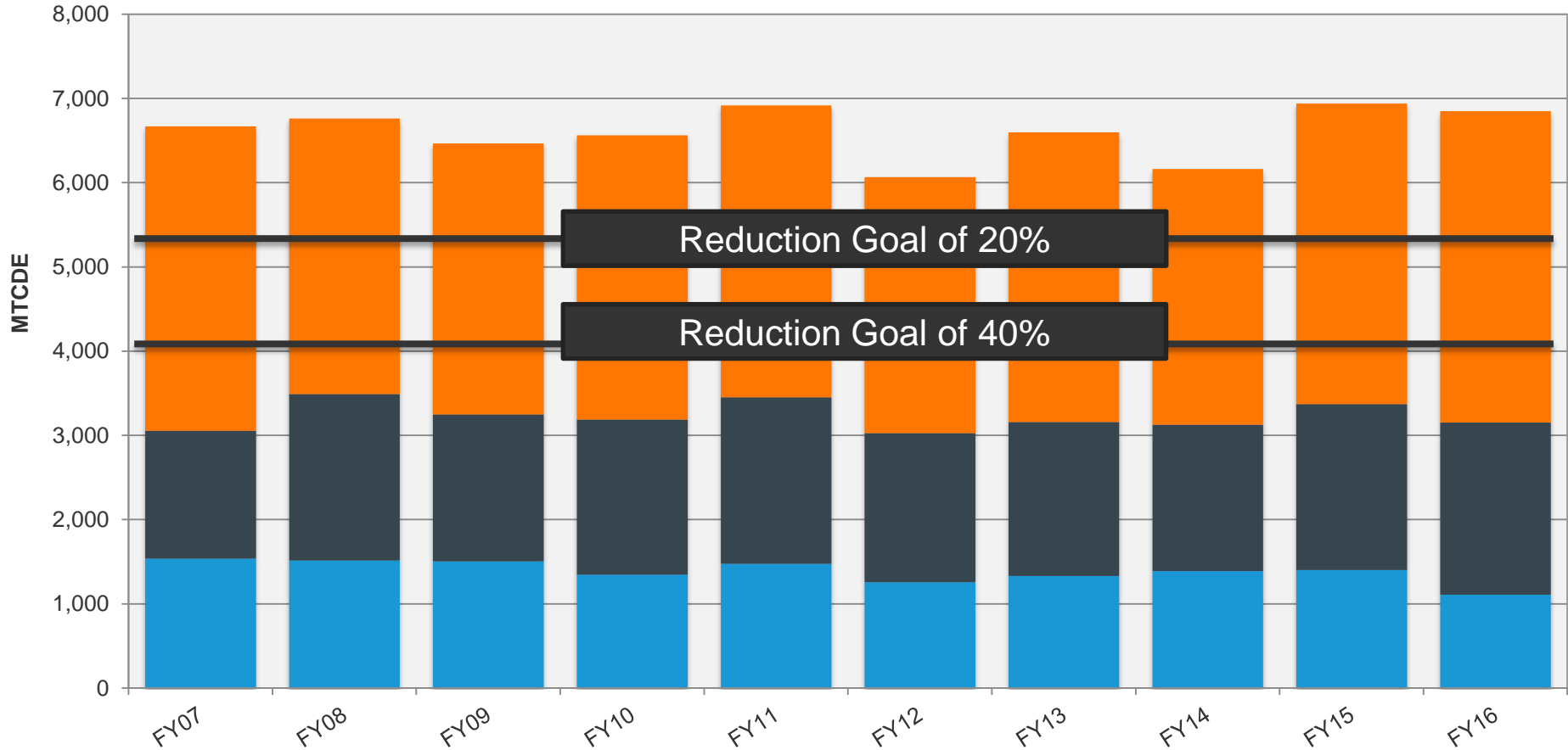


Net Emissions Relative to National Goals



With current profile, reduction goals are attainable

Historical Net Emissions

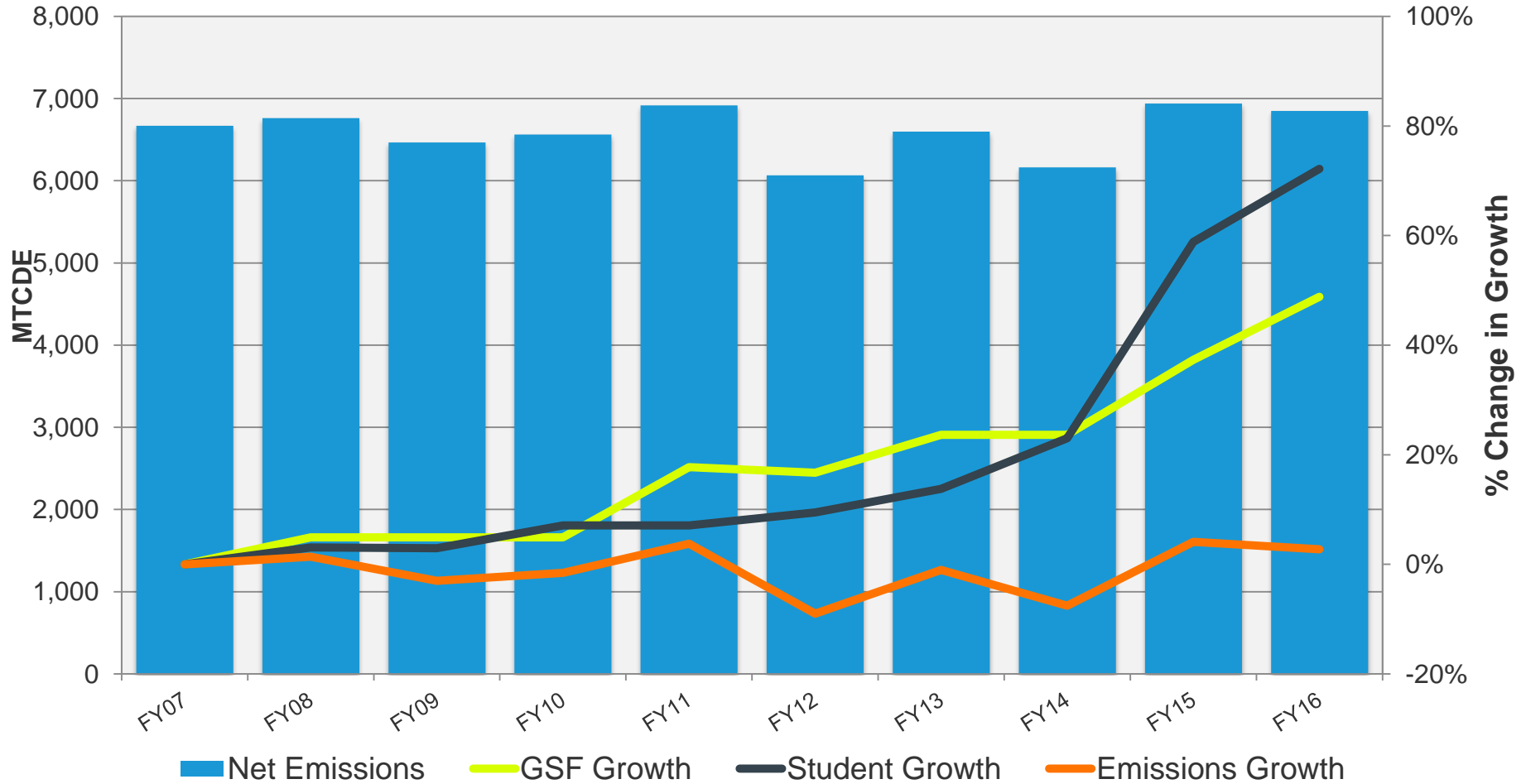


Net Emissions Relative to Campus Growth



Growth in campus since FY07

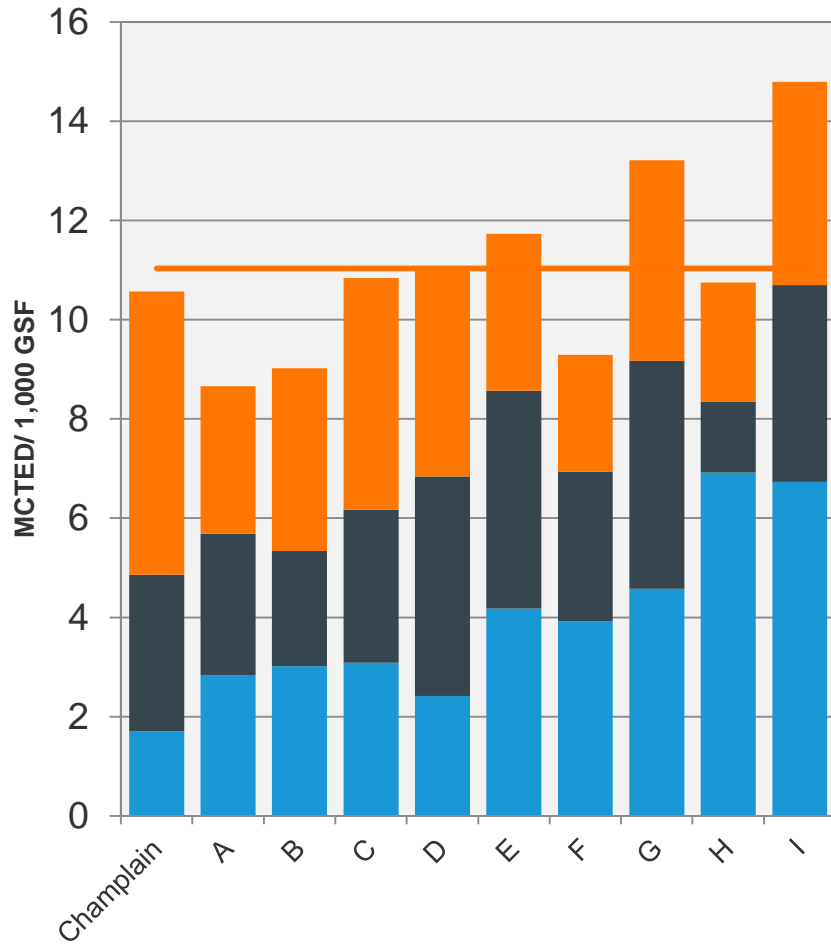
Historical Net Emissions



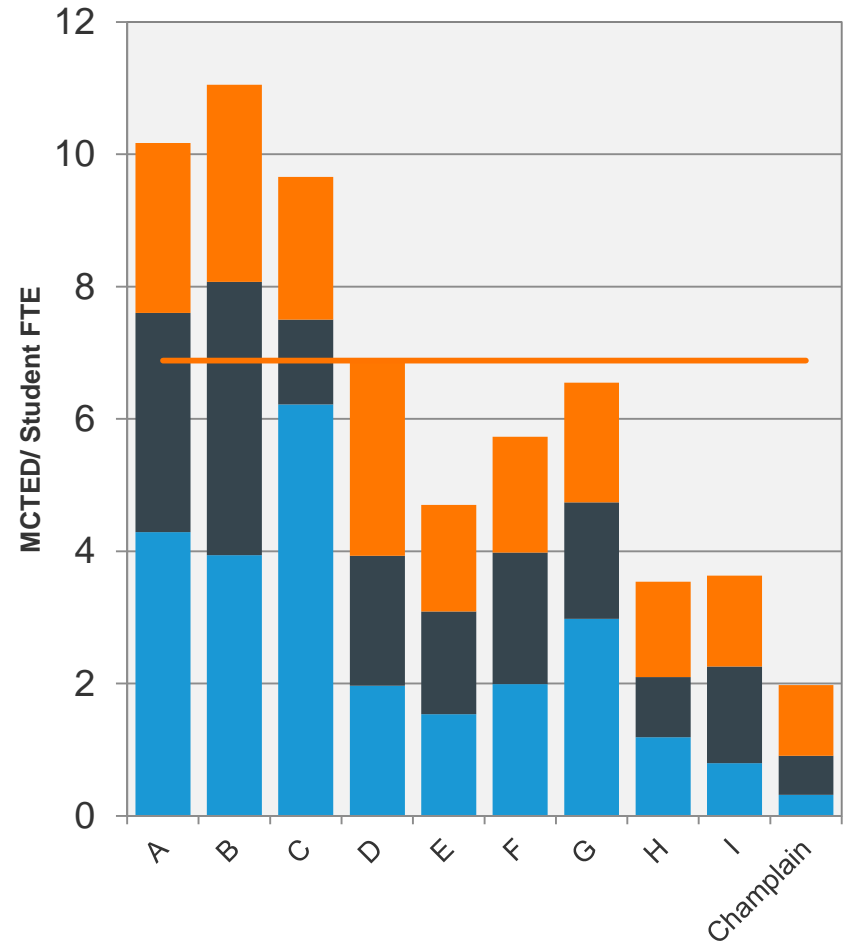
Overall Emissions vs. Peers



Gross Emissions Per 1,000 GSF



Gross Emissions Per Student FTE



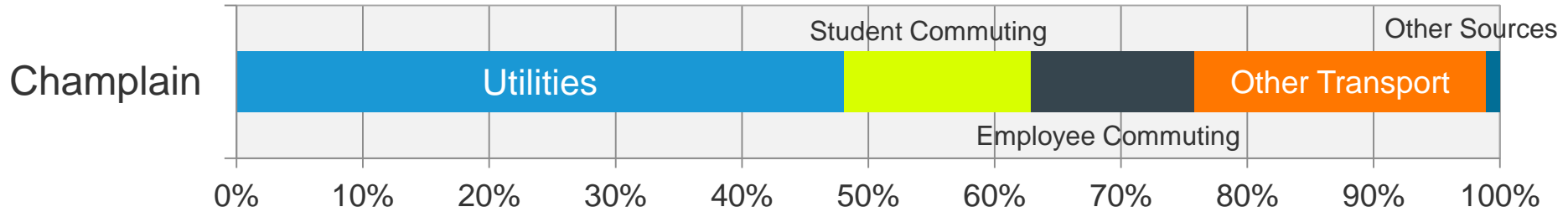
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Carbon Profile and Mitigation Hierarchy



Hierarchy prioritizes areas of focus – firstly on campus consumption



Carbon Mitigation Portfolios:

1. Reduce Activity

- Reducing an existing level of activity
- **Example:** Fewer BTUs and kWh consumed; fewer miles traveled

2. Replace Intensity

- Lessening the carbon intensity of activities
- **Example:** Fuel switching (oil > natural gas; solar power); commuting mode mix (drive alone > carpool)

3. Offset Remaining Sources

- Utilizing carbon offsets to neutralize emissions
- **Example:** RECs; sequestration; retail offsets