



Sightlines

# Go-Green Measurement & Analysis:

## Measure, Monitor, Benchmark

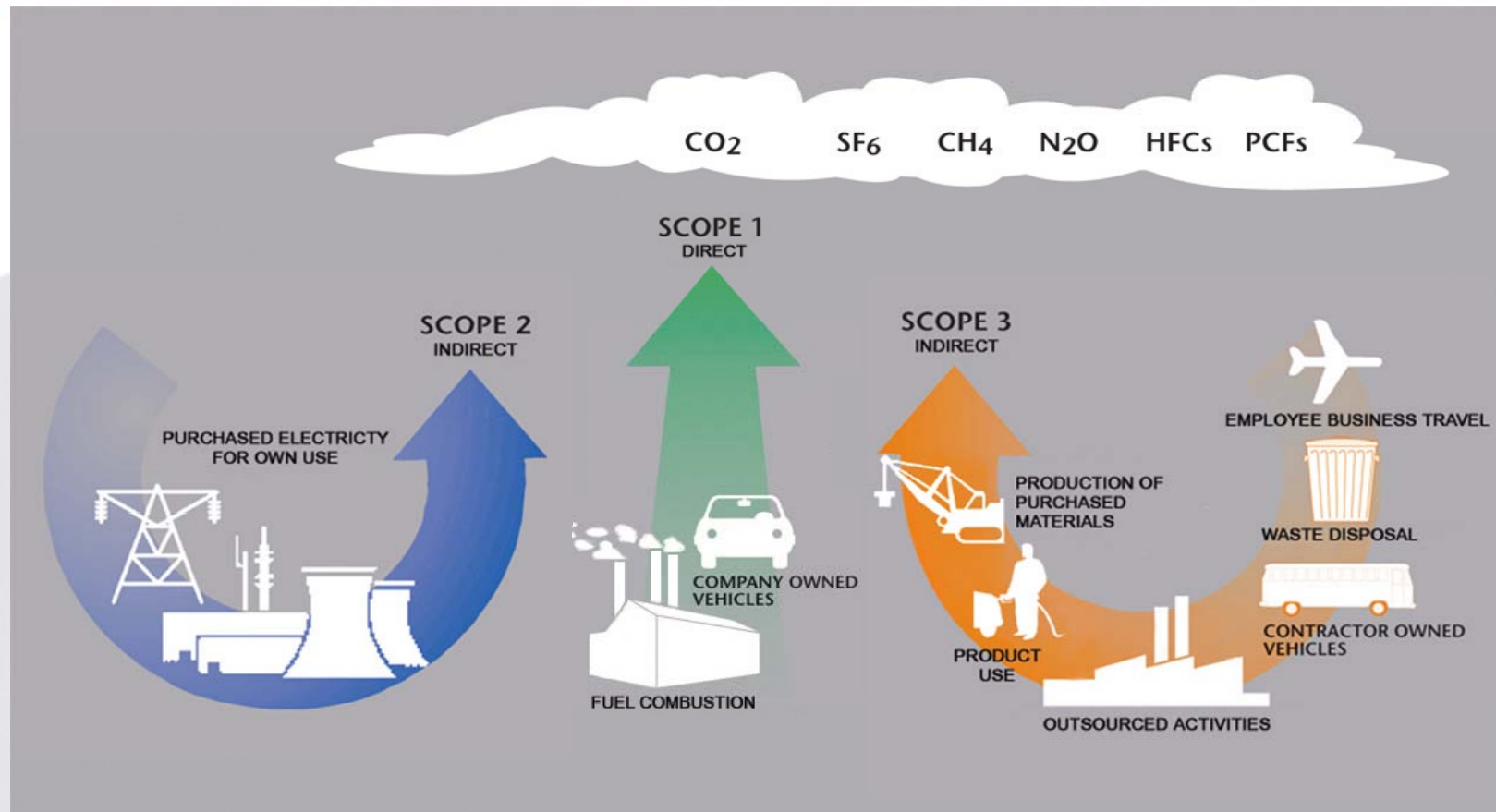


### Champlain College

May 18, 2010

# Simplifying the types of GHG emissions

Measured in Metric Tons of Carbon Dioxide Equivalent (MTCDE)



**Scope 2:** Emissions from utility production not at the institution

**Scope 1:** Emissions from the direct activities of the campus

**Scope 3:** Indirect emissions including transportation, waste disposal, etc.



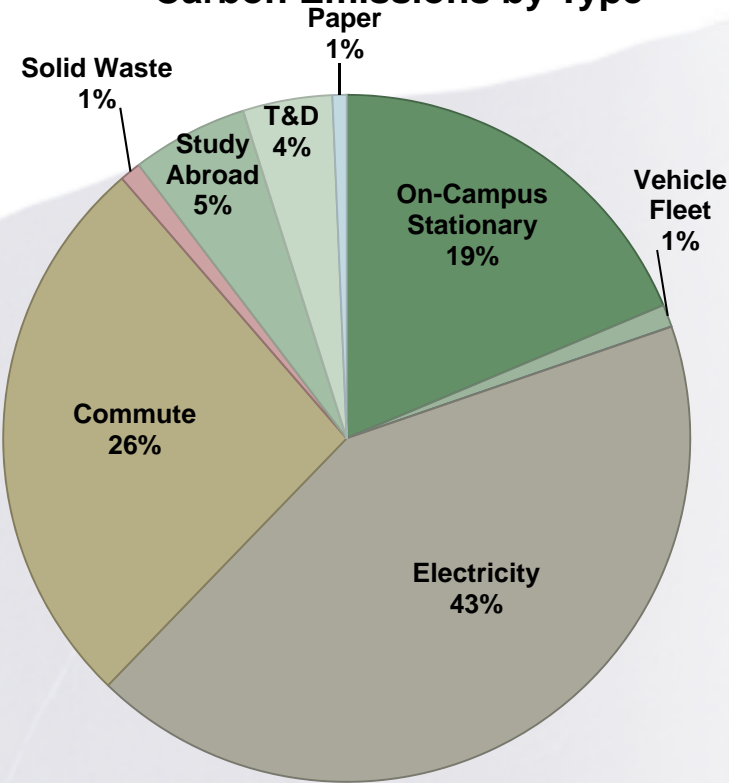
*This slide courtesy of CA-CP*

Sightlines

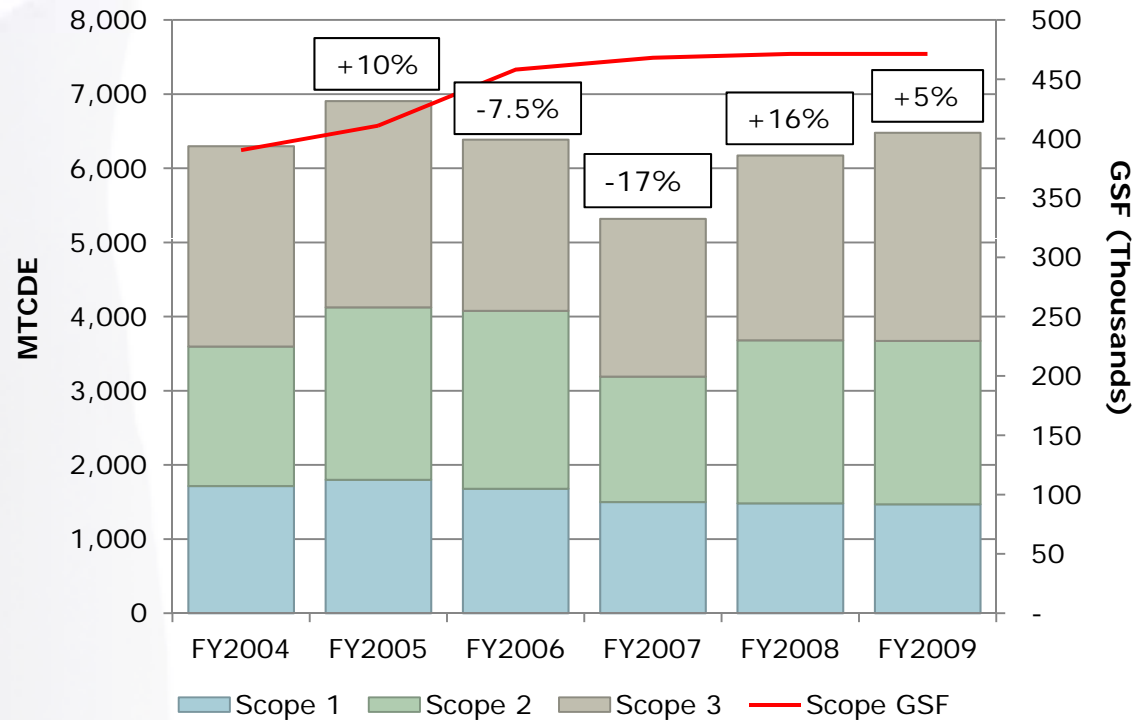
# Total FY09 gross emissions: 7,434 MTCDE

A 21% increase in GSF, but only a 3% increase in gross GHGs since FY04

### Carbon Emissions by Type

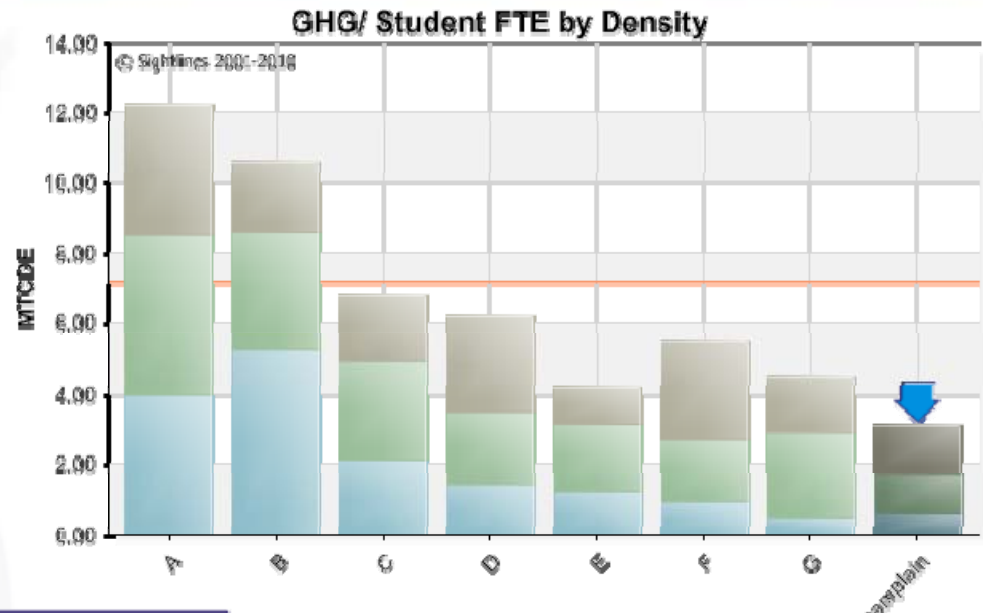
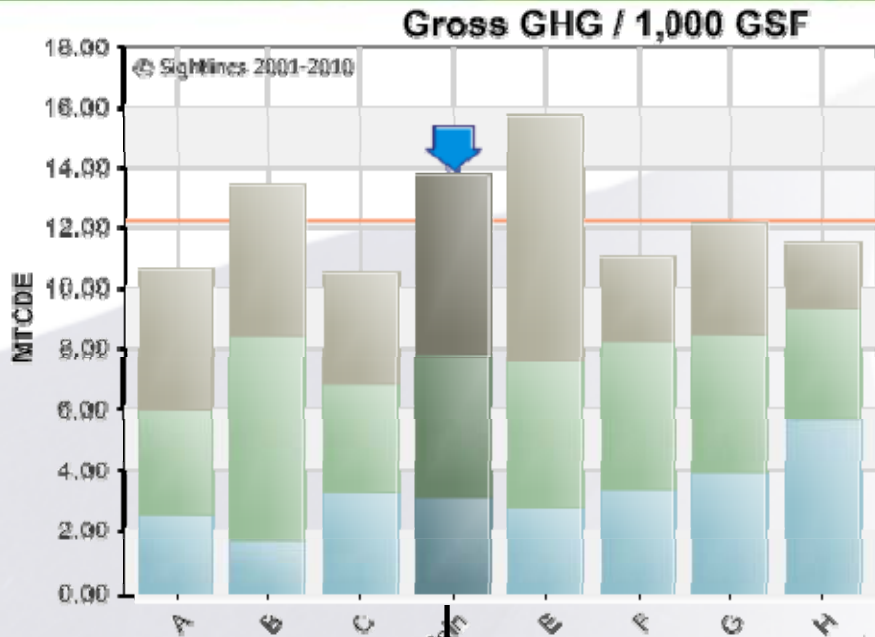


### Longitudinal Gross Emissions



# GHGs per GSF among highest in peer group

GHGs per FTE dramatically lower than peer institutions



Institutions Ordered By: Total BTU/GSF

Institutions Ordered By: Density Factor

Additional Emissions:  
650 MTCDE annually

Equivalent to carbon sequestered  
by **140 acres** of forest

Scope 3 / 1,000 GSF  
Scope 2 / 1,000 GSF  
Scope 1 / 1,000 GSF  
Average 12.15

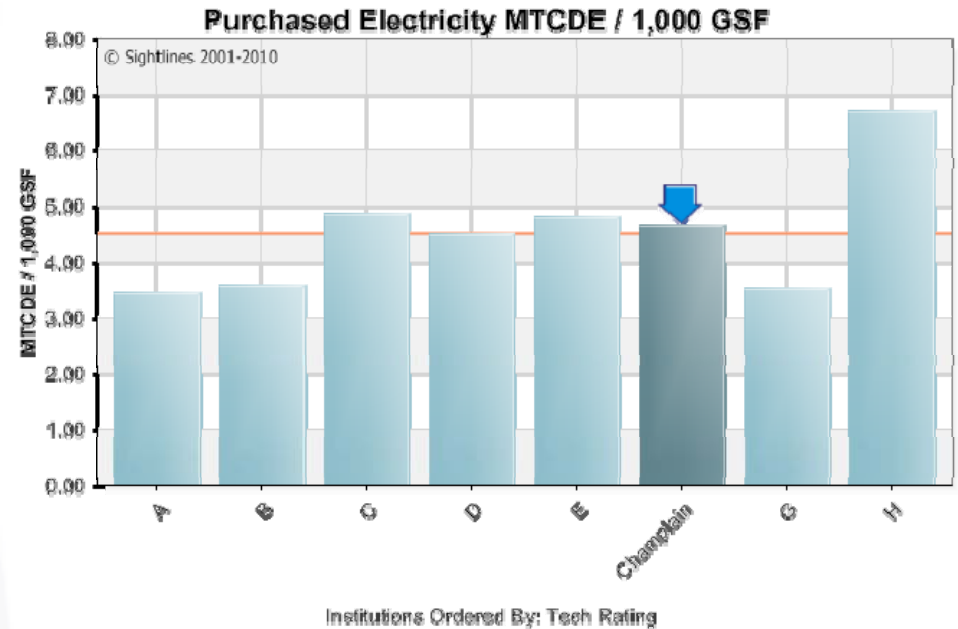
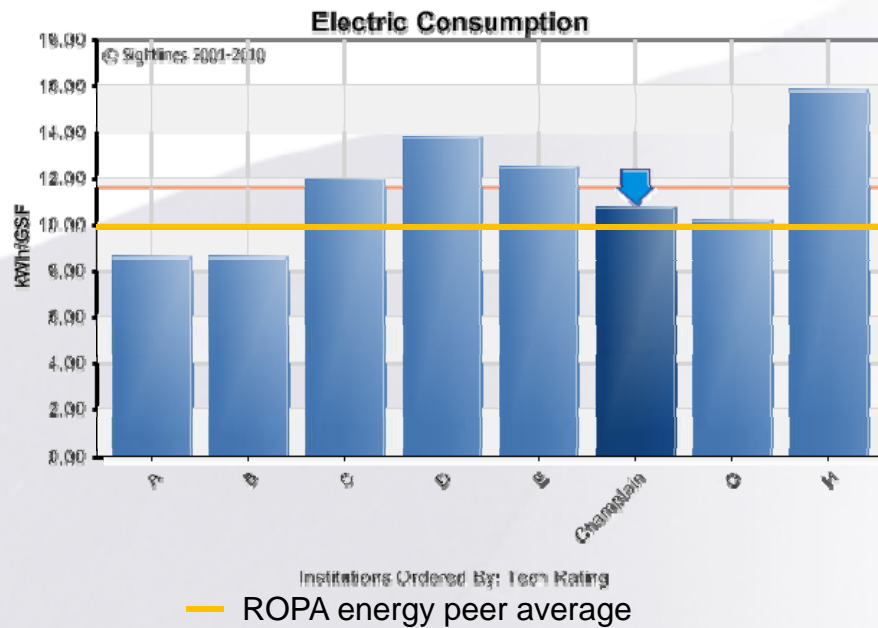


GGM&A Peers: Bentley University; Hamilton College; Hampshire College; Lewis & Clark College; University of Portland; Wesleyan University; Western Oregon University



# Consumption aligned with ROPA and GGM&A peers

GHGs/kWh of purchased electricity is comparable to GGM&A peers



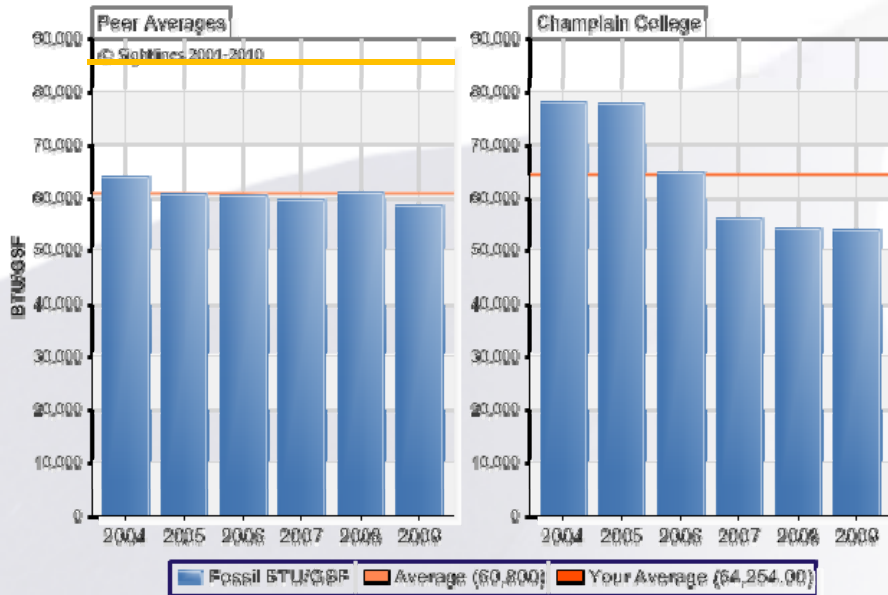
ROPA Energy Peers: Bennington College; Middlebury College; Siena College; Smith College; The College of Saint Rose; The Sage Colleges; Union College; University of Vermont; Williams College

Sightlines

# Consuming less fossil over time, even as GSF increased

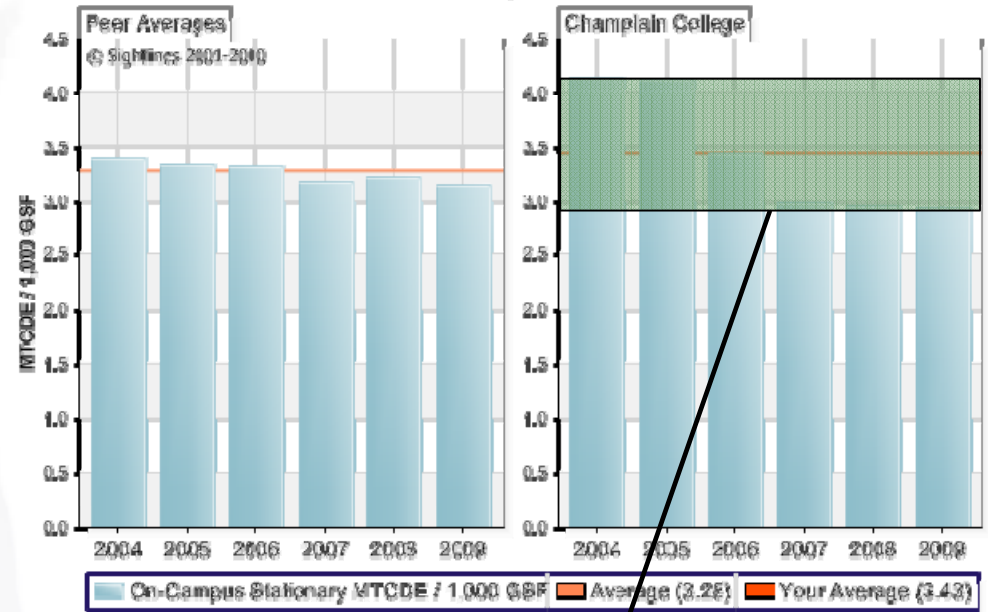
Using less fossil in FY09 than both GGM&A and ROPA peers

### Fossil Fuel Consumption



— ROPA energy peer average

### On-Campus Stationary MTCDE / 1,000 GSF



Emissions Savings:  
308 MTCDE over 6 years  
Equivalent to CO2 sequestered by  
**60 acres** of forest

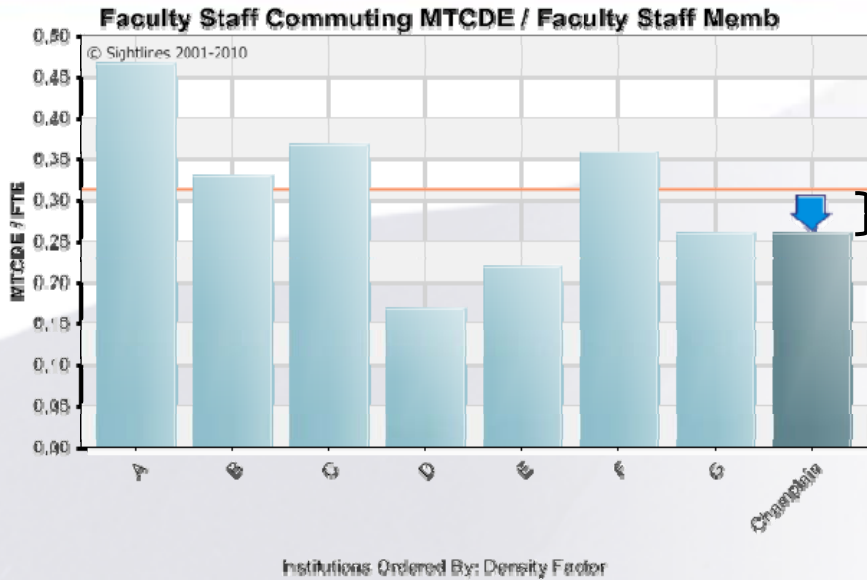


Sightlines



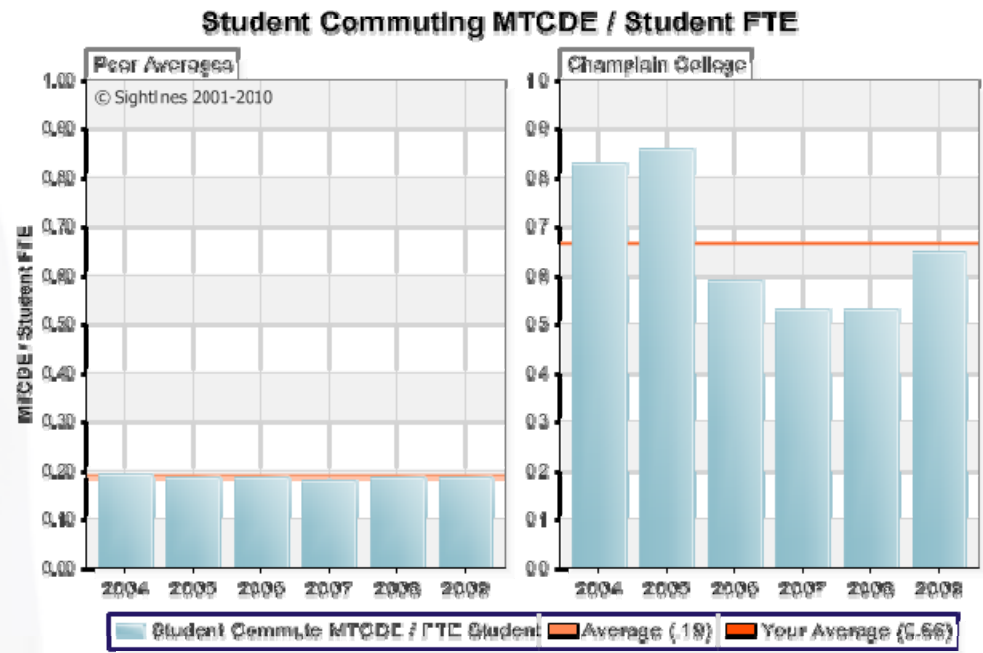
# Faculty/Staff commuting GHGs below peer levels

Student commuting GHGs are consistently twice as large as peers, and still growing



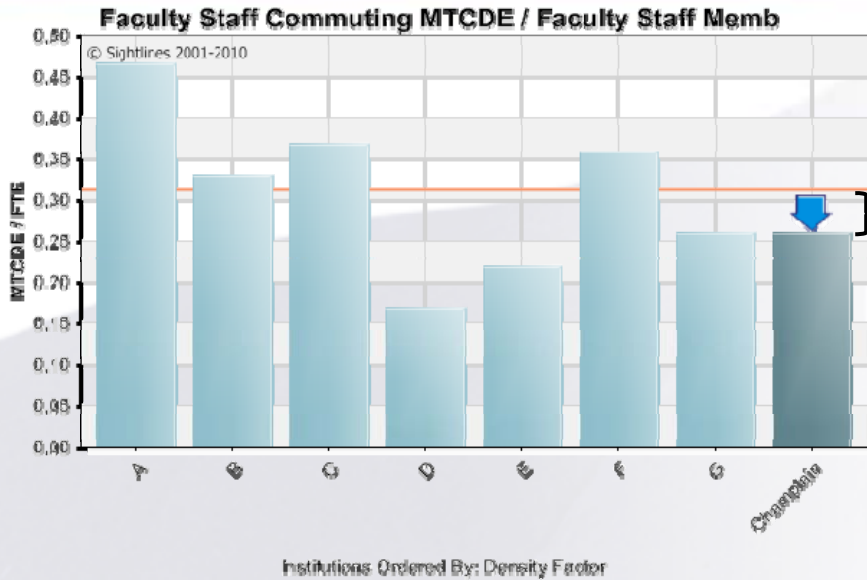
Carbon avoidance equivalent to 302 K miles *not* traveled

Commuting Metrics	Champlain	Peer Average
% of Students Commuting	45%	29%
Average Trips Distance	12	10



# Faculty/Staff commuting GHGs below peer levels

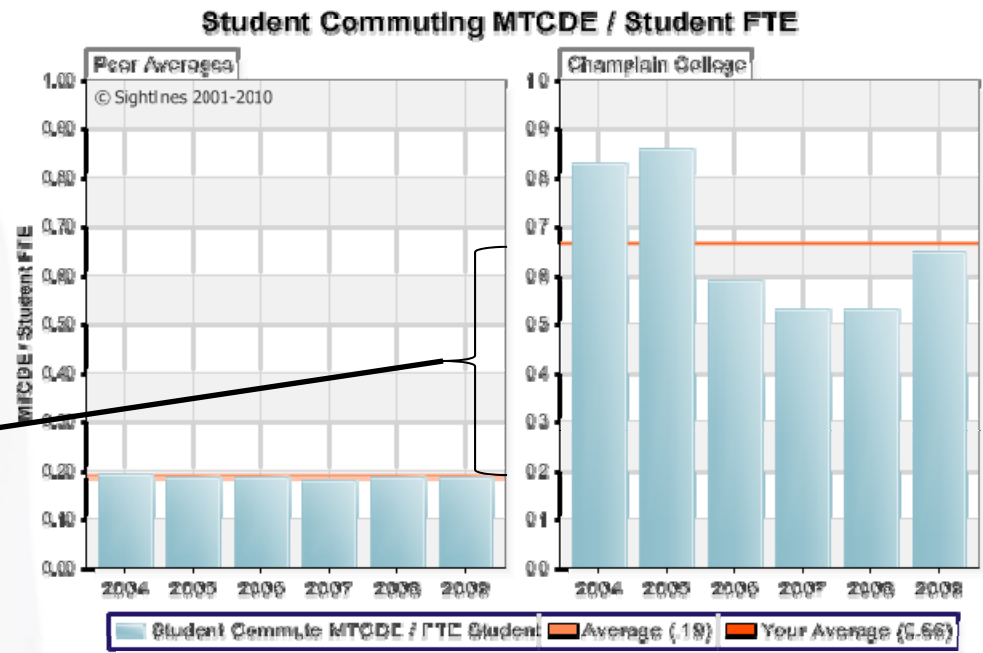
Student commuting GHGs are consistently twice as large as peers, and still growing



Carbon avoidance equivalent to 302 K miles *not* traveled

Additional Emissions:  
5,589 MTCDE over 6 years

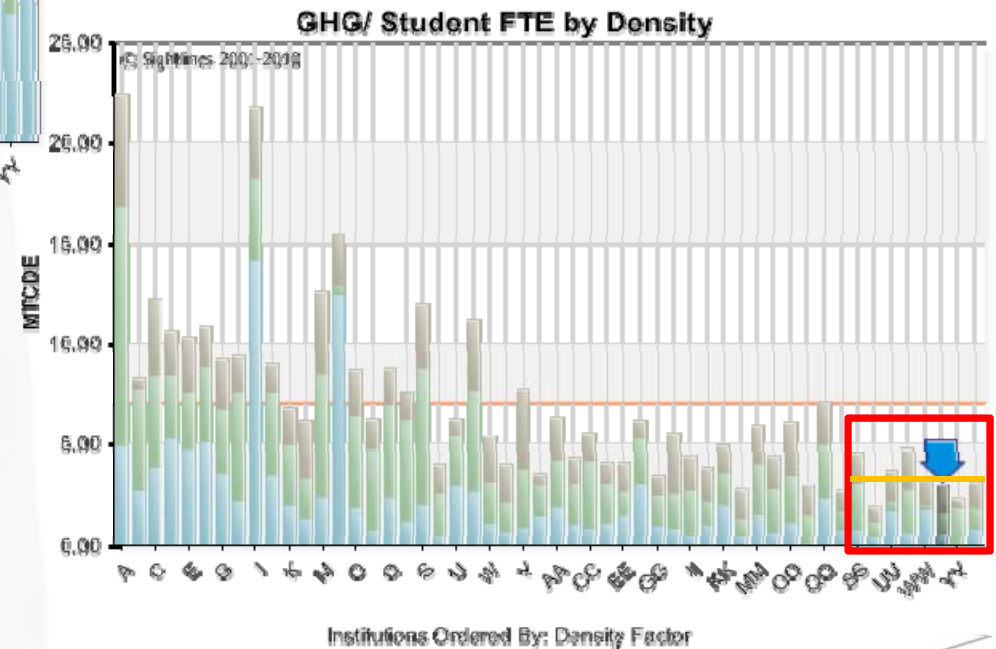
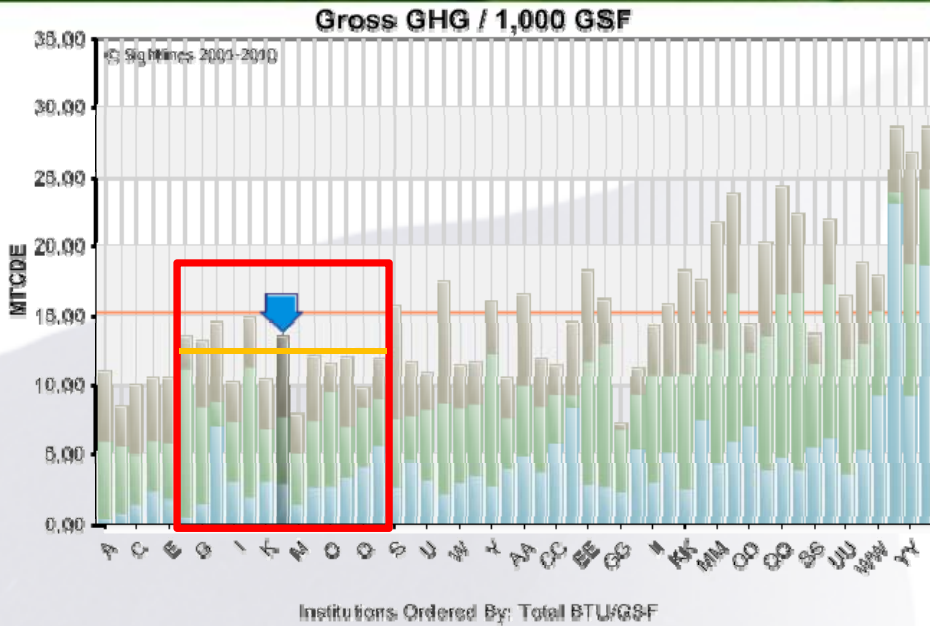
Equivalent to **13.9M miles** traveled  
Would need to set aside **200 acres** of forest **annually** to offset GHGs





# GHGs per GSF slightly below national average

GHGs per FTE among the lowest in our database, aligned with density peers



— Average Peer Gross Emissions



Sightlines

# Concluding comments

## 1. On-Campus Stationary:

- Champlain already uses the cleanest fossil fuel available (GHG's/BTU).
- BTU consumption is well below ROPA & Go-Green peers.
- Further stationary reductions will therefore be more difficult to achieve.
- Focus on reducing BTUs through technology innovations.

## 2. Electricity and Regional Grid:

- Champlain's kWh/GSF is aligned with peers.
- Champlain already benefits from a relatively clean grid that is similar to peers.
- Scope 2 emissions are therefore in line with peer institutions.
- Keys to scope 2 reductions will be reduced kWh or on campus renewables.

## 3. Commuting:

- Focus on student commuters as they are the largest scope 3 emitters.
- Awareness, institutional policies, and connecting commuters to alternatives.
- Harness social media to raise student engagement



Sightlines

Questions & Discussion