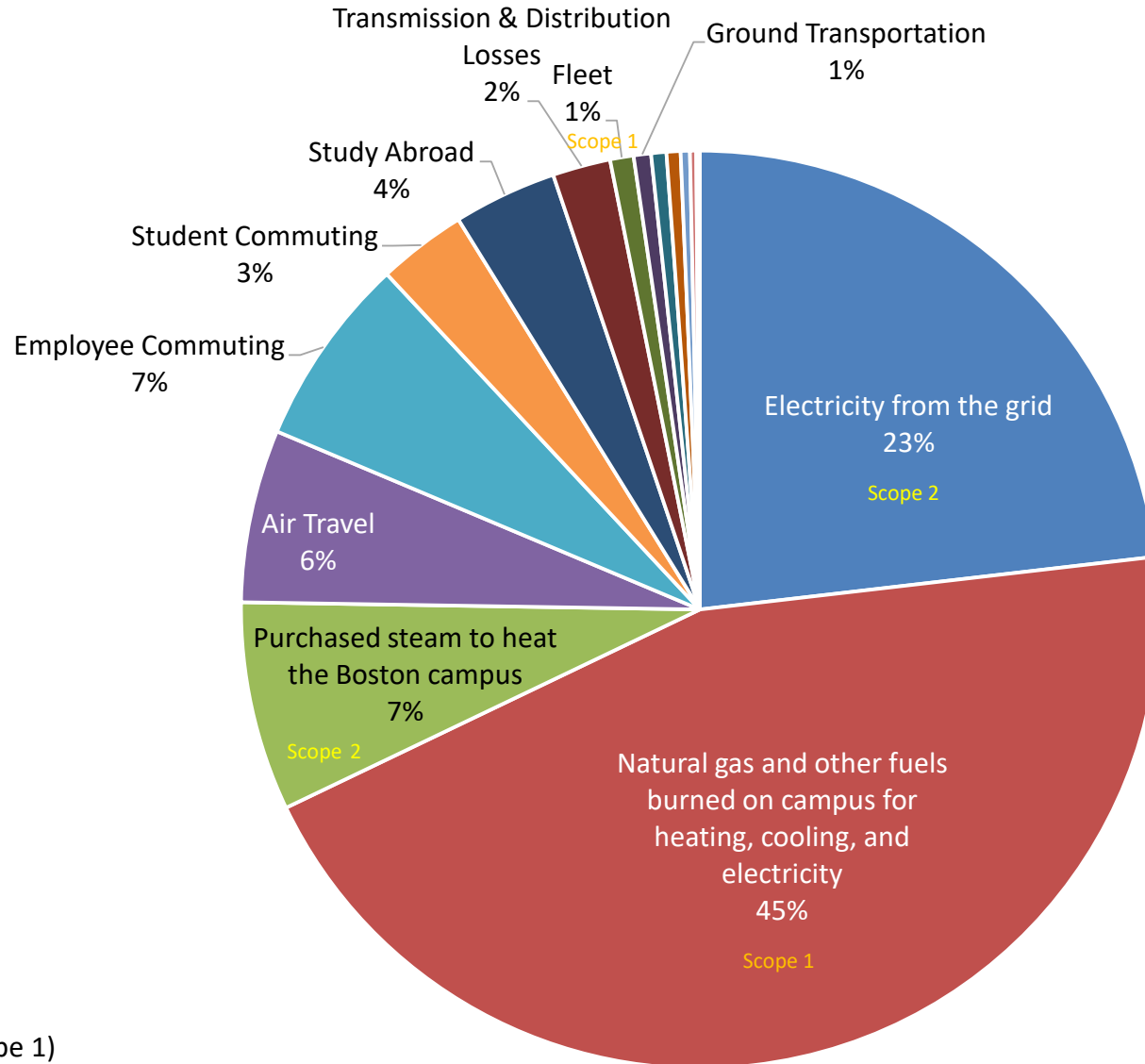


Tufts FY20 GHG Emissions and Energy

June 2021

Shoshana Dodge
Office of Sustainability

FY20 GHG Emissions - All Campuses



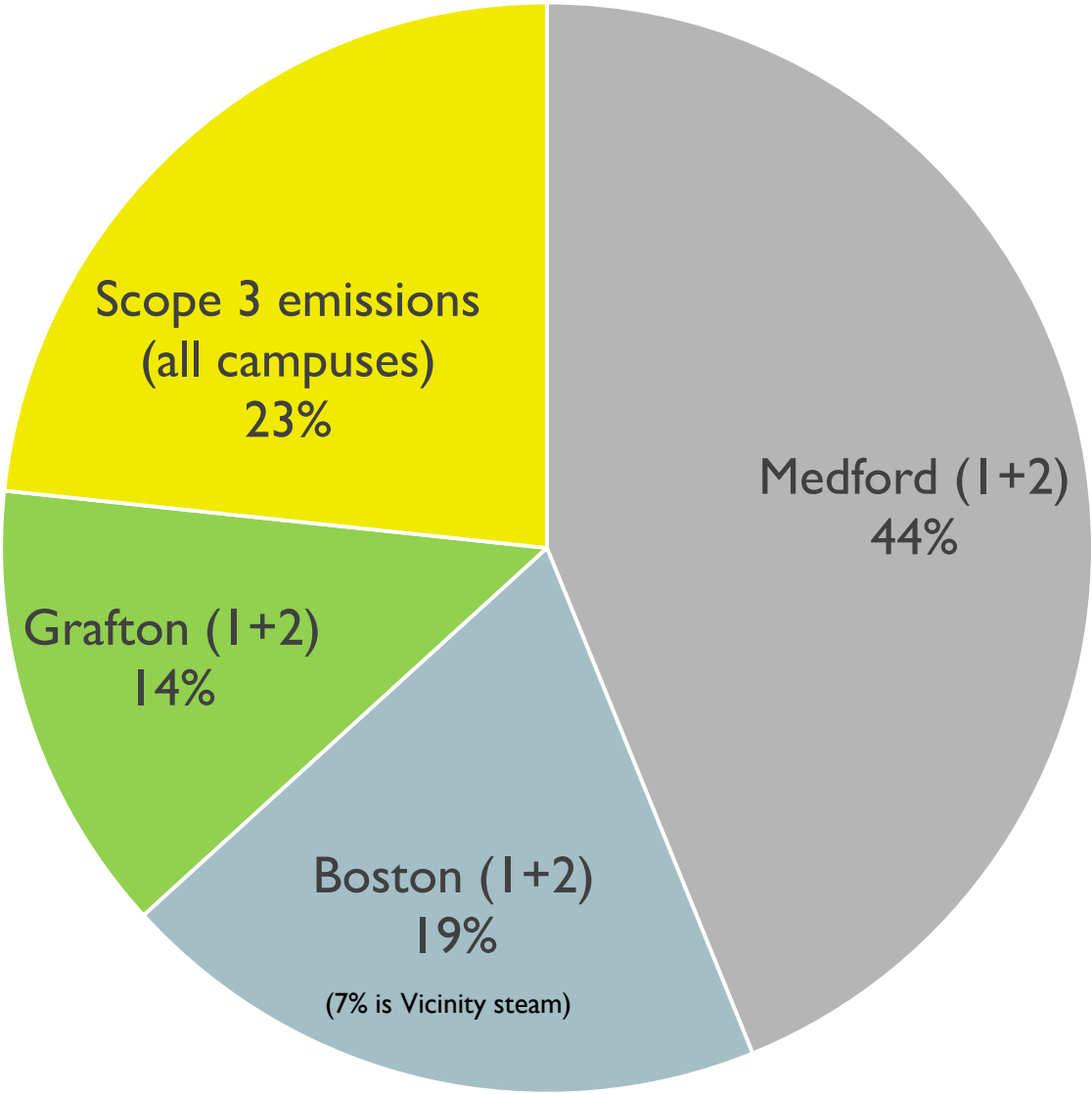
Total emissions 50,288 MTCO2e

* Does not include any leased spaces
 **The following sources comprised 0.5% or less: Refrigerants & Chemicals,ⁱ Paper, Animals, Wastewater, Waste, Fertilizer

ⁱ partial data (scope 1)

- No data (scope 3):
- Purchased goods/services like food
 - Capital goods
 - Comprehensive air travel

FY20 GHG emissions from energy vs all other sources



STRATEGIES FOR CARBON NEUTRALITY

#1

Reduce wasted energy (13%)

#2

Optimize district energy systems /
convert steam to hot water (7%)

#3

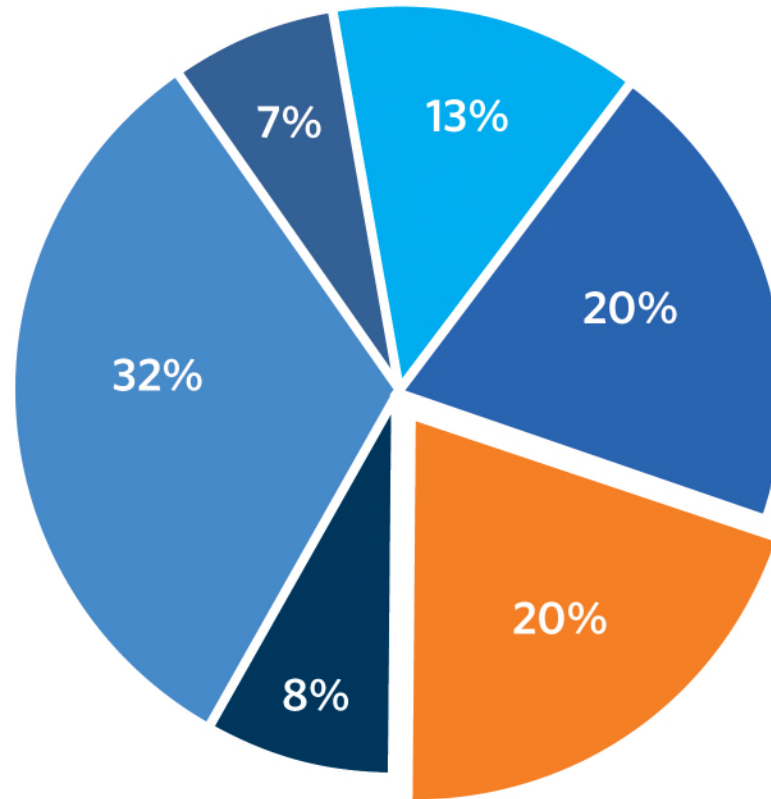
Electrify heating with heat pumps (32%)

#4

Switch to alternative fuels (8%)

#5

Benefit from the natural
decarbonization of the grid (20%)

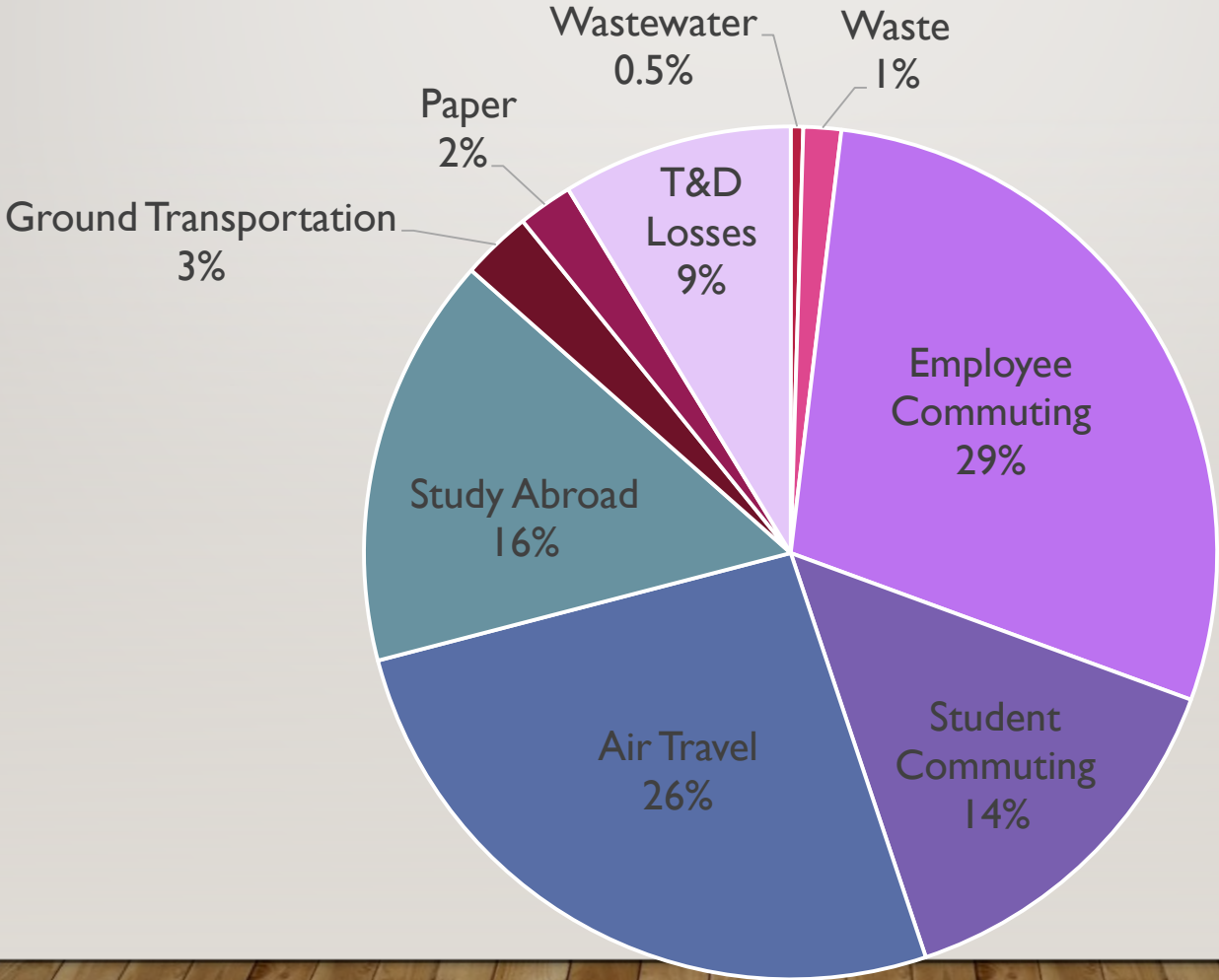


Medford Energy
(44% of total emissions)

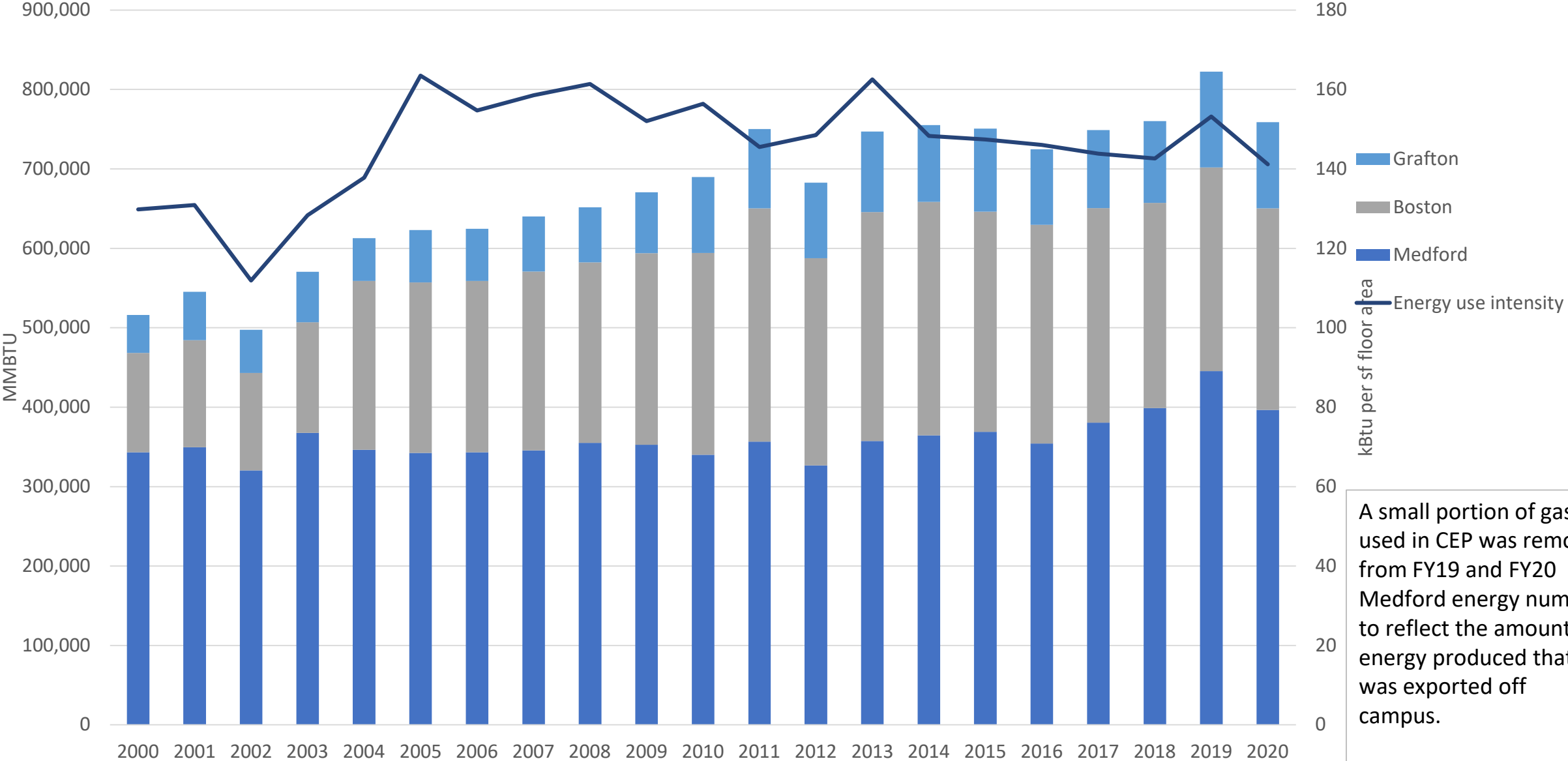
#6

Procure renewable electricity and
make use of carbon offsets (20%)

2020 Scope 3 Emissions (MTCO₂e)
(23% of total emission)

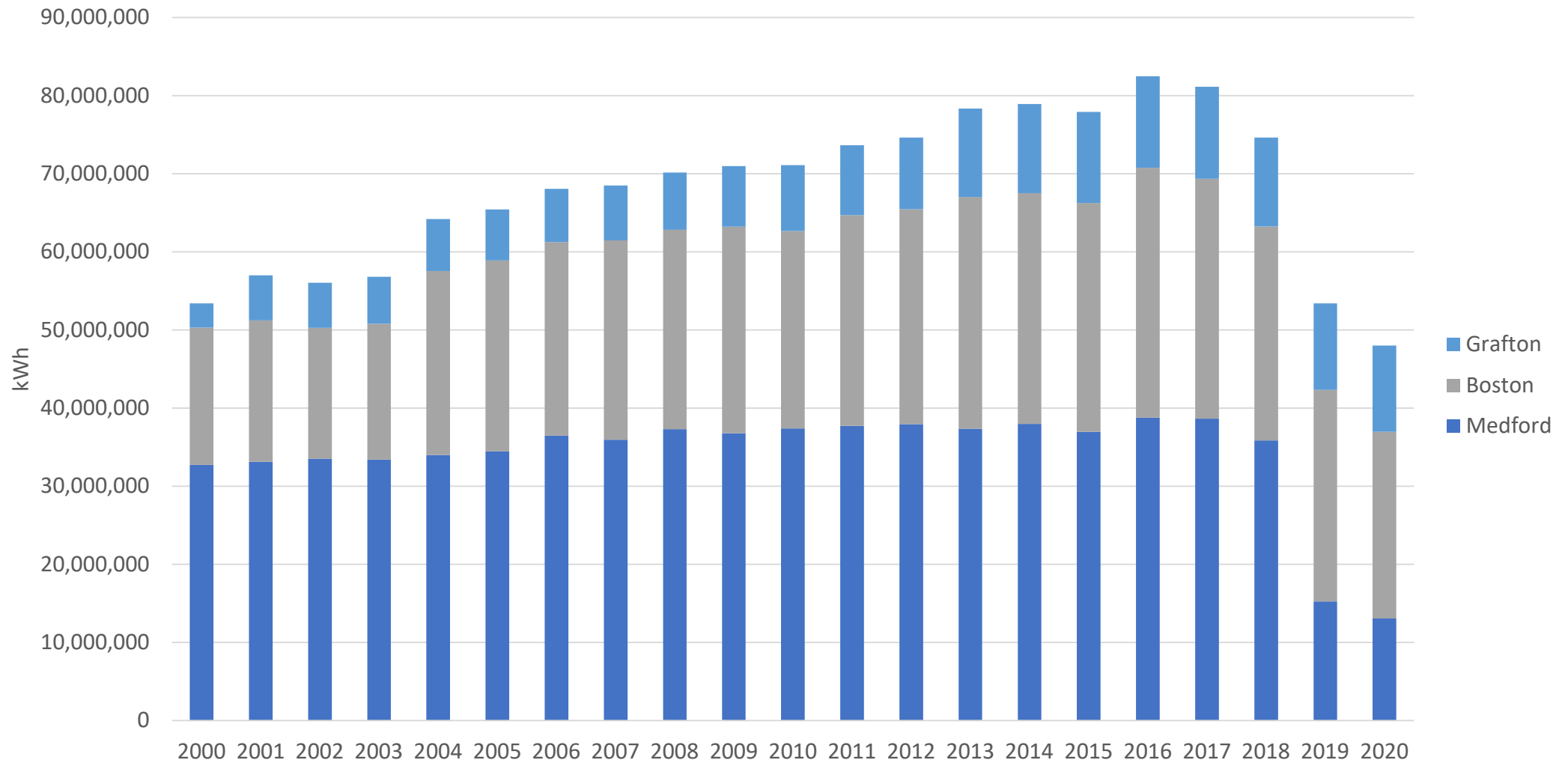


All campuses, 2000 - 2020 Energy Consumption

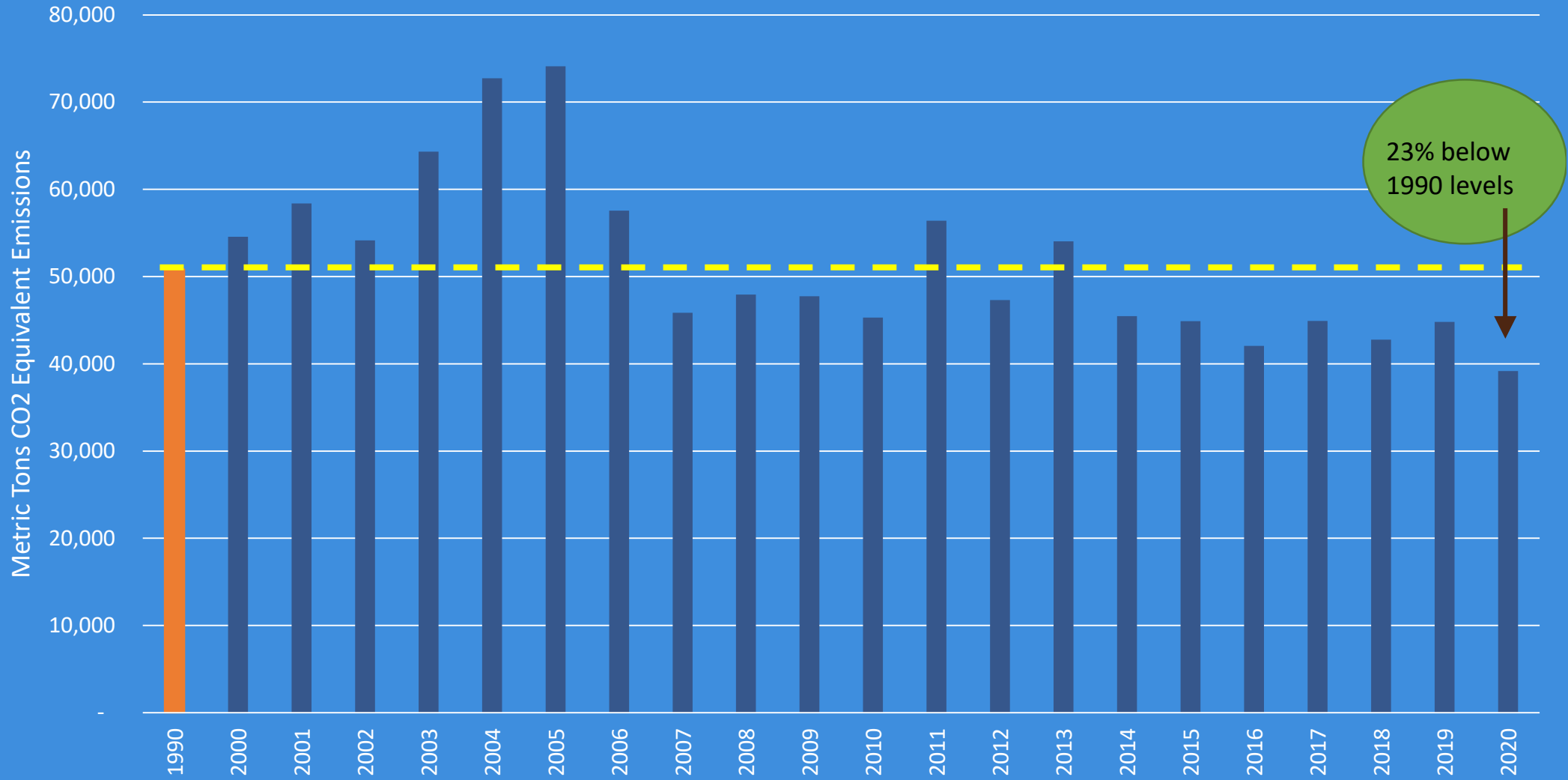


A small portion of gas used in CEP was removed from FY19 and FY20
 Medford energy number to reflect the amount of energy produced that was exported off campus.

All campuses, 2000 - 2020
Grid Electricity purchased

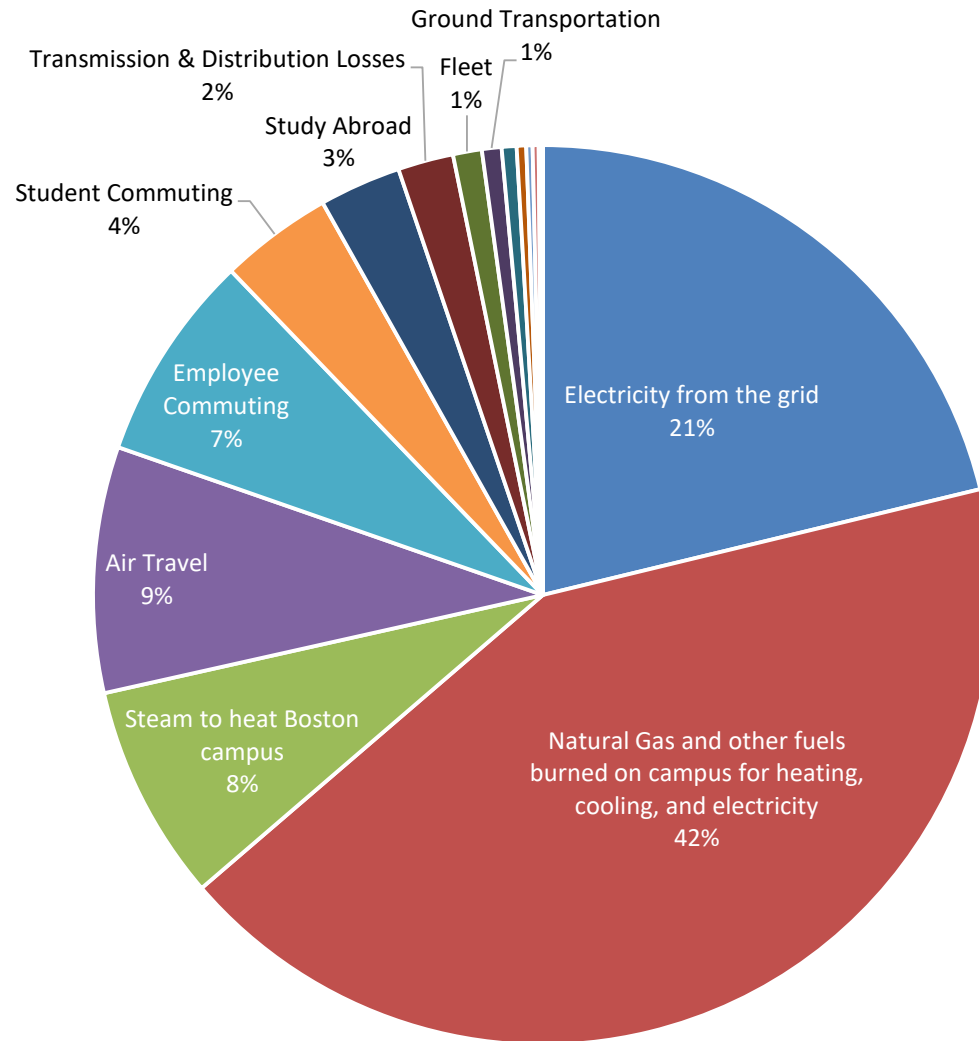


GHG Emissions from Energy and Fleet at Tufts over time



23% below 1990 levels

FY 2019 GHG Emissions - All Campuses (Fiscal Year)

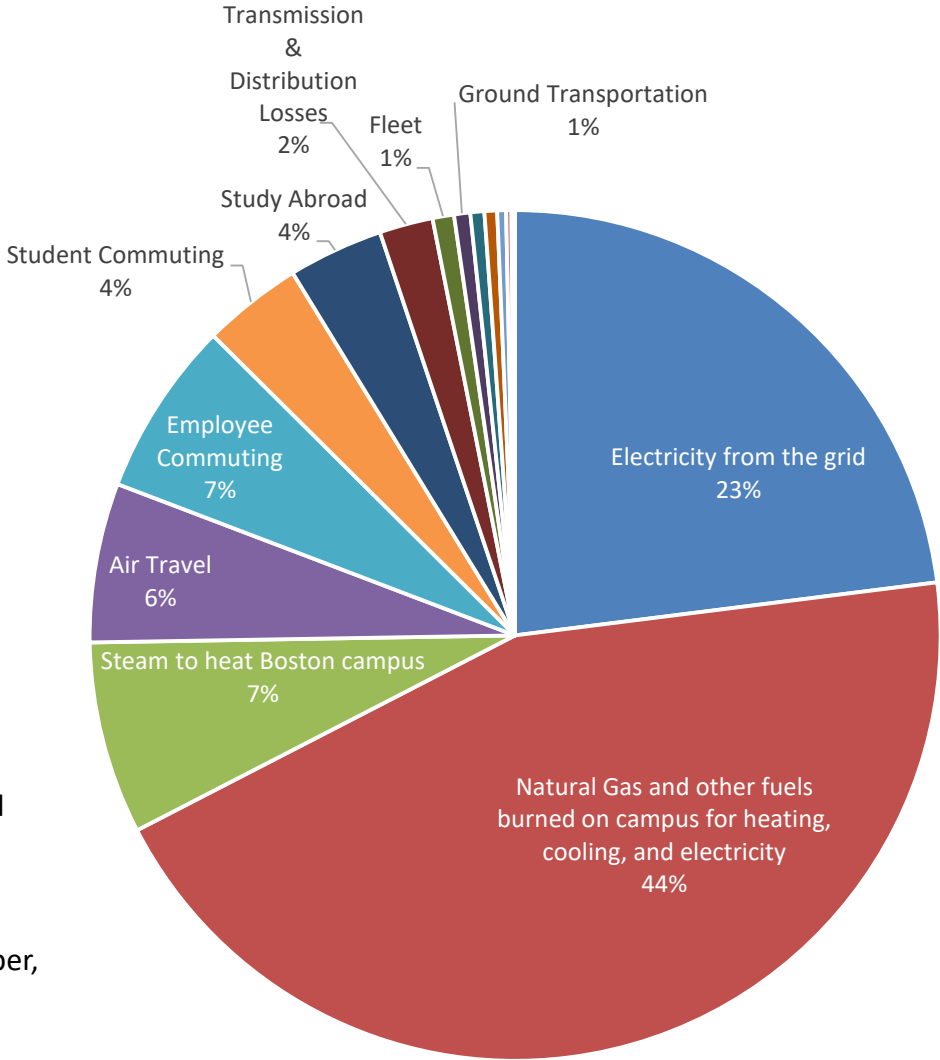


Total emissions 60,076 MTCO₂e

* Does not include any leased spaces
 **The following sources comprised 0.5% or less: Refrigerants & Chemicals, Paper, Animals, Wastewater, Waste, Fertilizer

***We have not yet captured all of the Refrigerants & Chemicals data

2020 GHG Emissions - All Campuses (Fiscal Year)



Total emissions
50,530 MTCO2e

15.8% below total
emissions from FY19

* Does not include any leased spaces, such as the SMFA
 **The following sources comprised 0.5% or less: Refrigerants & Chemicals, Paper, Animals, Wastewater, Waste, Fertilizer

***We have not yet captured all of the Refrigerants & Chemicals data

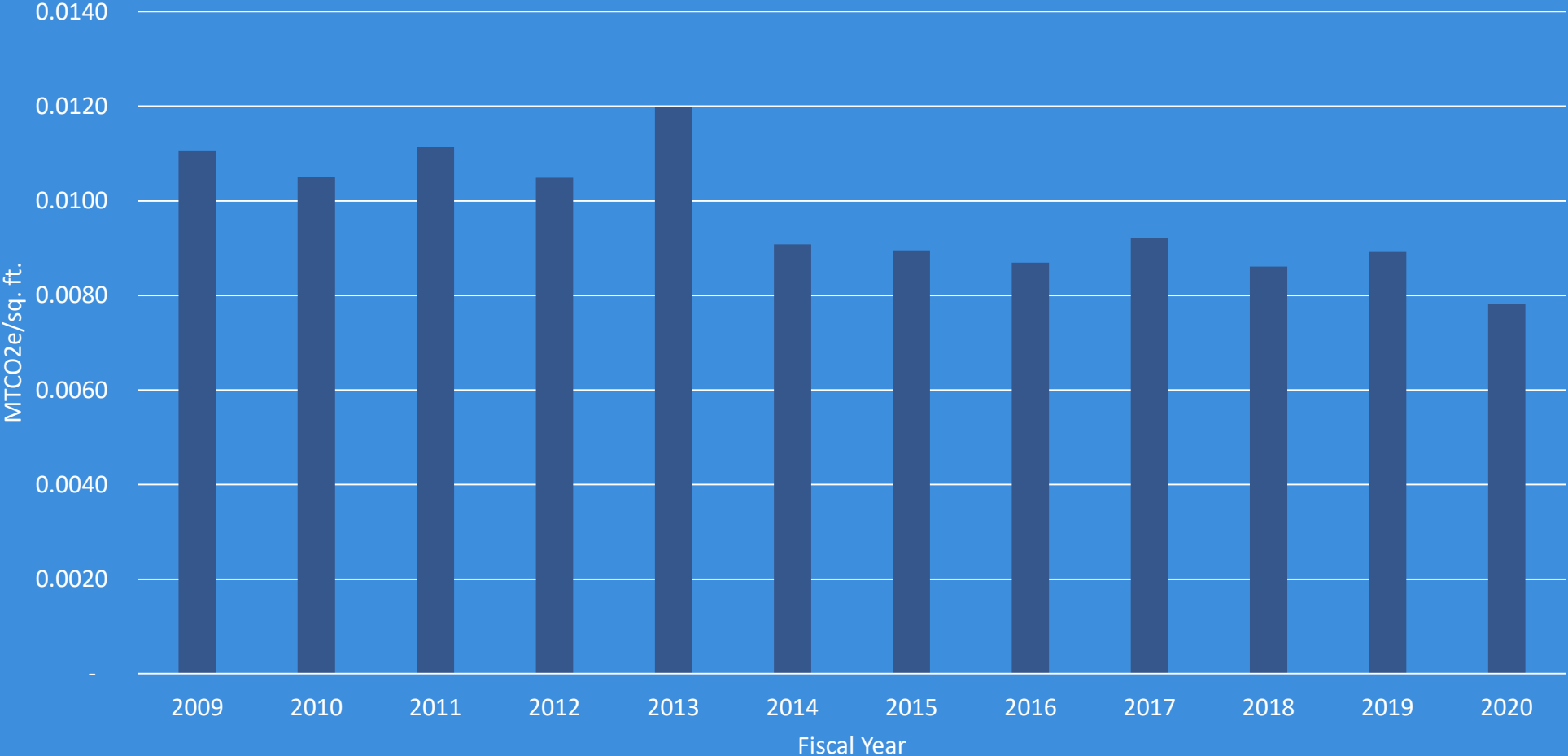
Where did emissions go down in FY20?

- Natural gas used on Medford campus (non CEP) went down
- CEP emissions went down (13,379 in FY19 to 12,152 in FY20), partially do to increased steam efficiency
- Boston campus used 12% less purchased electricity than in FY19, Medford was 14% decrease, while Grafton had no decrease.
- The emissions from Boston purchased steam (Vicinity) went down due to using more co-gen in the production
- Air travel emissions decreased by 42% from FY19 (this does not include study abroad)
- We estimated slightly lower emissions from employee and student commuting
- This large emissions decrease is likely due to COVID making the campuses go remote from March – June 2020, and restricting travel

Commuting estimates made for FY20

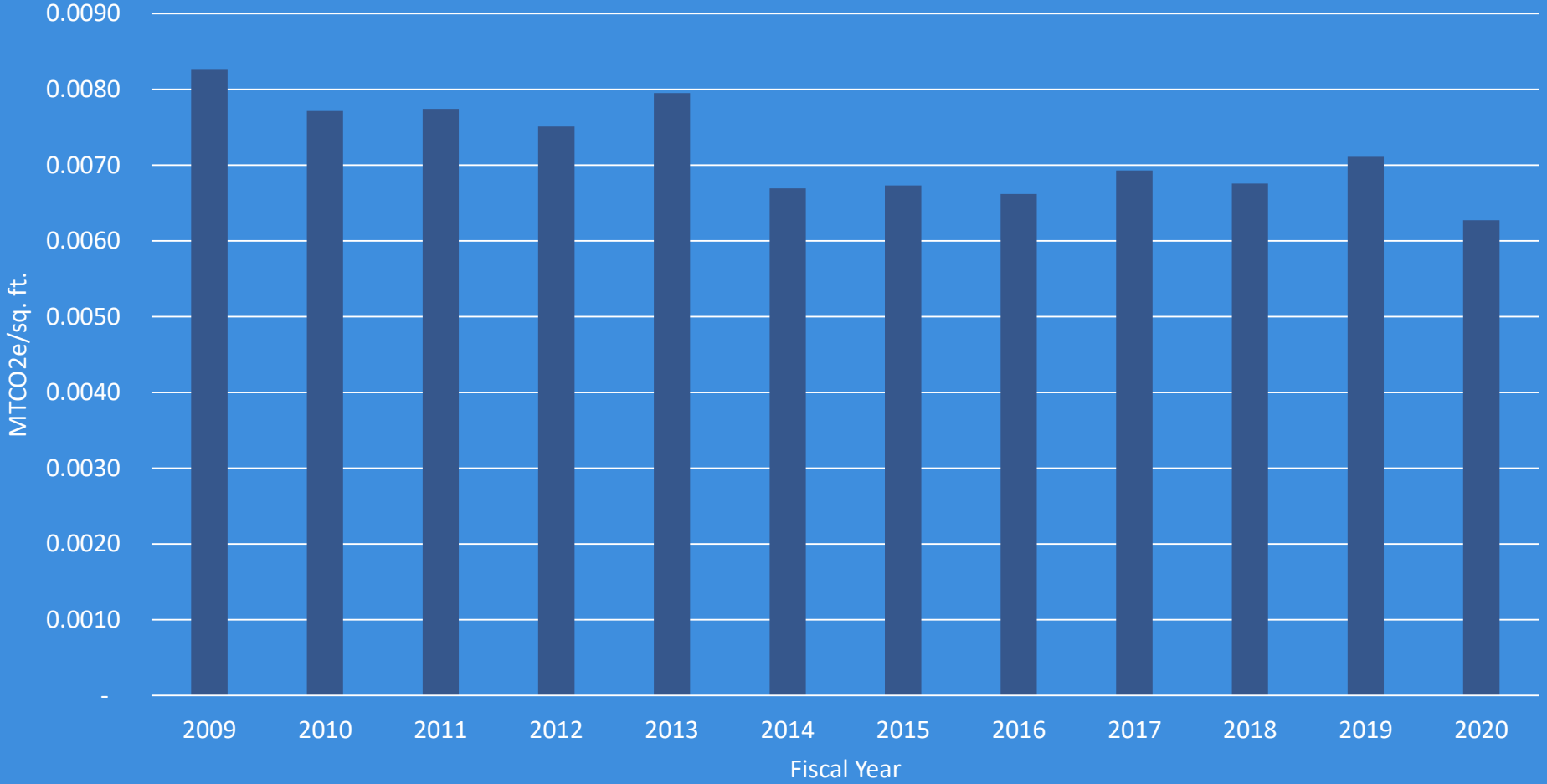
- This was a normal year until COVID when most Tufts students, faculty, and staff started being fully remote from March 16, 2020 through the end of the fiscal year (June 30, 2020). We never did a Rideshare survey for this fiscal year. Therefore, we used FY19 Rideshare survey commuting assumptions, and we assumed a certain number of remote workers and students during that COVID time frame.
- After emailing with Human Resources and EADs from all the schools, we made a rough estimate that 100% of Tufts students and faculty were remote from March 16 – June 30, 2020 and 80% of staff were remote during that time.

GHG Emissions from Energy per Gross Square Foot (all campuses)



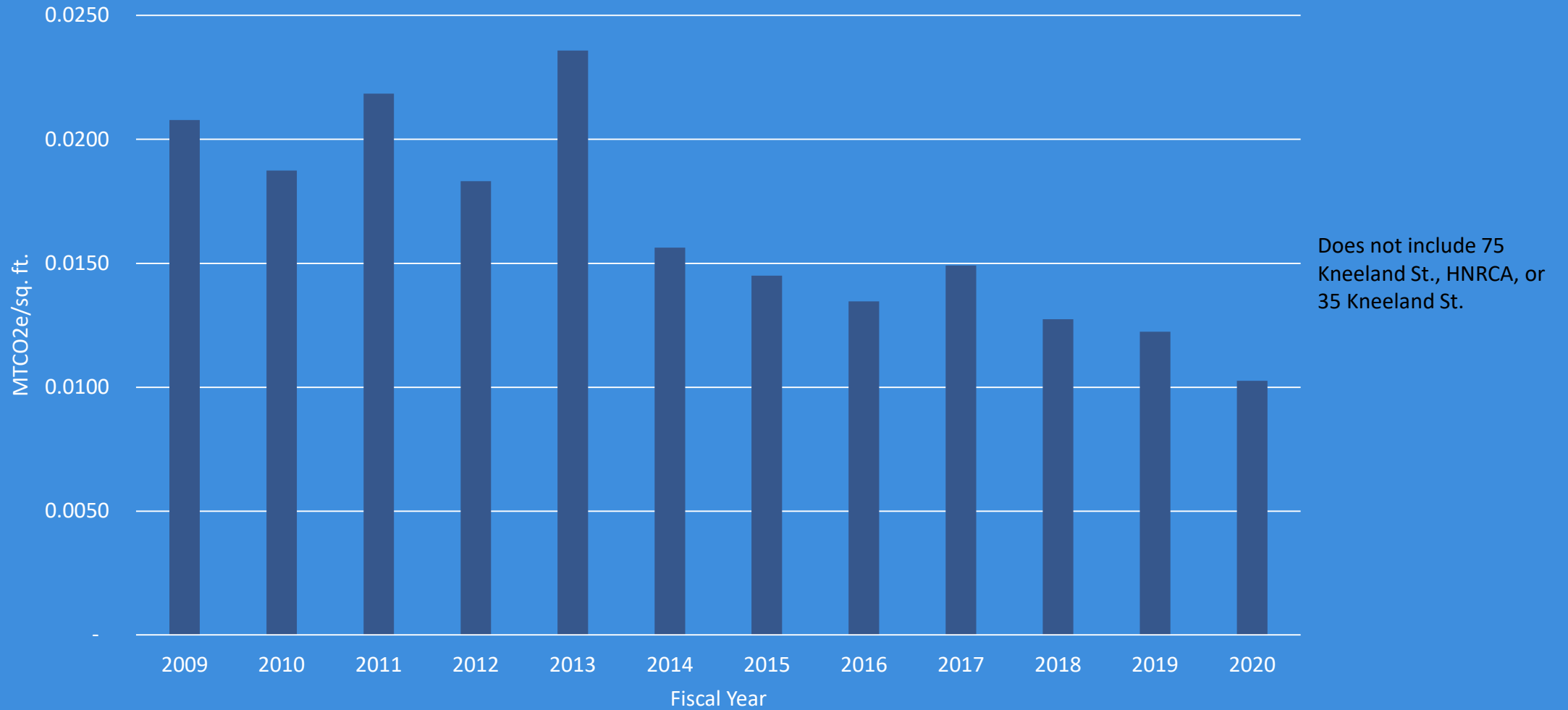
Leased buildings, the HNRCA, and 35 Kneeland St. are not included, due to lack of energy data. The SMFA is not included. Two remote buildings are included: the Loj and a clinic

GHG Emissions from Energy per Gross Square Foot (Medford campus)

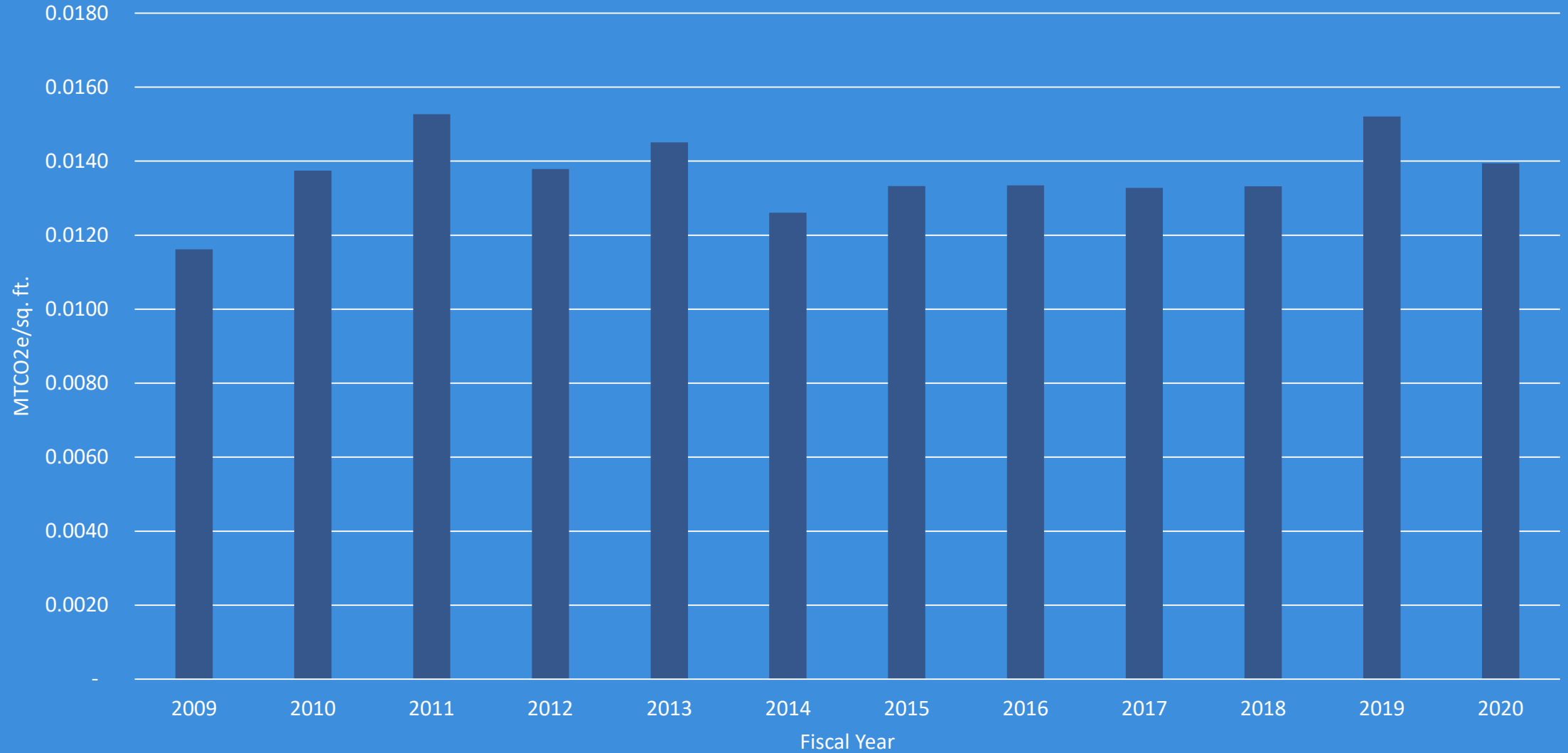


Does not include leased buildings

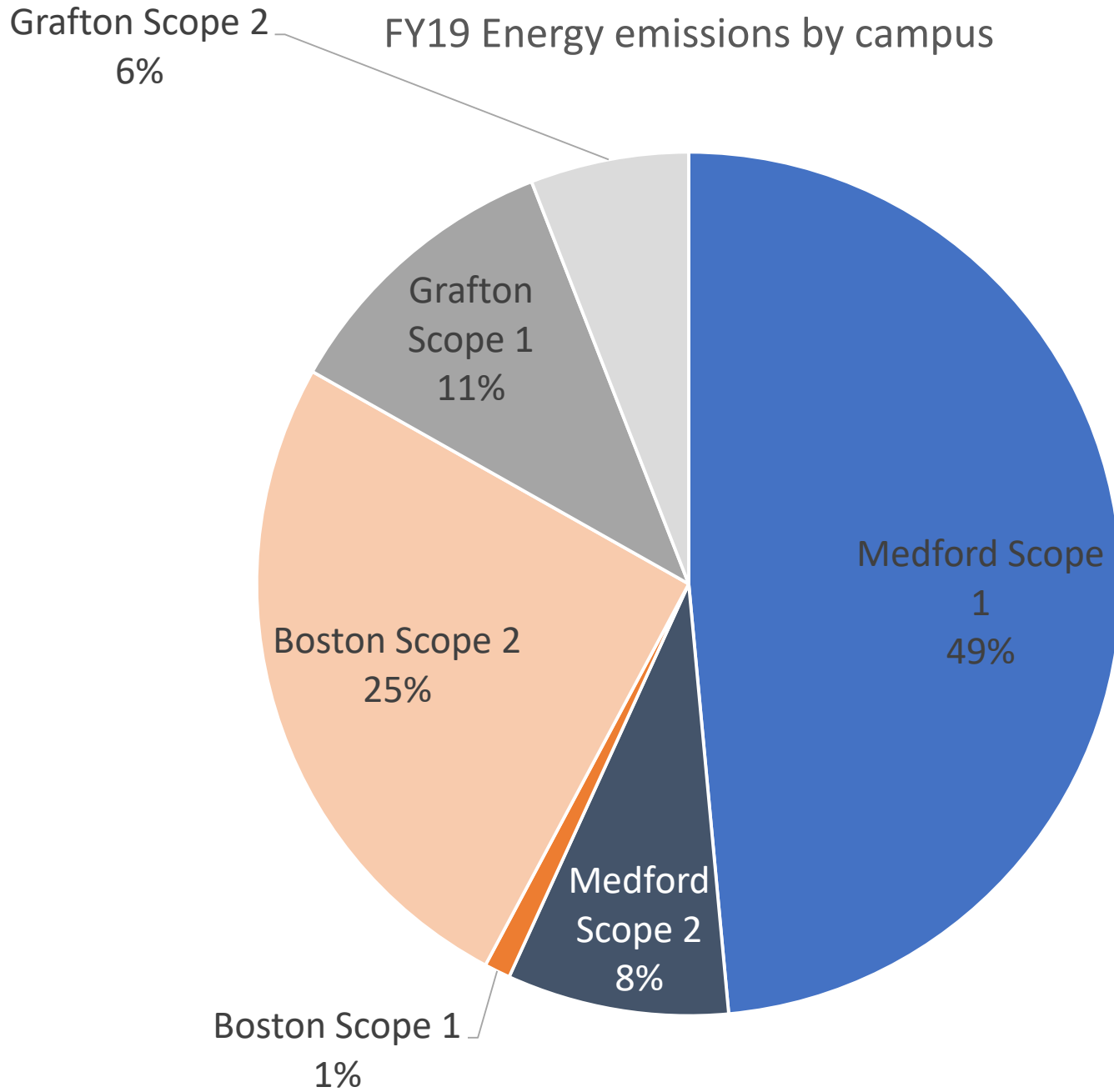
GHG Emissions from Energy per Gross Square Foot (Boston campus)



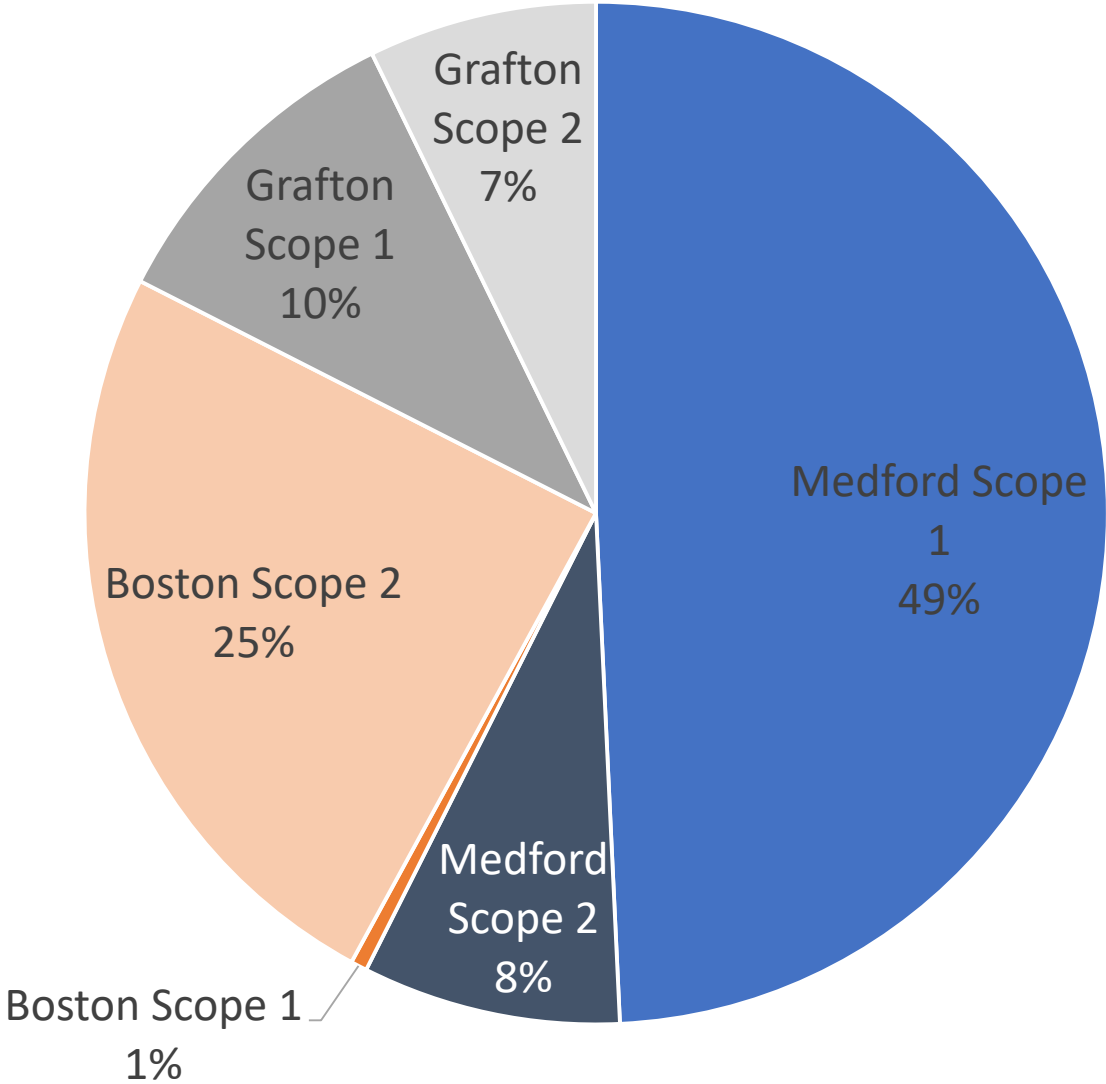
GHG Emissions from Energy per Gross Square Foot (Grafton campus)



FY19 Energy emissions by campus



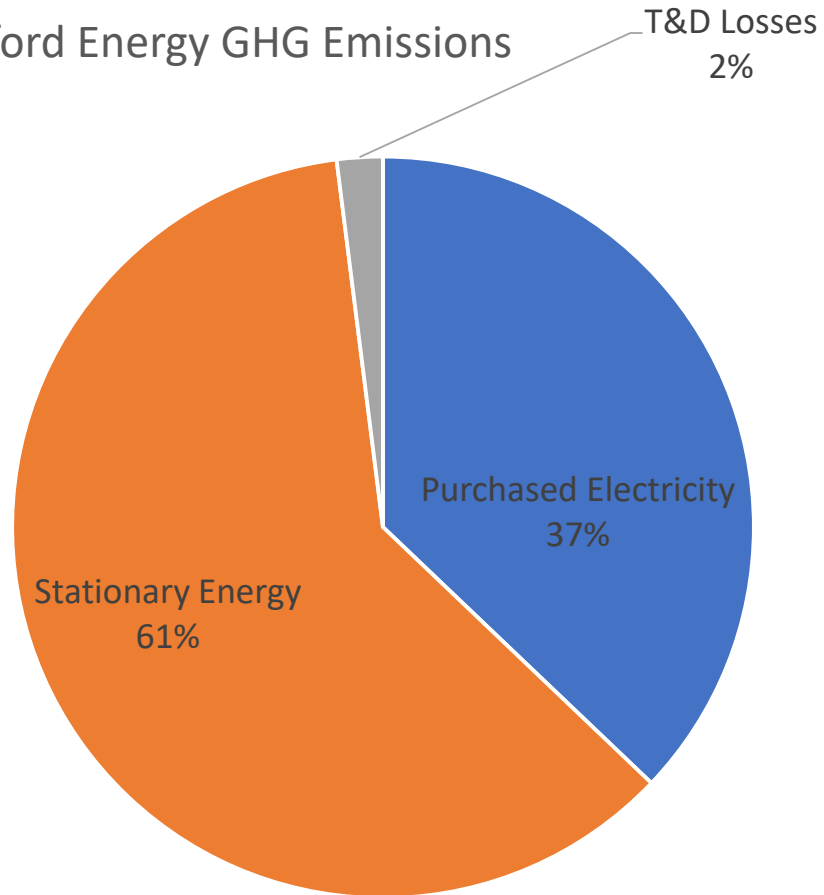
FY20
Energy emissions by campus



Medford campus graphs
below

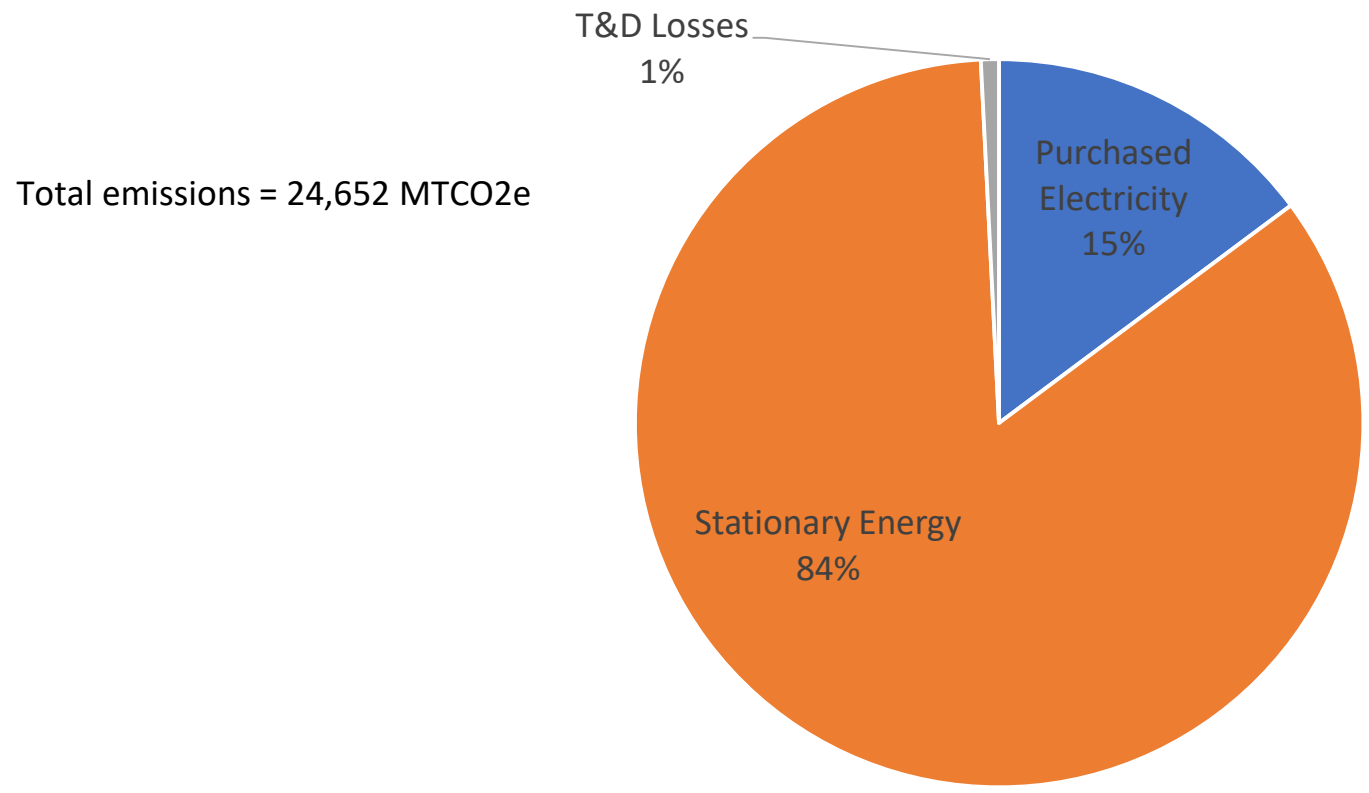
FY18 Medford Energy GHG Emissions

Total emissions = 23,125 MTCO₂e



Does not include leased buildings/Walnut Hill
The CEP was operating for just 4 months at the end of FY18

FY19 Medford Energy GHG Emissions



Does not include leased buildings/Walnut Hill. This was the first year the CEP was fully operating

FY20 Medford Energy GHG Emissions

