

The [Office of Sustainability](#) collaborates with on-campus and off-campus entities in data collection and methodology review to maintain the UT Austin Greenhouse Gas (GHG) Inventory. The Office primarily uses the [SIMAP platform](#) which estimates several greenhouse gases. The only source the Office does not track in SIMAP is the Scope 3 'supply chain' area which is estimated using the [Greenhouse Gas Protocol Scope 3 Evaluator](#).

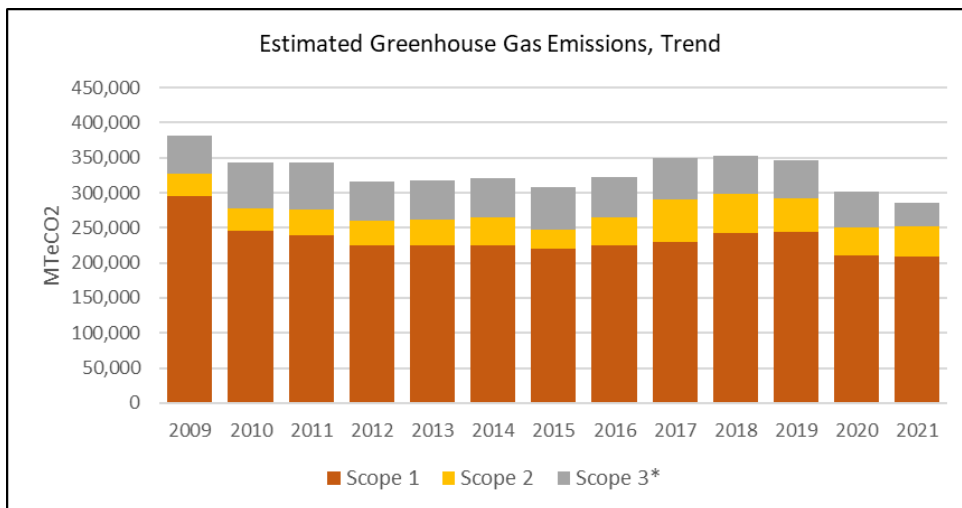
Greenhouse gas emissions are measured in metric tons of CO<sub>2</sub> equivalents (MTeCO<sub>2</sub>) and typically grouped into three scopes of emissions which can be collated in various ways to align with institutional perspectives and priorities:

- Scope 1 – Direct emissions that originate from equipment and facilities owned or operated by the university. These emissions primarily manifest within the built environment that is managed or influenced by the institution.
- Scope 2 – Indirect emissions from electricity purchased by the entity (i.e., Austin Energy), also typically related to built environment.
- Scope 3 – All other indirect emissions resulting from university activities but emitted from sources controlled by another company or entity. While typically optional for reporting, Scope 3 emissions clarify an organization's entire carbon footprint including student/staff/faculty commuting and food supply chain, which can be influenced by institutional policy and action.

### Summary

For the FY2020-21 update, the Office continued a more comprehensive analysis of supply chain emissions (within Scope 3) which accounts for a substantial portion of total estimated emissions, even with the dramatic reductions across most categories related to the pandemic. The university carbon footprint, not including supply chain, is estimated 284,925 MTeCO<sub>2</sub> greenhouse gas emissions for fiscal year 2020-21.

This equates to approximately 3.9 MTeCO<sub>2</sub> per campus person (students, staff, and faculty).



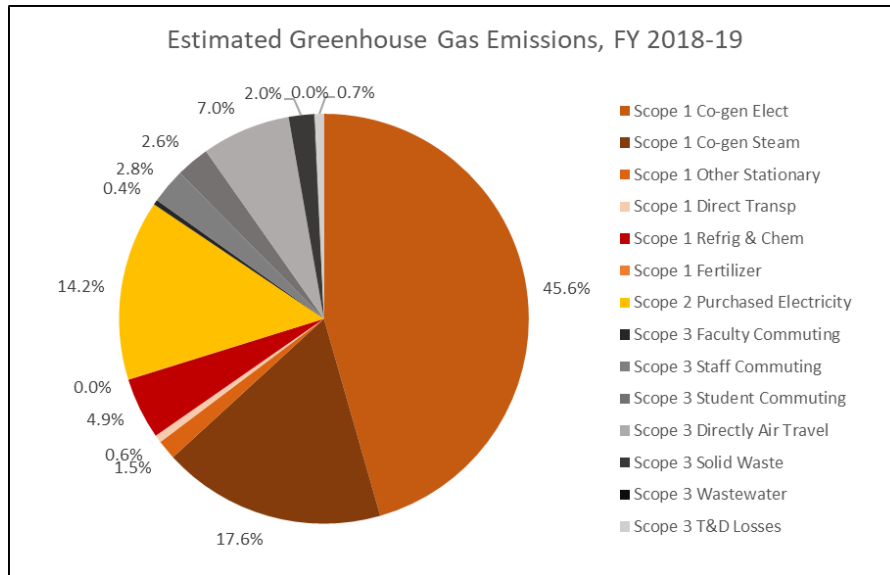
Scope 1 emissions are 208,427 MTeCO<sub>2</sub> for FY20-21. The majority of Scope 1 emissions come from the on-campus [Carl C. Eckhardt Combined Heating and Power Complex](#) through combustion of natural gas to generate electricity, steam and chilled water. Due to improvements in recent decades, the plant has an average efficiency of 85%, and is

recognized as one of the largest and most efficient, reliable, and integrated micro-grids in the world.

Scope 2 emissions are 43,086 MTeCO<sub>2</sub> for FY20-21 and solely related to electricity purchased from Austin Energy. While the amount of kilowatt-hours purchased from Austin Energy has nearly doubled in recent years due to rapid expansion on both the main campus and at the Pickle Research Campus (PRC), the aggressive emissions reductions goals of the City of Austin and Austin Energy benefit the university's own emissions inventory.

**Emissions Sources**

FY2018-19 data shown below as more representative of a typical year of activity. The various sources of campus emissions can be disaggregated in several ways based on policy perspective. Once supply chain emissions are removed, the largest grouping of emissions relates to the on-campus power plant which serves

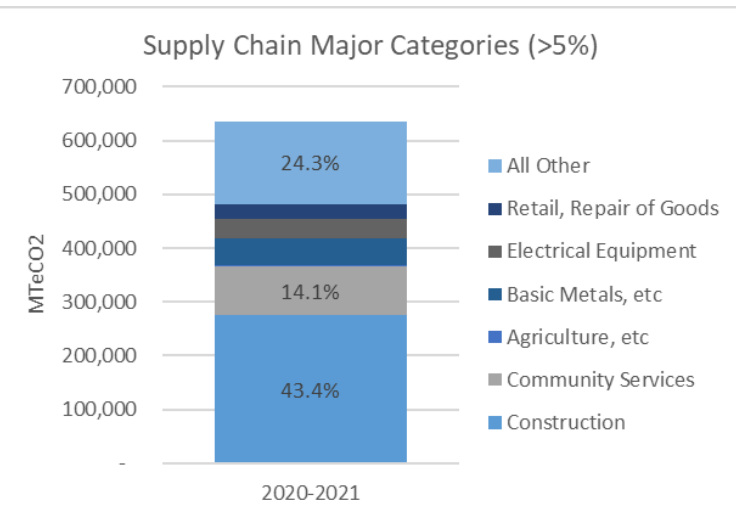


the built environment of the Main Campus, which is over 28M square feet for FY2020-21. Refrigerant leakage at the on-campus power plant is low, but worth noting separately because of the disparate impact of refrigerant emissions on the atmosphere. The next largest is purchased electricity which primarily represents the built environment at PRC, which is seeing growth in energy-intensive space. The third largest is transportation related emissions representing air travel and commuting by students, staff and

faculty which call all be reduced and mitigated with creative policy and incentives. Air travel was predictably much lower for FY2020-21. Commuting is estimated based on previous mode surveys and will updated in Spring 2022 after a new mode survey.

**Scope 3 – Supply Chain**

By far the largest Scope 3 category is supply chain – the goods and services purchased. Institutions are typically given broad latitude in estimating supply chain emissions, with some institutions only calculating the footprint of purchased paper. The UT Austin annual operating budget exceeds \$3 billion across 20 economic categories, so a broader approach is more appropriate. Using a spend-based method, total supply chain



emissions for FY 2020-21 are estimated at 636,225 MTeCO<sub>2</sub>, with over 40% attributed to construction related activities. While this approach dramatically increases the overall emissions estimate, the Office of Sustainability believes this is a more complete representation of our overall carbon impact.

Additional research on associating specific spending activities to appropriate emissions factors would be beneficial. Direct discussions with suppliers and providers of specific goods and services about their emissions factors would also be beneficial.