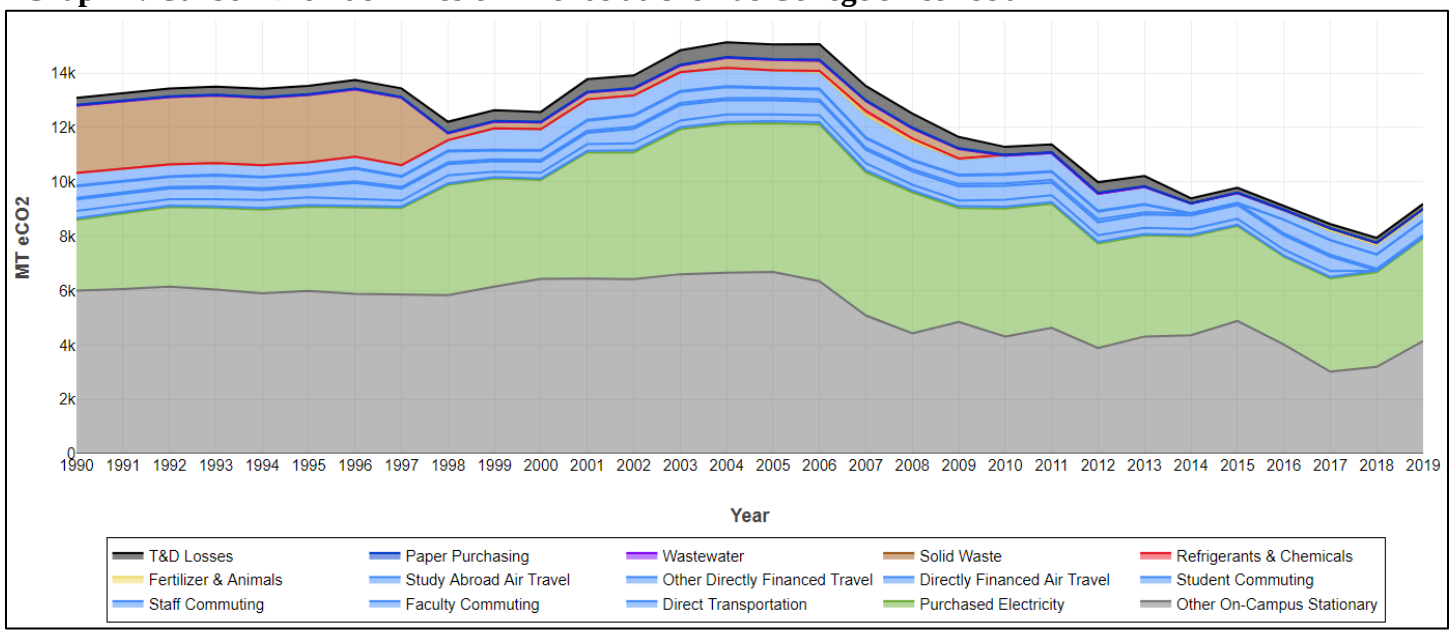
SUSTAINABILITY
Ursinus College

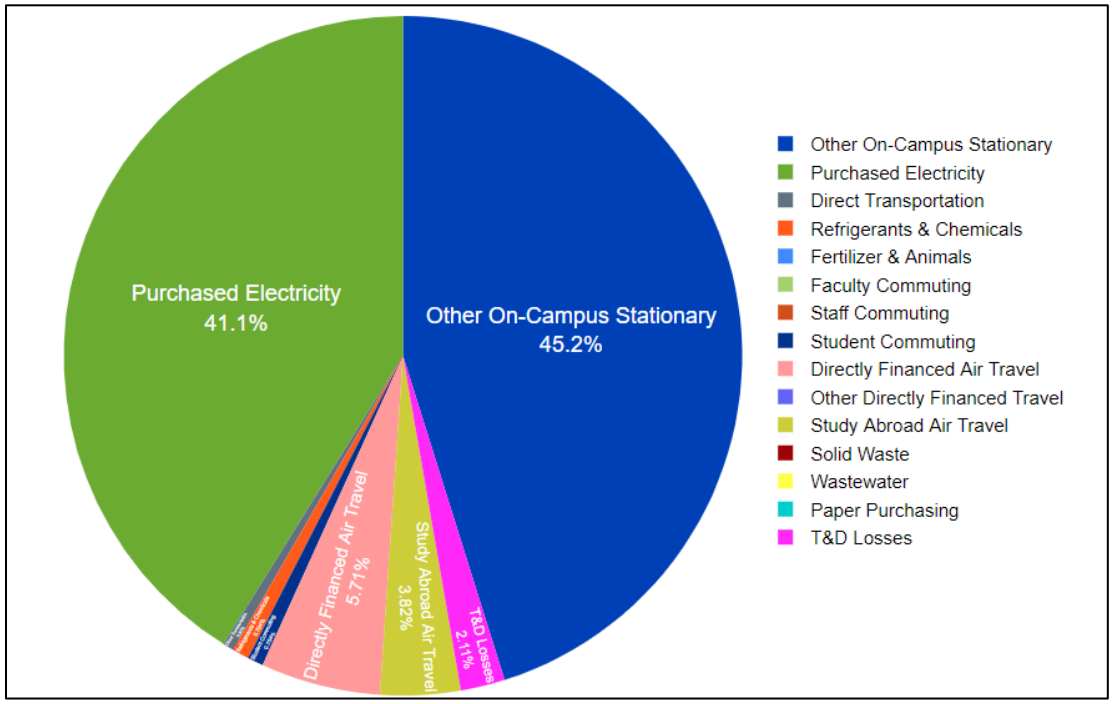
2018-2019 Ursinus College Greenhouse Gas Inventory

In 2007, Ursinus College signed the American College and University Presidents' Climate Commitment. That commitment prompted action that we are still seeing today as Ursinus College agreed to make its best effort to become carbon neutral by 2060, perform regular inventorying of carbon dioxide, and to educate the community about global climate instability.[1] The Ursinus College Office of Sustainability (OS) is happy to put forth this latest greenhouse gas inventory, which covers the time frame of July 1, 2017- June 30, 2019. During this period, it is estimated that Ursinus College emitted 9,187.95 metric tons of carbon dioxide equivalents (MT eCO_2). Below and on the backside of this sheet contains data represented in graph and chart form, definitions of scopes/sources of carbon dioxide, and a brief analysis.

Graph 1: Carbon Dioxide Emission Trends at Ursinus College since 1990



Graph 2: Sources of Carbon Dioxide at Ursinus College by Category, 2019



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Methods and Data Limitations

The OS utilized the SIMAP data platform, which is operated by the Sustainability Institute at the University of New Hampshire.[2] To calculate the college's carbon emissions, SIMAP takes into account a wide array of data points which are listed in Table 1. Data for the inventory was collected from campus offices and services providers, including: the Facilities Services Department, the Business Office, the Center for International Programs, the Office of Institutional Research and Effectiveness, J.P. Mascaro & Sons, and Sustainable Waste Solutions.

It is important to note that data collection for the fiscal year of 2019 was disrupted in March 2020 due to COVID-19. Data points impacted include travel and paper usage. To keep the inventorying and reporting process moving forward, the OS has added "place holder data" for these categories. The OS intends to collect the pertinent 2019 data when it inventories for the 2020 fiscal year.

Table 1: Greenhouse Gas emissions types, or "scopes", by definition and examples.[3]

	Definition	On Campus Examples
Scope 1	Emissions directly resulting from sources owned or controlled by the institution.	- On-Campus Stationary Sources Emissions from all on-campus fuel combustion (non-vehicular) - Direct Transportation Sources - emissions from all fuel used in the institution's fleet - Refrigerants - Agricultural and fertilizer use
Scope 2	Indirect emissions from sources that are neither owned nor controlled by the institution, and which are directly linked to on-campus energy consumption	- Purchased electricity
Scope 3	All other indirect emissions associated with the activities of the institution, but produced by sources not owned or controlled by the institution	- Air travel paid for by the institution (business travel) - Travel influenced or encouraged by the institution (study abroad travel, daily commuting) - Solid waste - Food and paper

Implications and the Future

Energy use and consumption sources encompassed 86.3% of Ursinus College's carbon dioxide emissions during the 2019 reporting period. The completion of the Innovation and Discovery Center building resulted in an increase in energy use and a correlating increase in greenhouse gas emissions. Graph 1 shows this increase in both on-campus stationary and electricity emissions. It remains to be seen what impacts and implications will result from the 2019 COVID-19 pandemic on the campus's carbon dioxide emissions.

[1] K. Shannon Spencer, "Ursinus College Climate & Sustainability Action Plan," 2013.
[2] Visit https://unhsimap.org for more information on SIMAP
[3] K. Shannon Spencer, "Ursinus College FY 2010-2013 Greenhouse Gas Inventory Report," 2013, 3.