Auraria Campus FY2019 Greenhouse Gas Inventory and Climate Action "Game Plan"

Auraria Sustainable Campus Program

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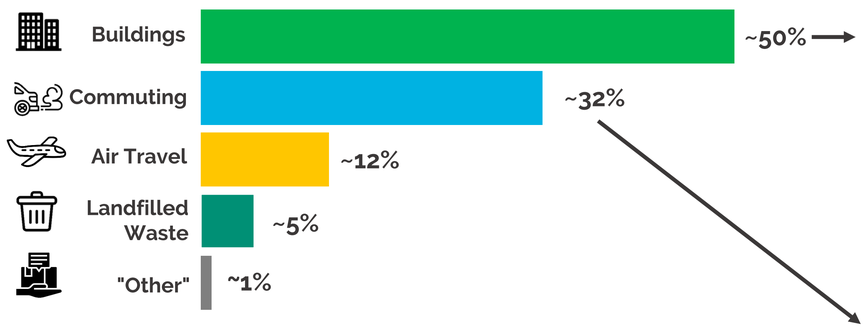
Fiscal Year 2019 Greenhouse Gas Inventory

KEY STATS

- **64,740 MT CO2e** generated in FY 2019
- **3,718 lb CO2e/headcount** (faculty, staff and students)
- **22 lb. CO2e/ft² built space**
- **16.4% decrease** (from 2008 baseline)
- **2020 Projection: 18.5% decrease**
  without any changes (just additional library solar production)

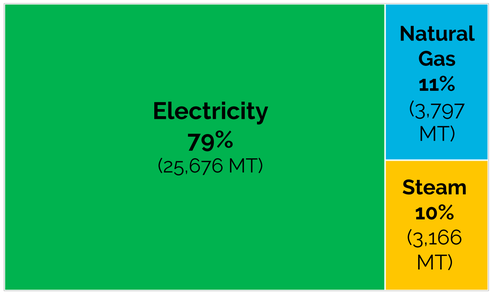
Where do Auraria's Emissions Come From?



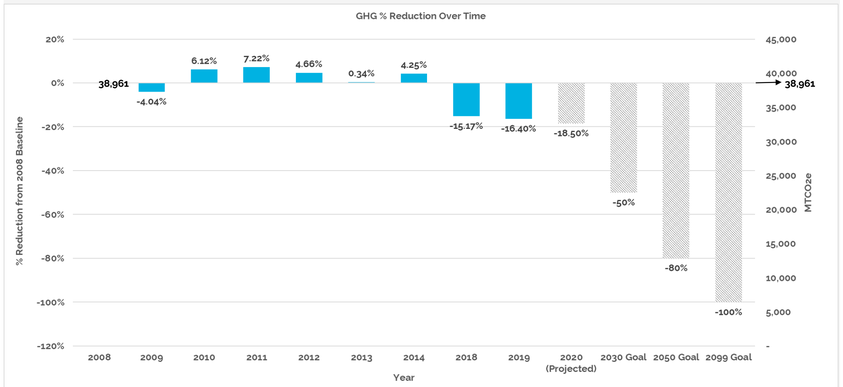
BUILDINGS

Buildings represent **50%** of Auraria's total GHG Emissions

Emissions from Buildings/Energy Consumption (MT CO2e)



REDUCTIONS OVER TIME



According to the IPCC, in order to limit catastrophic climate change, warming must be limited to 1.5° C (2.7° F). This means
reducing GHG emissions
45% from 2010 levels by 2030, and 100 percent by 2050[1].

Colleges and universities represent roughly
2% of GHG emissions
in the United States
(~1/4 of California)[2]

…schools that utilized a GHG inventory to inform their CAP strategies were more likely than their peers to realize
emissions reductions greater than 10%
than their peers who did not use a GHG inventory[3]

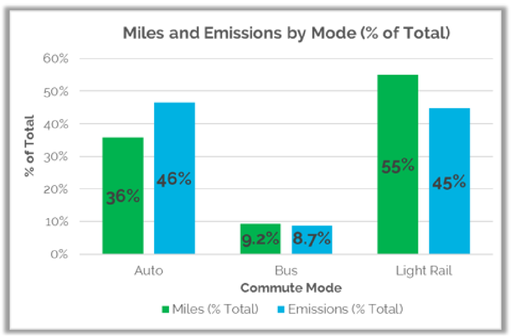
TRANSPORTATION

Campus Commuting Quick Facts[4]:

Average Trip Distance:
~15 Miles

Total miles traveled annually:
156 million miles

…that's 55,000 trips across the U.S. or **325 trips to the moon** and back!



Commute Mode	Miles Traveled	Miles (% Total)	Trips Across the U.S.	Emissions (MT CO2e)	Emissions (% Total)
Auto	53,592,416	36%	19,126	9,682	46%
Bus	13,778,829	9.2%	4,917	1,819	8.7%
Light Rail	82,376,089	55%	29,399	9,341	45%
Total	149,747,334	100%	53,443	20,842	100%

Miles vs. emissions by commute mode

Climate Action: Next Steps and Key Recommendations

Key Recommendation: Energy Management

Active energy management could
reduce energy consumption by 11% over a two year period…

This could save Auraria…
$650,000 a year
—over 10% of AHEC's projected FY20 shortfall from lost revenue due to the COVID-19 pandemic

In 2008, the three academic institutions comprising the Auraria campus signed the American Colleges and University's President's Climate Commitment (ACUPCC), pledging to reduce campus emissions 20% (below 2008 levels) by 2020, 50% by 2030 and 80% by 2050. However, a 2018 scientific reports from the IPCC suggest that more immediate and aggressive reductions are required to prevent catastrophic warming, and the State of Colorado has passed a law calling for statewide reductions of 26% by 2025, 50% by 2030 and 90% by 2050. The Auraria Sustainable Campus Program (ASCP)—the student-fee funded sustainability program on campus—is spearheading a campus-wide climate action planning process, set to commence this summer and conclude in December 2020 with a renewed commitment to science-based reduction targets. This GHG inventory will serve as the blueprint for those conversations. To ensure that the forthcoming Climate Action Plan (CAP) is truly useful, effective and implementable, it is imperative that the ASCP take this GHG inventory—and the forthcoming CAP—beyond the traditional format of a lengthy, static and intimidating report. By following the set of key recommendations outlined below and making use of public dashboards and reporting tools, the ASCP will better engage the campus community and increase the engagement and effectiveness of the Auraria Climate Action Plan.

Public declaration of intent to participate	Compile Task Force and Subcommittees	Bite-sized Projects	Identify Funding	Focus on Energy Efficiency/Cost Savings	Be Transparent and Engage	Public Commitment to GHG Reductions
Call on the administration at the four institutions to make a public declaration of their intention to participate in this planning effort in order to generate accountability.	Task Force: Buildings/Energy, Transportation, Water and Grounds, Purchasing and Waste, Academics, Outreach and Engagement.	Make sure that overarching goals are broken down into tangle projects with designated task owners. Provide task owners with a reporting template to guide the content of their updates at task force meetings.	It is critically important that some funding be identified to jumpstart some of these projects—even if that is the identification of a grant opportunity that has not yet been procured.	Lead with projects that target $ waste, identify most significant cost savings, high ROI and short payback periods. Acknowledge and speak in the context of COVID-19 so the message doesn't fall on deaf ears.	Host public dashboards (Tableau) on a public webpage dedicated to CAP and consider using project tracking tool (ie: Airtable) to increase transparency and accountability.	When targets are estalbished, make sure the four institutions take a public stance on GHG reductions to increase accountability.

House Bill 19-1261: Climate Action Plan to Reduce Pollution

Established statewide GHG reduction goals (relative to 2005 baseline):

- **26% reduction by 2025**
- **50% by 2030**
- **90% by 2050**

93% of surveyed students agree:
"It is important to me that the Auraria Campus prioritize climate action and the reduction of our campus' greenhouse gas emissions…"[5]

[1]IPCC (2018). "Global Warming of 1.5°C. An IPCC Special Report On The Impacts Of Global Warming Of 1.5°C Above Pre-Industrial Levels And Related Global Greenhouse Gas Emission Pathways, In The Context Of Strengthening The Global Response To The Threat Of Climate Change, Sustainable Development, And Efforts To Eradicate Poverty." *Intergovernmental Panel on Climate Change.*

[2]Parikhit Sinha, William A. Schew, Aniket Sawant, Kyle J. Kolwaite & Sarah A. Strode (2010). Greenhouse gas emissions from U.S. institutions of higher education. *Journal of the Air & Waste Management Association, 60*(5), 568-573. DOI: 10.3155/1047-3289.60.5.568.

[3]Tehmina, S (2015). *Role of greenhouse gas inventories in climate change mitigation at institutions of higher education*. Master's thesis, Duquesne University. Retrieved from https://dsc.duq.edu/etd/1271.

[4]Jackson Shumate, S. (2019). [2019 Auraria Campus Transportation Survey]. Unpublished raw data. This data was obtained from a Transportation Survey conducted by MSU Denver Geography Dept.

[5]This data was taken from the current ASCP Campus Sustainability survey that currently has 170 responses and will continue collecting responses through the end of the year.