Colorado State University Greenhouse Gas Report for FY21

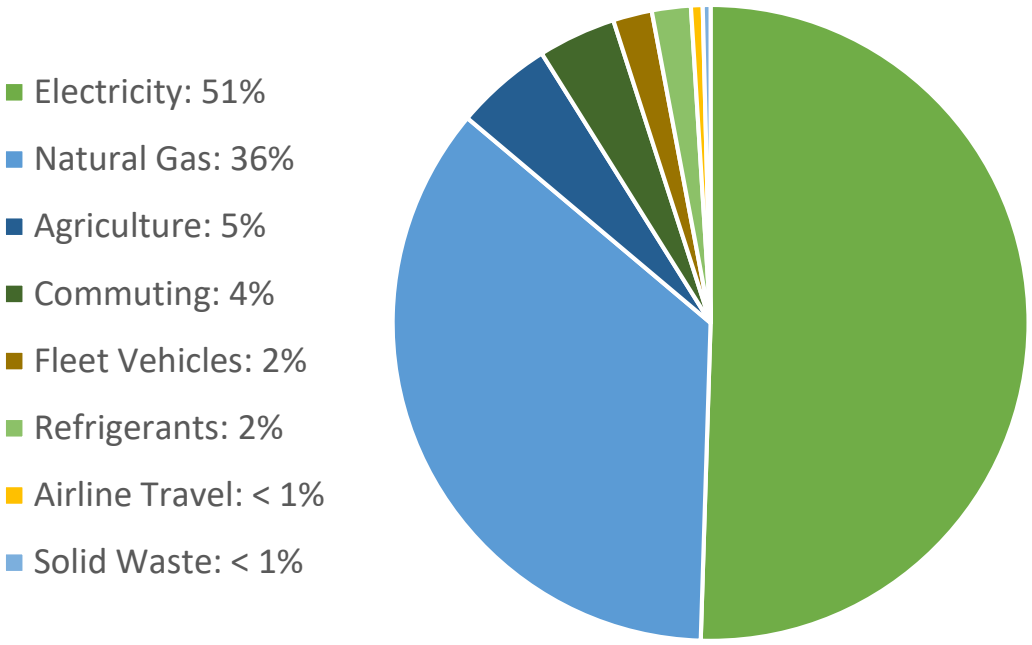
What is a greenhouse gas inventory? And how is Colorado State doing?

Organizations use greenhouse gas (GHG) inventories to measure the environmental impacts and GHG emissions. All of the organization's activities are accounted for and the global warming potential of each gas is then converted into equivalent units of CO_2 (carbon dioxide).

Most institutions of higher education complete an annual GHG inventory, as do many major businesses, cities, counties, and states. Each sector follows defined protocols to gather and report data. CSU follows criteria unique to higher education, which enables CSU to compare emissions within the higher ed sector and consistently track progress over time.

Measuring impacts at CSU

CSU's FY21 GHG inventory summarized in eight categories:



What surprises you about CSU's emissions? Did you notice purchased electricity is the largest piece of our footprint, or that solid waste is the smallest – why is that? Why are electricity and natural gas so BIG? …buildings – and the all of the fossil-based fuels used to operate them.

If you want to help CSU reduce its GHG footprint – help reduce the amount of electricity we consume! Until the electricity we purchase comes from 100% renewable sources, reducing the amount of electricity we consume has the largest direct impact to our carbon footprint.

Reducing electricity consumption is a way each of us has an opportunity to help make a difference every day. A GHG inventory tells a lot about an organization's operational impacts, and highlights areas that need the greatest focus to reduce GHG emissions.

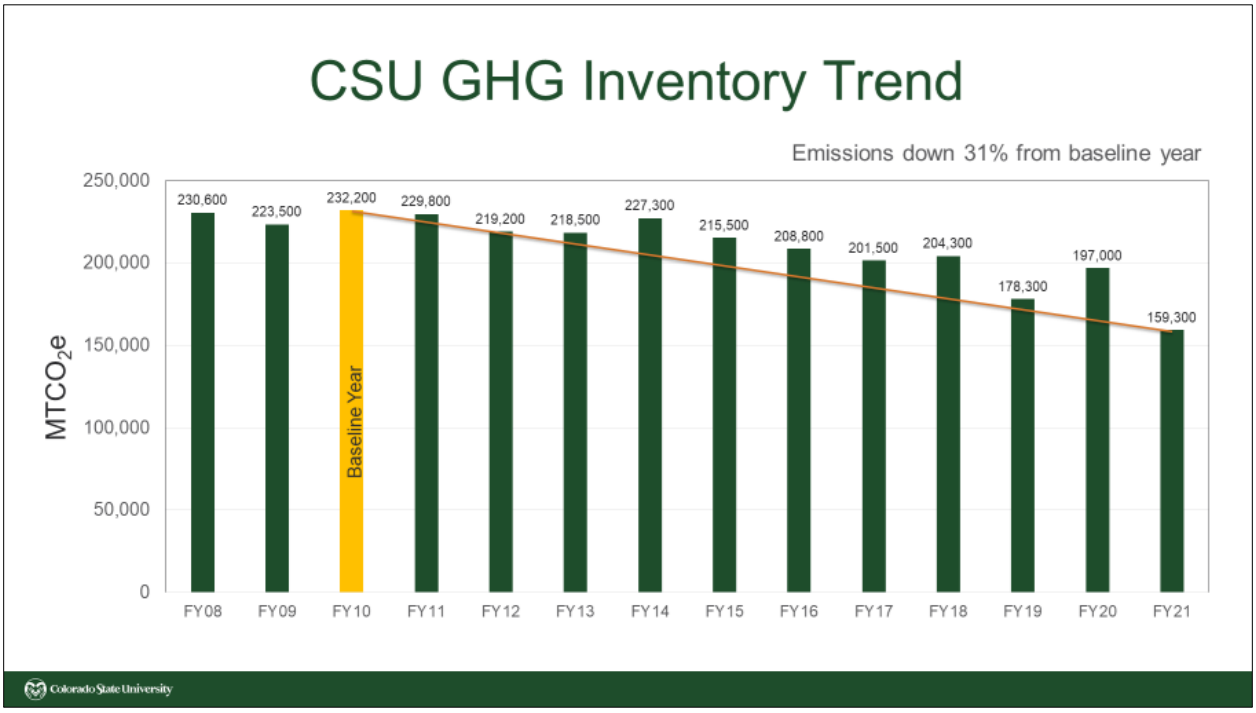
The FY21 inventory is presented as a pie chart above and as a table below – the categories and impacts are the same.

CSU's FY21 GHG inventory summarized in eight categories:

Category	FY21 $MTCO_2e$	Percent	Scope
Electricity	81,900	51%	1, 2, 3
Natural Gas	56,700	36%	1
Agriculture	7,500	5%	1
Commuting	6,000	4%	3
Fleet Vehicles	3,100	2%	1
Refrigerants	2,600	2%	1
Airline Travel	900	< 1%	3
Solid Waste	900	< 1%	1, 3
Credits (compost, offsets)	-400	< 1%	3
Total	**159,300**		

Emissions by category in metric tons of CO_2 equivalents ($MTCO_2e$), percent contribution, and scope.

How are we doing over time?



GHG Emissions Trend – 31% reduction since FY10

CSU's first GHG emissions inventory began with FY06; however, FY10 is the baseline year to which others are compared, aligning with CSU's first adopted Climate Action Plan. Overview:

- 232,200 $MTCO_2e$ – FY10, baseline which future inventories are measured against
- 178,300 $MTCO_2e$ – FY19, down 23% from baseline (this sizeable reduction was mostly attributed to a large purchase of renewable energy credits – RECs)
- 197,000 $MTCO_2e$ – FY20, down 15% from baseline (up from FY19 due to fewer RECs)
- 159,300 $MTCO_2e$ – FY21, down 31% from baseline. However, this year was significantly impacted by the COVID-19 global pandemic – airline travel, and commuting most of all. Absent the pandemic, it is estimated that emissions would have been 187,200 $MTCO_2e$, which would reflect progress of 20% below baseline.

CSU adopted its first Climate Action Plan (CAP) in 2010 to chart the course to reduce emissions. The plan is revised every few years. The current (2018) CSU CAP outlines 16 strategies that the University is working on to reduce emissions and to reach carbon neutrality by 2050.

In 2021, CSU adopted a new goal of carbon neutrality by 2040. An update to the CAP and necessary carbon reduction strategies is scheduled to be complete by mid-2022.

For questions related to the GHG inventory, the data collection, input activity, or formal output, please contact Carol.Dollard@colostate.edu or Stacey.Baumgarn@colostate.edu. For a more technical view and reference, this is the summary output of the Excel-based inventory tool.

FY21 GHG Summary – Colorado State University

Year:	FY21	Annual Summary				
		Energy Consumption	CO2	CH4	N2O	Total Emissions
		[MMBtu]	[kg CO2]	[kg CH4]	[kg N2O]	[MTCO2e]
Scope 1	Cogen Electricity	0	0	0	0	0
	On Campus Stationary	1,066,813	56,663,330	1,079	109	56,700
	Direct Transportation	43,478	3,103,498	86	115	3,100
	Refrigerants	0	0	0	0	2,600
	Agriculture	0	0	172,153	9,138	7,500
Scope 2	Purchased Electricity	549,795	99,968,160	10,013	1,462	79,600
Scope 3	Faculty/Staff Commuting	30,958	2,179,345	1,614	29	2,200
	Student Commuting	49,642	3,516,114	9,583	44	3,800
	Air Travel	5,742	848,239	4	27	900
	Solid Waste	0	0	30,864	0	900
	Scope 3 T&D Losses	16,671	2,942,063	295	43	2,300
Offsets	Additional					(100)
	Non-Additional					(300)
	Scope 1	1,110,291	59,766,828	173,318	9,362	70,000
	Scope 2	549,795	99,968,160	10,013	1,462	79,600
	Scope 3	103,014	9,485,760	42,359	143	10,100
	Total All Scopes	1,763,099	169,220,748	225,690	10,966	159,700
	Total Offsets					(400)
	Net Emissions					**159,300**