Colorado State University Greenhouse Gas Report for FY20

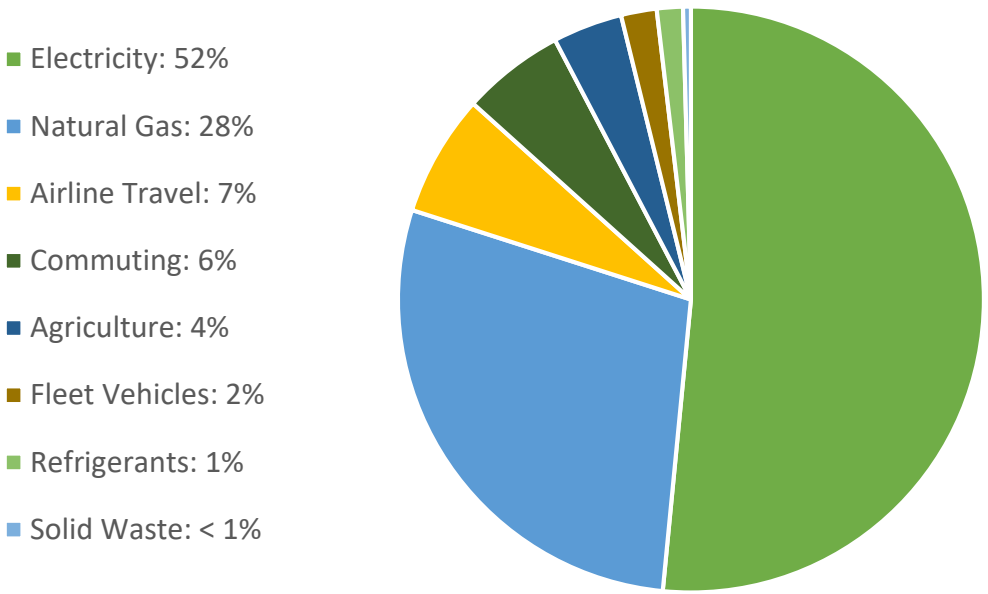
What is a greenhouse gas inventory? And how is Colorado State doing?

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 FY20 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.

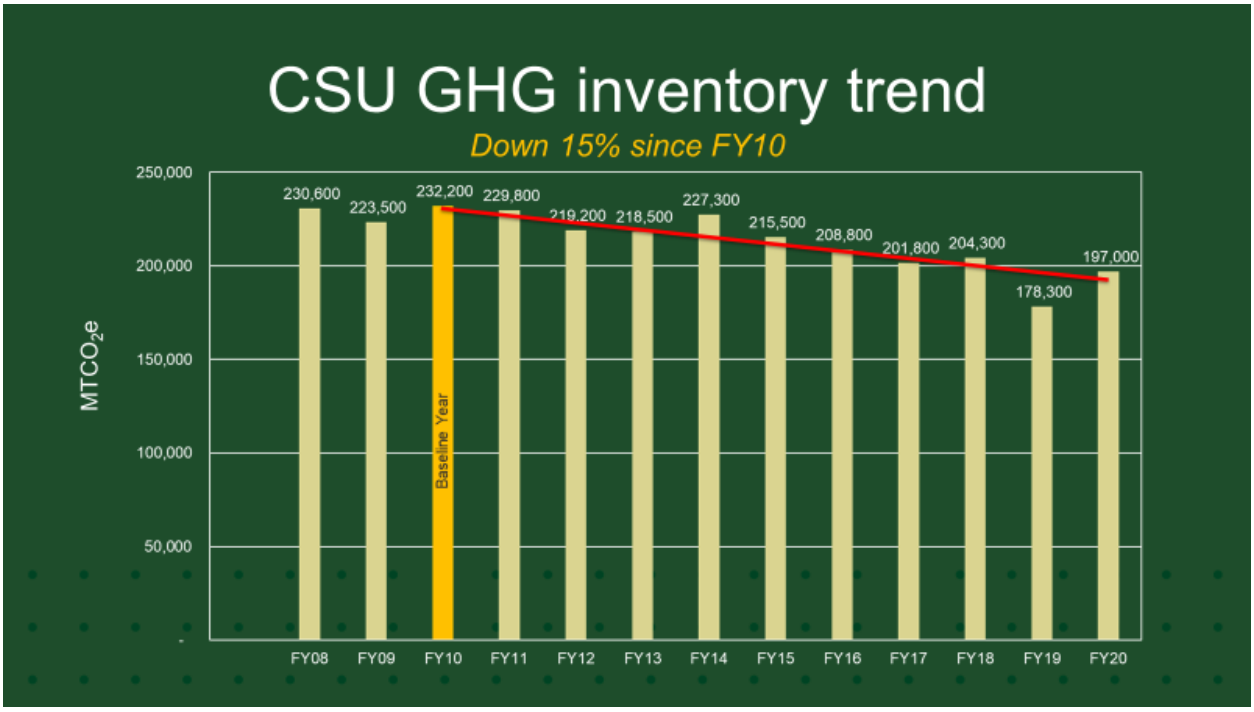
The FY20 inventory is presented as a pie chart above and as a table below – the categories and impacts are the same.

CSU's FY20 GHG inventory summarized in eight categories:

Category	FY20 $MTCO_2e$	Percent	Scope
Electricity	107,400	52%	1, 2, 3
Natural Gas	59,200	28%	1
Airline Travel	14,000	7%	3
Commuting	11,800	6%	3
Agriculture	8,000	4%	1
Fleet Vehicles	4,100	2%	1
Refrigerants	3,000	1%	1
Solid Waste	900	< 1%	1, 3
Credits (RECs, Compost)	-11,400		3
Total	**197,000**		

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 – 15% 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
- 204,300 $MTCO_2e$ – FY18, was down 12% from baseline
- 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)

CSU can celebrate a 15% decrease since FY10, but the bars are somewhat flat across the years. While a slight decreasing trend is good – especially given CSU's growth in students and buildings – CSU must do more to reduce overall emissions. You can help!

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.

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.

FY20 GHG Summary – Colorado State University

Year:	FY20	Annual Summary				
		Energy Consumption [MMBtu]	CO2 [kg CO2]	CH4 [kg CH4]	N2O [kg N2O]	Total Emissions [MTCO2e]
Scope 1	Cogen Electricity	0	0	0	0	0
	On Campus Stationary	1,113,202	59,152,129	1,135	115	59,200
	Direct Transportation	57,466	4,093,848	174	53	4,100
	Refrigerants	0	1	0	0	3,000
	Agriculture	0	0	183,944	9,621	8,000
Scope 2	Purchased Electricity	563,679	102,492,648	10,266	1,499	103,400
Scope 3	Faculty/Staff Commuting	62,227	4,336,249	2,315	230	4,500
	Student Commuting	96,126	6,515,497	14,668	1,336	7,300
	Air Travel	88,107	13,909,583	58	441	14,000
	Solid Waste	0	0	31,074	0	900
	Scope 3 T&D Losses	22,571	3,945,967	395	58	4,000
Offsets	Additional					(900)
	Non-Additional					(10,500)
	Scope 1	1,170,669	63,245,979	185,254	9,788	74,300
	Scope 2	563,679	102,492,648	10,266	1,499	103,400
	Scope 3	269,031	28,707,297	48,511	2,065	30,700
	Total All Scopes	2,003,378	194,445,924	244,030	13,352	208,400
	Total Offsets					(11,400)
	Net Emissions					**197,000**