

Carbon

Fiscal Year	Scope	Source	CO2 (kg)	CO2 (MTCDE)	CH4 (kg)	CH4 (MTCDE)	N2O (kg)	N2O (MTCDE)	GHG MTCDE
2021	1	Co-gen Electricity	102,170,309	102,170.31	10,202	285.65	207	54.86	102,510.82
2021	1	Co-gen Steam	50,303,270	50,303.27	5,023	140.64	102	27.01	50,470.92
2021	1	Other On-Campus Stationary	11,236,376	11,236.38	1,123	31.44	23	6.05	11,273.86
2021	1	Direct Transportation	2,732,757	2,732.76	96	2.68	63	16.77	2,752.21
2021	1	Refrigerants & Chemicals	0	0.00	0	0.00	0	0.00	2,734.30
2021	2	Purchased Electricity	3,165,300	3,165.30	231	6.48	27	7.24	3,179.02
2021	3	Faculty Commuting	6,184,794	6,184.79	245	6.86	155	41.09	6,232.74
2021	3	Staff Commuting	7,072,503	7,072.50	351	9.82	220	58.26	7,140.59
2021	3	Student Commuting	2,670,480	2,670.48	105	2.95	67	17.69	2,691.12
2021	3	Directly Financed Air Travel	875,794	875.79	10	0.27	10	2.65	878.71
2021	3	Solid Waste	0	0.00	19,040	533.12	0	0.00	533.12
2021	3	Wastewater	0	0.00	408	11.42	680	180.20	191.63
2021	3	T&D Losses	162,460	162.46	12	0.33	1	0.37	163.16

Carbon

Fiscal Year	Scope	CO2 (kg)	CH4 (kg)	N2O (kg)	GHG MTCDE
2021	1	166,442,712	16,443	395	169,742.11
2021	2	3,165,300	231	27	3,179.02
2021	3	16,966,031	20,171	1,133	17,831.07

Carbon

Fiscal Year	CO2 (kg)	CH4 (kg)	N2O (kg)	Gross MTCDE	Offsets (MTCDE)	Compost (MTCDE)	Non-Additional Sequestration (MTCDE)	Biogenic (MT CO2)	Net MTCDE
2021	186,574,044	36,845	1,555	190,752.20	-39,124.00	-999.60	0.00	0.00	150,628.60



31 Manufacturing Components and Supplies

Table with 5 columns of numerical data for Manufacturing Components and Supplies, including sub-sections like Electrical Components and Lighting, Distribution and Conditioning Systems, and Laboratory and Measuring and Observing and Testing Equipment.

32 Electrical Components and Supplies

Table with 5 columns of numerical data for Electrical Components and Supplies, including sub-sections like Distribution and Conditioning Systems and Laboratory and Measuring and Observing and Testing Equipment.

33 Furniture and Furnishings

Table with 5 columns of numerical data for Furniture and Furnishings, including sub-sections like Domestic Appliances and Personal Care Products, Apparel and Luggage and Personal Care Products, and Timepieces and Jewelry and Gemstones Products.

Cornell University

Scope 3 Additional Inventory: Upstream Fuel Emissions (Methane)

	2008	2010	2012	2014	2016	2017	2018	2019	2020	2021
Onsite Direct Emissions	176,706	143,550	145,227	165,166	176,000	173,600	181,914	178,584	164,744	169,742
Purchased Electricity Emissions (no UME)	87,037	48,225	17,513	17,497	5,000	4,100	3,320	2,218	3,856	3,342
Commuting Emissions	29,000	26,000	28,000	28,941	28,000	28,500	29,086	29,016	17,281	16,064
Air Travel Emissions	27,000	27,000	31,000	29,841	30,000	25,700	23,727	24,730	11,681	879
Total Emissions	319,743	244,775	221,740	241,445	239,000	231,900	238,047	234,548	197,562	190,027
Forest Sequestration Reductions	(11,000)	(11,000)	(11,000)	(11,000)	(11,000)	(11,000)	(11,000)	(11,000)	(11,000)	(11,000)
Exported Electric Reductions	-	(6,355)	(13,124)	(16,795)	(26,000)	(25,400)	(29,528)	(33,713)	(27,990)	(29,524)
Solar PV Remote Net Metering					(600)	(2,300)	(3,280)	(2,988)	(6,271)	(9,600)
Finger Lakes Climate Fund Offsets							(45)			
Carbon Sinks	-	(6,355)	(13,124)	(16,795)	(26,600)	(27,700)	(32,853)	(36,701)	(34,261)	(39,124)
Net Emissions	319,743	238,420	208,616	224,650	212,400	204,200	205,194	197,847	163,301	150,903
University Facilities	260,243	182,120	146,216	162,508	150,794	146,600	148,950	144,101	134,339	133,960
% Net Emissions Reduction vs 2008								38%	49%	53%
Methane Calculations (Methane Units)										
Methane burned for exported electric (metric tons)		(2,311)	(4,772)	(6,107)	(9,455)	(9,236)	(10,737)	(12,259)	(10,178)	(10,736)
Upstream Methane from exported electric (metric tons)		(54)	(111)	(142)	(220)	(215)	(249)	(285)	(236)	(366)
Metric Tons CO ₂ -e methane (20-year) from exported electric		(4,616)	(9,533)	(12,200)	(18,886)	(18,450)	(21,449)	(24,488)	(20,331)	(31,509)
Natural Gas Purchased (Btu's)	359,183,000,000	2,285,638,000,000	2,649,495,000,000	2,979,816,000,000	3,232,131,000,000	3,194,215,000,000	3,351,667,000,000	3,043,219,000,000	2,757,116,000,000	3,083,284,900,000
Natural Gas Purchased (therms)	3,591,830	22,856,380	26,494,950	29,798,160	32,321,310	31,942,150	33,516,670	30,432,190	27,571,160	30,832,849
Natural Gas Purchased (cubic ft)	348,721,359	2,219,066,019	2,572,325,243	2,893,025,243	3,137,991,262	3,101,179,612	3,254,045,631	2,954,581,553	2,676,811,650	2,993,480,485
Upstream Fuel Scope 3 GHG Emissions										
Cornell Methane Leakage Rate 3.3%	0.0330	0.0330	0.0330	0.0330	0.0330	0.0330	0.0330	0.0330	0.0330	0.0330
Cowen Upstream Methane emitted (metric tons)	221	1,407	1,632	1,835	1,990	1,967	2,064	1,874	1,698	1,899
Cowen Estimate - Upstream Methane Emissions (CO₂e) GWP100	6,193	39,409	45,683	51,378	55,729	55,075	57,790	52,472	47,539	53,162

Notes

one standard cubic foot = 1.19804 moles
 one mole of methane = 16.043grams
 19.2201557200
 1.92E-05

grams/scf
 metric tons/scf

