entergy

2024 Entergy Corporate GHG Emissions breakdown by category

All numbers in the table below represent CO2 equivalents (CO2e)

Operational Emissions Category	Emissions Source Category	Corporate emissions source	Greenhouse gas	Total emissions short tons CO2e	Total emissions in metric tons CO2e	percentage of total corporate emissions	Calculation worksheet in inventory document
Scope 1 Direct Emission Sources	Stationary Combustion	Power generating units (includes emergency and backup generators)	CO2	45,147,206	40,956,856.76	58.07%	Stationary Combustion CEM
			CH4	19,908	18,059.94	0.03%	
			N2O	54,791	49,705.86	0.07%	
		Small stationary combustion sources & generators (2022 updated methodology; co-located at generation stations, service stations and Power Through)	CO2	2,164,283	1,963,404.31	2.78%	All small stat cbn totals
			CH4	866	785.36	0.00%	
			N2O	1,299	1,178.04	0.00%	
		Biomass power generation	Not applicable				
	Mobile Combustion	Corporate fleet	CO2	60,080	54,503.85	0.08%	Mobile Combustion
			CH4	88	80.02	0.00%	
			N2O	469	425.03	0.00%	
		Biomass fleet	Not applicable				
	Fugitive Emissions	Natural gas transmission and distribution	CH4	48,976	44,430.35	0.06%	Fugitive CH4-NG T&D
		Electricity transmission and distribution	SF6	99,180	89,974.58	0.13%	Fugitive SF6
		Cooling/air-conditioning (building, mobile and nuclear cooling eqpt)	HFCs	5,829	5,287.54	0.01%	Fugitive HFCs
	Process emissions	none applicable	Not applicable				
Total Emissions from Direct Sources				47,602,974	43,184,691.66	61.23%	
Scope 2 Indirect Emission Sources	Purchased Electricity	Power purchased for business operations outside Entergy service territory	CO2	162	146.55	0.00%	Purchased power
			CH4	4	3.19	0.00%	
			N2O	0	0.04	0.00%	
	T&D losses & Company Usage	Entergy generated & purchased power consumed on Entergy T&D system and company location energy consumption	CO2	190,377	172,707.09	Note: these emissions are calculated for information only - they are NOT included in the subtotal or the grand total shown below because any T&D losses are accounted for by the scope 1 emissions necessary to make up for these losses.	
			CH4	342	310.53		
			N2O	625	566.69		
Total Emissions from Indirect Sources				165	149.78	0.00%	
Scope 3 Indirect Emissions (Optional categories)	Category 1 Purchased Goods and Services (Contains Waste Spend Data)	Spend method	CO2	3,039,054	2,756,983.35	3.91%	Purchased and Capital
			CH4	457,990	415,481.32	0.59%	
			N20	0	0.00	0.00%	
			Other GHGs	24,060	21,827.18	0.03%	
			Total (CO2e)	**3,521,104**	**3,194,291.85**	**4.53%**	
	Category 2 Capital Goods (Contains Waste Spend Data)	Spend method	CO2	3,221,657	2,922,638.33	4.14%	Purchased and Capital
			CH4	287,049	260,406.81	0.37%	
			N20	0	0.00	0.00%	
			Other GHGs	27,762	25,185.33	0.04%	
			Total (CO2e)	**3,536,469**	**3,208,230.47**	**4.55%**	
	Category 3 Fuel-and Energy-Related Activities (Location based)	Controllable Purchased Power (contracted power where the source is known sold to customers, such as Power Purchase Agreements)	CO2	2,141,438	1,942,679.67	2.75%	Purchased Power
			CH4	7,027	6,374.38	0.01%	
			N2O	3,850	3,493.01	0.00%	
			Total (CO2e)	**2,152,315**	**1,952,547.06**	**2.77%**	
		Non-Controllable Power (market purchases with exact source being unknown sold to customers)	CO2	7,849,233	7,120,704.19	10.10%	
			CH4	7,265	6,590.69	0.01%	
			N2O	13,258	12,027.31	0.02%	
			Total (CO2e)	**7,869,756**	**7,139,322.19**	**10.12%**	
		Category 3 Total	**Total (C02e)**	**10,022,070**	**9,091,869.25**	**12.89%**	
	Category 4 Upstream Transportation	Gas supplier emissions - gas delivery (primarily CH4, but does include other GHGs)	**CH4 (CO2e)**	**9,713,632**	**8,812,058.35**	**12.49%**	Delivered Gas
	Category 6 Business Travel	Travel by air, rental car, hotel stays and personal vehicles	CO2	6,323	6,355.60	**0.01%**	Business Travel
			CH4	5	4.59	**0.00%**	
			N20	13	12.05	**0.00%**	
			Total (CO2e)	**6,342**	**6,372.24**	**0.01%**	
	Category 7 Employee Commuting	Travel by employees to and from normal work locations	CO2	29,781	27,016.88	**0.04%**	Employee Commuting
			CH4	53	48.24	**0.00%**	
			N20	810	734.65	**0.00%**	
			Total (CO2e)	**30,644**	**27,799.77**	**0.04%**	
	Category 11 Use of Sold Products	Gas Combusion by LDC customers	CO2	945,385	857,639.08	**1.22%**	Product Combusion
			CH4	378	343.06	**0.00%**	
			N20	567	514.58	**0.00%**	
			Total (CO2e)	**946,331**	**858,496.72**	**1.22%**	
	Category 13 Leased Assets	Entergy facility leased for sole use of third party	CO2	2,359,948	2,140,908.81	3.04%	Leased Assets
			CH4	1,109	1,006.23	0.00%	
			N2O	1,322	1,198.91	0.00%	
			Total (CO2e)	**2,362,379**	**2,143,113.95**	**3.04%**	
Total Emissions from Optional Sources				30,138,970	27,342,232.59	38.77%	
Total Corporate emissions				77,742,109	70,527,074.03	100%	

Direct Emissions from fossil fuel usage at generating facilities using CEM data

2024						CO2 from CEM		CH4	N2O		
Generating facility and EPA Acid Rain Unit ID	EPA Acid Rain Unit ID (Entergy ID if different)	Max capacity (MW)	State	Entergy equity share of unit	Primary fuel(s)	Total unit CO2 (1)	Entergy equity share of unit CO2 emissions	Entergy share CH4 emissions from generation (2)	Entergy share N2O emissions from generation (3)	Total Facility CO2e in short tons	Total CO2e in metric tons
						short tons CO2	short tons CO2	short tons CO2e	short tons CO2e		
Acadia (Unit 2)	CT3	580	LA	100%	Natural Gas	778,459.00	778,459.00	365.88	435.94		
Acadia (Unit 2)	CT4		LA	100%	Natural Gas	773,116.00	773,116.00	363.36	432.94		
Totals							1,551,575.00	729.24	868.88	1,553,173.12	1,409,014.96
Attala	A01	480	MS	100%	Natural Gas	640,125.00	640,125.00	300.86	358.47		
Attala	A02		MS	100%	Natural Gas	644,332.00	644,332.00	302.84	360.83		
Totals		480					1,284,457.00	603.69	719.30	1,285,779.99	1,166,439.99
Baxter Wilson	1	550	MS	100%	Gas/Oil	0.00	0.00	0.00	0.00		
Baxter Wilson	2	771	MS	100%	Gas/Oil	0.00	0.00	0.00	0.00		
Totals		1321					0.00	0.00	0.00	0.00	0.00
Big Cajun 2[5]	2B3 (3)	257	LA	42%[5]	Coal	847,957.00	356,142.00	96.16	1,802.08		
Totals		257					356,142.00	96.16	1,802.08	358,040.24	324,808.64
Calcasieu Plant	GTG1	322	LA	100%	Natural gas	27,566.00	27,566.00	12.96	15.44		
Calcasieu Plant	GTG2		LA	100%	Natural gas	35,181.00	35,181.00	16.54	19.70		
Totals		322					62,747.00	29.49	35.14	62,811.63	56,981.75
Choctaw County	CTG1		MS	100%	Natural gas	864,377.00	864,377.00	406.26	484.05		
Choctaw County	CTG2		MS	100%	Natural gas	875,596.00	875,596.00	411.53	490.33		
Choctaw County	CTG3		MS	100%	Natural gas	876,304.00	876,304.00	411.86	490.73		
Totals							2,616,277.00	1,229.65	1,465.12	2,618,971.77	2,375,891.22
Gerald Andrus	1	761	MS	100%	Gas/Oil	277,412.00	277,412.00	130.38	155.35		
Totals		761					277,412.00	130.38	155.35	277,697.73	251,923.15
Hardin County Peaking Facility		146	TX	100%	Natural Gas	71,440.00	71,440.00	33.58	40.01		
Hardin County Peaking Facility			TX	100%	Natural Gas	71,463.00	71,463.00	33.59	40.02		
Totals							142,903.00	67.16	80.03	143,050.19	129,772.95
Hinds Energy Facility	H01	456	MS	100%	Gas CT	708,228.00	708,228.00	332.87	396.61		
Hinds Energy Facility	H02		MS	100%	Gas CT	713,279.00	713,279.00	335.24	399.44		
Hinds Energy Facility	Unit 2	29	MS	100%	Gas CT	2,509.00	2,509.00	1.18	1.41		
Totals		485					1,424,016.00	669.29	797.45	1,425,482.74	1,293,176.19
Hot Spring Energy Facility	CT-1	620	AR	100%	Gas CT	451,039.00	451,039.00	211.99	252.58		
Hot Spring Energy Facility	CT-2		AR	100%	Gas CT	452365	452,365.00	212.61	253.32		
Totals		620					903,404.00	424.60	505.91	904,334.51	820,398.46
Independence	1	472	AR	56.5%	Coal	3,021,106.0	1,706,925.00	460.87	8,637.04		
Independence	2	332	AR	39.37%	Coal	3,715,253.00	1,462,695.00	394.93	7,401.24		
Totals		804					3,169,620.00	855.80	16,038.28	3,186,514.07	2,890,756.94
Lake Catherine	4	547	AR	100%	Gas/Oil	196,739.00	196,739.00	92.47	110.17		
Totals		547					196,739.00	92.47	110.17	196,941.64	178,662.45
Lake Charles Power Station	1A	877	LA	100%	Natural Gas	1,213,113.00	1,213,113.00	570.16	679.34		
Lake Charles Power Station	1B		LA	100%	Natural Gas	1,198,845.00	1,198,845.00	563.46	671.35		
Totals		877					2,411,958.00	1,133.62	1,350.70	2,414,442.32	2,190,345.23
Lewis Creek	1	260	TX	100%	Gas/Oil	672,237.00	672,237.00	315.95	376.45		
Lewis Creek	2	260	TX	100%	Gas/Oil	718,076.00	718,076.00	337.50	402.12		
Totals		520					1,390,313.00	653.45	778.58	1,391,745.02	1,262,569.85
Little Gypsy	1	244	LA	100%	Gas/Oil	0.00	0.00	0.00	0.00		
Little Gypsy	2	436	LA	100%	Gas/Oil	603,310.00	603,310.00	283.56	337.85		
Little Gypsy	3	573	LA	100%	Gas/Oil	258,469.00	258,469.00	121.48	144.74		

Generating facility and EPA Acid Rain Unit ID	EPA Acid Rain Unit ID (Entergy ID if different)	Max capacity (MW)	State	Entergy equity share of unit	Primary fuel(s)	Total unit CO2 (1)	Entergy equity share of unit CO2 emissions	Entergy share CH4 emissions from generation (2)	Entergy share N2O emissions from generation (3)	Total Facility CO2e in short tons	Total CO2e in metric tons
Totals		1253					861,779.00	405.04	482.60	862,666.63	782,598.00
Montgomery County Power Station	CT1		TX	92%	CCGT	1,322,541.17	1,222,557.00	574.60	684.63		
Montgomery County Power Station	CT2		TX	92%	CCGT	1,305,797.82	1,207,080.00	567.33	675.96		
Totals		0					2,429,637.00	1,141.93	1,360.60	2,432,139.53	2,206,399.86
Ninemile Point	3	135	LA	100%	Gas/Oil	0.00	0.00	0.00	0.00		
Ninemile Point	4	748	LA	100%	Gas/Oil	2,817,053.55	2,817,053.55	1,324.02	1,577.55		
Ninemile Point	5	763	LA	100%	Gas/Oil	2,499,304.85	2,499,304.85	1,174.67	1,399.61		
Ninemile Point	6A	280	LA	100%	CCGT	1,930,132.61	1,930,132.61	907.16	1,080.87		
Ninemile Point	6B	280	LA	100%	CCGT	1,908,954.40	1,908,954.40	897.21	1,069.01		
Totals		1646					9,155,445.41	4,303.06	5,127.05	9,164,875.52	8,314,235.21
New Orleans Power Station	1	132	LA	100%	Natural Gas	85,142.00	85,142.00	40.02	47.68		
Totals		132					85,142.00	40.02	47.68	85,229.70	77,319.08
Ouachita Power	CTGEN1	242	LA	100%	Natural gas	842,549.00	842,549.00	396.00	471.83		
Ouachita Power	CTGEN2	244	LA	100%	Natural gas	833,799.00	833,799.00	391.89	466.93		
Ouachita Power	CTGEN3	241	LA	100%	Natural gas	725,168.00	725,168.00	340.83	406.09		
Totals		727					2,401,516.00	1,128.71	1,344.85	2,403,989.56	2,180,862.65
Perryville	1-1		LA	100%	Gas/Oil	751,588.00	751,588.00	353.25	420.89		
Perryville	1-2	718	LA	100%	Gas/Oil	776,346.00	776,346.00	364.88	434.75		
Perryville	2-1		LA	100%	Gas/Oil	58,058.00	58,058.00	27.29	32.51		
Totals		718					1,585,992.00	745.42	888.16	1,587,625.57	1,440,269.69
R S Nelson	4	500	LA	100%	Gas/Oil	0.00	0.00	0.00	0.00		
R S Nelson[6]	6	385	LA	80.9%	Coal	1,948,946.00	1,576,697.00	425.71	7,978.09		
Totals		885					1,576,697.00	425.71	7,978.09	1,585,100.80	1,437,979.25
Sabine	1	230	TX	100%	Gas/Oil	274,117.00	274,117.00	128.83	153.51		
Sabine	2	230	TX	100%	Gas/Oil	0.00	0.00	0.00	0.00		
Sabine	3	420	TX	100%	Gas/Oil	590,386.00	590,386.00	277.48	330.62		
Sabine	4	530	TX	100%	Gas/Oil	883,333.00	883,333.00	415.17	494.67		
Sabine	5	480	TX	100%	Gas/Oil	877,532.00	877,532.00	412.44	491.42		
Totals		1890					2,625,368.00	1,233.92	1,470.21	2,628,072.13	2,384,146.93
Sterlington	7AB	102	LA	100%	Gas/Oil	0.00	0.00	0.00	0.00		
Sterlington	7C	101	LA	100%	Gas/Oil	0.00	0.00	0.00	0.00		
Totals		203					0.00	0.00	0.00	0.00	0.00
St Charles Power Station	1A	926	LA	100%	CCGT	1,085,429.45	1,085,429.45	510.15	607.84		
St Charles Power Station	1B		LA	100%	CCGT	1,127,077.60	1,127,077.60	529.73	631.16		
Totals		926					2,212,507.05	1,039.88	1,239.00	2,214,785.94	2,009,220.00
Union Power Station[7]	CT 1	495	AR	100%	Gas	594,513.00	594,513.00	279.42	332.93		
Union Power Station	CT 2		AR	100%	Gas	566,676.00	566,676.00	266.34	317.34		
Union Power Station	CT 3	495	AR	100%	Gas	527,476.00	527,476.00	247.91	295.39		
Union Power Station	CT 4		AR	100%	Gas	508,561.00	508,561.00	239.02	284.79		
Union Power Station	CT 5	495	AR	100%	Gas	584,949.00	584,949.00	274.93	327.57		
Union Power Station	CT 6		AR	100%	Gas	603,625.00	603,625.00	283.70	338.03		
Union Power Station	CT 7	495	AR	100%	Gas	611,698.00	611,698.00	287.50	342.55		
Union Power Station	CT 8		AR	100%	Gas	612,911.00	612,911.00	288.07	343.23		
Totals		1980					4,610,409.00	2,166.89	2,581.83	4,615,157.72	4,186,800.66
Washington Parish Energy Center	CT1		LA	100%	Gas	79,068.00	79,068.00	37.16	44.28		
Washington Parish Energy Center	CT2	361	LA	100%	Gas	79,190.00	79,190.00	37.22	44.35		
Totals		361					158,258.00	74	89	158,421.01	143,717.12
Waterford	1	411	LA	100%	Gas/Oil	0.00	0.00	0.00	0.00		
Waterford	2	411	LA	100%	Gas/Oil	200,017.00	200,017.00	94.01	112.01		

Generating facility and EPA Acid Rain Unit ID	EPA Acid Rain Unit ID (Entergy ID if different)	Max capacity (MW)	State	Entergy equity share of unit	Primary fuel(s)	Total unit CO2 (1)	Entergy equity share of unit CO2 emissions	Entergy share CH4 emissions from generation (2)	Entergy share N2O emissions from generation (3)	Total Facility CO2e in short tons	Total CO2e in metric tons
Waterford	4		LA	100%	Oil	1,803.00	1,803.00	0.85	1.01		
Totals		822					201,820.00	94.86	113.02	202,027.87	183,276.60
White Bluff	1	465	AR	57%	Coal	712,931.00	406,371.00	109.72	2,056.24		
White Bluff	2	481	AR	57%	Coal	1,839,829.00	1,048,702.00	283.15	5,306.43		
Totals		946					1,455,073.00	392.87	7,362.67	1,462,828.54	1,327,055.73

Totals

50,874,398.45	45,147,206	19,908	54,791	45,221,905.47	41,024,622.56
short tons CO2	short tons CO2	short tons CO2e	short tons CO2e	Total Facility CO2e in short tons	Total CO2e in metric tons
Total unit CO2	Entergy equity	Entergy	Entergy		
CO2 from CEM		CH4	N2O		

(1) CEM data reported to EPA Acid Rain program - can be verified at EPA's Clean Air Market's Database located at http://camddataandmaps.epa.gov/gdm/index.cfm?fuseaction=emissions.wizard&EQW_datasetSelection=

(2) Emissions factor derived from CH4 (in CO2e) as percentage of emissions from CO2 for a specific fuel type. See "Emissions and Conversion Factors" for EPA emissions factors for specific fuels; emissions factor for natural gas used for all dual-fuel units as this represents the larger fuel input

(3) Emissions factor derived from N2O (in CO2e) as percentage of emissions from CO2 for a specific fuel type. See "Emissions and Conversion Factors" for EPA emissions factors for specific fuels; emissions factor for natural gas used for all dual-fuel units as this represents the larger fuel input

(4) Emission data obtained directly from the EPA's Database located at http://ampd.epa.gov/ampd/

(5) While Entergy owns 42% of Big Cajun 2 Unit 3, our actual consumption of the MWhs generated from this facility varies from 42% to 45%. CO2 emission number shown is based on actual consumption of MWhs received from Fossil Operations.

(6) During 2012, EWC (EAM Nelson Holdings, LLC) acquired 10.9% of this unit. Therefore, Entergy's overall ownership share of this unit increased to 80.9%

Additional Notes

- Emissions from Louisiana Station Plant 1 (Units 1A, 2A, 3A, 4A, 5A) are not included in the inventory; these units exist for the sole use of Exxon under a long term lease agreement.

- The following units were removed from the Inventory in 2014 - Lynch 2&3, Couch 1&2, Lake Catherine 1-3, Louisiana Station 2 (units 10-12), Ninemile 1&2, Nelson 3, Richie 1&2, and Sterlington 10. These units are either permanently retired (decommissioned in some cases) or are in extended reserve shutdown and are not expected to return to service.

- The following units were ADDED to the inventory in 2014 - Ninemile 6A and 6B - these units came online during December of 2014.

- The Acadia power plant has two units - Unit 1 (CT1 & CT2) is owned by CLECO, while Unit 2 (CT3 & CT4 as shown above) is owned by Entergy.

- Michoud Plant units removed from inventory in 2018 Inventory - the units were permanently retired in January 2016 and scheduled for demolition

Small combustion sources at all generation stations - Updated for 2024

Small stationary combustion sources were initially calculated for all known equipment co-located at generating stations using parameters (such as max energy input/hour) developed in internal emissions compliance documents and assumed equipment capacity factors.

Starting in 2013, Entergy reported the previous year's GHG (CO2e) emissions from small sources co-located at Fossil plants in compliance with the EPA Mandatory Reporting Rule (General Stationary Fuel Combustion - Subpart C).

These updated values are substituted for the older, 2005 calculations in order to be consistent with mandatory GHG reporting. Nuclear estimates continue to rely on the 2005 calculations unless otherwise noted. The Thermal assets were divested in late 2013, so these assets and emission are removed from the inventory.

More detail on each of these facilities, the specific data collection methods, and the calculation methodology, can be found in the GHG Monitoring Plan required by the EPA Mandatory Reporting Rule.

Plant	CO2e Emissions reported under Mandatory Reporting Rule (short tons of all gases in 2022) [obtained from Power Generation unless otherwise noted]	CO2e Emissions reported under Mandatory Reporting Rule (metric tons of all gases in 2023) [obtained from Power Generation unless otherwise noted]	Comments
Fossil fuel generating stations			
Attalla	0.0	0.0	No Subpart C affected sources
Baxter Wilson	0.0		
Calcasieu	0.0	0.0	No Subpart C affected sources
Choctaw	195.9	215.9	
Gerald Andrus	0.0	0.0	
Hinds County	575.4	634.1	
Hot Spring	0.0	0.0	No Subpart C affected sources
Independence	716.9	790.0	(~50% ownership share)
Lake Catherine	0.0	0.0	No Subpart C affected sources
Lewis Creek	1,369.3	1,508.9	
Little Gypsy	718.5	791.8	
RS Nelson	228,850.5	252,193.3	(80.9% ownership share)
New Orleans Power Station	154,182.3	169,908.9	
Ninemile Point	3,035.9	3,345.6	
Ouachita	1,309.9	1,443.5	
Perryville	3,766.8	4,151.0	
Rex Brown	0.0	0.0	Retired in 2011
Sabine	0.0	0.0	
St Charles	1,759,574.4	1,939,051.0	
Union	0.0	0.0	No Subpart C affected sources
Waterford	0.0	0.0	No Subpart C affected sources
White Bluff	1,527.5	1,683.3	(57% ownership share)
Power Gen TOTAL	**2,155,823.4**		

2024 Generator Data				
Source	**lbs CO2e**	**short tons CO2e**	**metric tons CO2e**	**Description**
Power Through	1,898,623.62	949.31	861.20	Power Through is a backup power option for customers
Power Delivery	7,214,057.58	3,607.03	3,273.17	Power Delivery & Service Centers backup generators
Total	**9,112,681.20**	**4,556.34**	**4,134.37**	

Nuclear generating stations[2][3]	Plant total small sources CO2e (short tons using 2005 estimate calculations)
River Bend	306.3
Waterford 3	2,991.6
Grand Gulf	434.4
Arkansas Nuclear 1&2	2,337.2
Nuclear TOTAL (short tons)	**6,069.5**

All small source totals	**2,166,449.2**

(1) Estimated based on average of other units
(2) Vermont Yankee entered decommission status and did not operate beginning in 2016. Has been removed.
(3) James Fitzpatrick was sold in 2017 and has been removed
(4) Mablevale, Michoud, and Willow Glenn removed from inventory in 2018 since units have been retired, demolished, or scheduled for demolition.
(5) Harrsion County and NISCO removed from inventory in 2018 since Entergy has no equitiy share in ownership. Entergy only operates these units.
(6) Pilgrim ownership was transferred to Holdtec on 8/26/2019. Pilgrim has been removed for the 2020 inventory.

Direct Emissions of Escaped SF6 in Electricity T&D System ("Fugitive Emissions")

Note: The information below was as reported to the EPA under Subpart DD of the Mandatory GHG Reporting Rule.

More detail on the specific data collection methods, and the calculation methdology, can be found in the GHG Monitoring Plan required by the EPA Mandatory Reporting Rule.

2023 Fugitive SF6 Emissions Estimate			
SF6 Emissions (short tons) (1)	**Global Warming Potential (GWP) (2)**	Total CO2 Equivalent Emissions (short tons)	Total CO2 Equivalent Emissions metric tons)
4.35	22,800	**99,180.0**	**89,974.5**

(1) Converted 8,699.35 lbs SF6, which was the amount reported for 2023

Direct Emissions from fossil fuel usage for company mobile fleet ("Mobile Combustion")

Beginning in 2013, the GWP for N2O and CH4 was modified based on the EPA final rule effective 1/1/14.

Fuel Description	Fuel Code	Units consumed (gal)	Assumptions/Comments
Diesel	**D**	3,162,466	**Based on 2024 Entergy data**, it is assumed that totals for all bi-fuel categories are split at a 90/10 ratio between constituent fuel types and are calculated as such. Bi-fuels are separated below into its constituent fuel type category and emissions calculated. Green Plug-In (JEMS) units run on diesel on the highway and electricity on the job site. CNG is measured in Gallons of Gasoline Equivalency or GGE. One gallon of CNG or GGE has the same energy value as a gallon of gasoline. "Unknown" split evenly (50/50) between diesel and gasoline. **Total 2024 Fuel purchases**
Gasoline	**G**	1,231,106	
BiFuel-Gasoline/Ethanol	**S**	910,897	
BiFuel-Gasoline/CNG	**A**	0	
BiFuel-Gasoline/LPG	**B**	34	
BiFuel-Diesel/Electricity	**F**	0	
Propane	**P**	68	
CNG	**C**	8	
LPG	**L**	315	
Green Plug-In JEMS	**J**	78,678	
BiFuel-Gasoline/Electricity	**H**	153	
Electricity		229	
Unknown	-	0	
Jet fuel		316,431	**Total 2024 Fuel Purchase**
Total gallons consumed		**5,700,385**	

Total units of each fuel type

Fuel	Total units consumed (GALLONS) - from inputs above	conversion to energy content (MMBtu/gallon)	Total MMBtu consumed	CO2 using EPA Climate Leaders Efs: Emissions Factor (lbs CO2/MMBtu)	CO2 using EPA Climate Leaders Efs: Total CO2 Emissions (short tons)	CO2 using WRI/WBCSD Protocol Efs: Emissions Factor (kg CO2/Gallon)	CO2 using WRI/WBCSD Protocol Efs: Total CO2 Emissions (short tons)
Diesel	3,241,144	0.1387	449,547	159.68	35,892	10.15	36,263
Gasoline	2,051,097	0.1251	256,592	156.44	20,071	8.81	19,919
Ethanol (E85)	91,090	0.0843	7,679	149.59	574	5.56	558
CNG	8	0.1251	1	116.41	0	See note	0
LPG	318	0.092	29	138.76	2	5.79	2
Propane	68	0.092	6	138.32	0	5.79	0
Jet fuel	316,431	0.135	42,718	154.72	3,305	9.57	3,338
Totals	5,700,156		756,572		**59,844**		**60,080**

Note: Emissions from Ethanol are considered "biogenic" emissions are do not contribute to net CO2 additions to the atmosphere. They are include with fossil fuel CO2 because it is de minimus.

Regarding CNG, no SCF measurement is available; used the EPA CL number as a proxy.

Direct Emissions of N2O and CH4 from mobile fleet ("Mobile Combustion")

The calculation below uses conservative N2O and CH4 emissions factors to estimate these emissions from mobile sources.
The emissions factors are from EPA Climate Leaders Guidance for construction vehicles.

NOTE - Emission factors for these gases were not available for all fuel types - a conservative approach was used by using the emission factor for diesel.

N2O from mobile sources

N2O	gallons consumed	g N2O/gal fuel	total kg N2O	short tons	CO2e short tons
Gasoline	2,051,097	0.22	451.24	0.507	151.01
Diesel	3,241,144	0.26	842.70	0.946	282.01
Jet Fuel	316,431	0.26	82.27	0.092	27.53
Propane	68	0.26	0.02	0.000	0.01
CNG	8	0.26	0.00	0.000	0.00
LPG	318	0.26	0.08	0.000	0.03
Ethanol	91,090	0.26	23.68	0.027	7.93
total					**468.51**

CH4 from mobile sources

CH4	gallons consumed	g CH4 /gal fuel	total kg CH4	short tons	CO2e short tons
Gasoline	2,051,097	0.50	1,025.55	1.152	28.79
Diesel	3,241,144	0.58	1,879.86	2.111	52.78
Jet Fuel	316,431	0.58	183.53	0.206	5.15
Propane	68	0.58	0.04	0.000	0.00
CNG	8	0.58	0.00	0.000	0.00
LPG	318	0.58	0.18	0.000	0.01
Ethanol	91,089.70	0.58	52.83	0.059	1.48
total					**88.21**

Total N2O and CH4 CO2e	**556.73**

Total Estimated Emissions from Mobile Sources (short tons CO2e)	**60,637**

Direct Emissions of Fugitive HFCs in all utility cooling and A/C equipment

This sheet contains calculations for all sources of fugitive HFCs. HFCs from all sources are considered de minimus (i.e. insignificant in the Entergy corporate total). The activity data required to provide the highest level of accuracy is difficult and impractical to obtain for such a small source. Instead, emissions factors have been created based on national averages for a number of variables to provide a rough estimate of these emissions. The methodology behind these emissions factors is found below.

These CO2e totals are calculated using data, provided by Real Estate as of December 31, 2016, that does not change significantly between inventory years. These same data and emissions totals are used each year.

2010 Update - Facilities indicates that there is no significant change to these numbers; therefore, these numbers will continue to be carried forward each year.
2013 Update - carried historical data forward; however, updated the GWP consistent with an EPA final rule that became effective on 1/1/14.
2014 Update - removed the Thermal Operations facilities, as these were sold in late-2013.
2015 Update - No changes made
2016 Update - Values updated as of December 31, 2016
2017-2020 Update - No changes made
2021-2023 Update - Updated Entergy owned space & capital lease space
2024 Update - Warehouse space accounted for at 20% estimated to be air conditioned

	square footage air-conditioned	EF: fugitive HFCs (short tons CO2e/sq ft) *	Facility fugitive HFC (short tons CO2e)
Mississippi	956,476	**0.00078**	746
Arkansas	959,545	**0.00078**	748
Louisiana	1,465,520	**0.00078**	1,142
New Orleans	182,699	**0.00078**	142
Texas	702,210	**0.00078**	547
ESI	488,272	**0.00078**	381
Total Fugitive HFCs	4,754,722		3,706.23

Generation plant space assumes 50,000 sq. ft. per plant; 28 plants assumed.

ETRFossilRenewablePortfolio_6.9.2021.xlsx (entergy.com)

From Nuclear facility

	lbs HFC charged to equipment	EF: fugitive HFCs as CO2e (GWP=1300)	Facility fugitive HFC (short tons CO2e)
	0	1300	0

Entergy nuclear facilities **do not** use HFCs for cooling

From all Entergy-owned vehicles

	Total CO2 from mobile sources (short tons)	EF: HFC as % of CO2 emissions **	Facility fugitive HFC (short tons CO2e)
Vehicular A/C	60,637	3.50%	2,122

Total CO2 from all mobile source fuels are included

Total fugitive HFC emissions **5,829** short tons CO2e

*** Calculation for estimating fugitive HFC emissions from building space using A/C**

The calculation used in calculating the emissions factor for metric tons of CO2e fugitive HFC.	Average cooling capacity of chiller (ft2/ton of cooling capacity)	HFCs in chiller (kg HFC/tons of cooling)	Annual HFC loss factor (percent)	Total Annual HFC losses (MT HFC/1000 ft2)	Total Annual HFC losses (MT CO2e)/1000 ft2	Total Annual HFC losses (**MT CO2e**)/ ft2	Total Annual HFC losses (**short tons** CO2e)/ ft2
	280	1.2	15%	0.000642857	0.71	0.00071	**0.00078**
	Source: ASHRAE (http://www.themcdermottgroup.com/Newsworthy/HVAC%20Issues/Rule%20of%20Thumb%20Sizing.htm) Note that this is a conservative estimate - a reasonably designed building should be	Source: http://www.usgbc.org/LEED/tsac/energy.asp	Source: EPA Climate Leaders Gudance, January 2004. Note: This estimate is the source of the greatest uncertainty in the calculation, since the range is 2-15%, and the average is probably more like 5%.		This is the emissions factor that is applied to the square footage of air-conditioned space. This EF includes the global warming potential for HFC 134a (1,100).	Emissions factor for MT CO2e per ft2.	Emissions factor for short tons CO2e per ft2; conversion factor 1.1023

Calculation to estimate HFCs from mobile A/C as percentage of CO2 emissions from mobile sources using national averages for equipment leakage and miles/gallon

HFC Emissions Estimate				**CO2 Emissions Estimate**				**Emissions factor**
Vehicle type	HFC capacity (kg HFC)	annual leakage rate (percentage)	CO2 emissions (kg CO2e/yr-veh); GWP=1100	Miles per gallon	Miles per year	Emission factor (kg CO2/gal)	CO2 Emissions (kg CO2/yr-veh)	Emissions factor: HFC emissions (CO2e) to CO2 (as %)
Car	0.8	20%	176	20	15,000	8.87	6,653	**2.6%**
light truck	1.2	20%	264	15	15,000	8.87	8,870	**3.0%**

Emissions from natural gas from T&D operations

The calculation for Gas Operations below is based on as reported data from the GHG Summary Report for 2023. The Spindletop Gas Storage facility emissions are calculated using GRI emission factors (see notes below).

Gas Operations	CO2 equivalent emissions from facility subparts C-II, SS, and TT (metric tons) Subpart W, Fugitive	Total C02 equivalent emissions (short tons)
Entergy Louisiana, L.L.C. Gas Business	#	11,438.1
Entergy New Orleans, Inc. Gas Business	#	12,937.2
SUB-TOTAL		**24,375.3**

Reported Natural Gas Release	Short tons natural gas	CO2 Equivalent Emissions
SUB-TOTAL		**0**

Spindletop Storage						
Storage facilities	**# storage facilities**	**Emissions factor (metric ton CH4/station-yr)**	**Total metric tons CH4**	**Total short tons CH4**	**Total short tons CO2e (Cell E x 25)**	This category is carried forward from previous years
Fugitive Emissions from Storage Facilities	1	675.4	675.40	744.50	18,612.50	See note 3
Vented Emissions from Storage Facilities	1	217.3	217.30	239.53	5,988.30	See note 4
SUB-TOTAL					**24,600.80**	

TOTALS FROM FUGITIVE NATURAL GAS **48,976** **short tons CO2e**

GENERAL NOTES:

- Source for emissions factors by equipment type is the Gas Research Institute (GRI), which provides factors in metric units only.

SPECIFIC NOTES:

(1) Compressors are assumed to be for natural gas transmission, not storage.
(2) general emissions factor used for vented gas; GRI provides emissions factors for specific equipment venting.
(3) EF from API Table 6-1, (American Petroleum Institute), Compendium of Greenhouse Gas Emissions Methodologies for the Oil and Gas Industry. February 2004).
(4) EF from GRI

Purchased Goods and Services - 2024

			CO2		CH4		N2O		Other GHGs		CO2e	CO2e	CO2e
Industry/Commodity	2024 Spend	Inflation Adjustment	Emission Factor	Emissions (kg)	Emission Factor	Emissions (kg)	Emission Factor	Emissions (kg)	Emission Factor	Emissions (kg)	kg	short tons	metric tons
Administrative and support services	$ 236,857,643.68	$ 208,434,726.44	0.088	18,342,255.93	0.001	208,434.73	0	0.00	0.004	833,738.91	24,386,862.99	26,881.46	24,386.45
Chemical products	$ 44,527,888.00	$ 39,184,541.44	0.282	11,050,040.69	0.001	39,184.54	0	0.00	0.01	391,845.41	12,421,499.64	13,692.13	12,421.29
Computer and electronic products	$ 226,760,532.05	$ 199,549,268.20	0.043	8,580,618.53	0	0.00	0	0.00	0.004	798,197.07	9,378,815.61	10,338.20	9,378.66
Construction	$ 81,267,145.86	$ 71,515,088.36	0.259	18,522,407.88	0.002	143,030.18	0	0.00	0.02	1,430,301.77	23,528,464.07	25,935.26	23,528.07
Electrical equipment, appliances and components	$ 447,461,376.74	$ 393,766,011.53	0.197	77,571,904.27	0.001	393,766.01	0	0.00	0.011	4,331,426.13	91,747,480.69	101,132.58	91,745.94
Fabricated metal product	$ 5,939,738.87	$ 5,226,970.21	0.225	1,176,068.30	0.001	5,226.97	0	0.00	0.008	41,815.76	1,348,558.31	1,486.51	1,348.54
Machinery	$ 54,007,330.62	$ 47,526,450.95	0.167	7,936,917.31	0.167	7,936,917.31	0	0.00	0.043	2,043,637.39	208,403,487.40	229,721.66	208,399.98
Miscellaneous professional, scientific, and technical services	$ 137,982,155.74	$ 121,424,297.05	0.109	13,235,248.38	0.001	121,424.30	0	0.00	0.004	485,697.19	16,756,552.99	18,470.63	16,756.27
motor vehicles, bodies and trailers	$ 99,874,950.59	$ 87,889,956.52	0.174	15,292,852.43	0.001	87,889.96	0	0.00	0.019	1,669,909.17	19,160,010.52	21,119.94	19,159.69
Petroleum and coal products	$ 25,235,576.20	$ 22,207,307.06	0.755	16,766,516.83	0.018	399,731.53	0	0.00	0.005	111,036.54	26,870,841.54	29,619.53	26,870.39
Utilities	$ 1,005,049,111.01	$ 884,443,217.69	2.884	2,550,734,239.81	0.005	4,422,216.09	0	0.00	0.01	8,844,432.18	2,670,134,074.20	2,943,269.48	2,670,089.16
Waste management and remediation	$ 73,907,820.61	$ 65,038,882.14	0.274	17,820,653.71	0.044	2,861,710.81	0	0.00	0.013	845,505.47	90,208,929.52	99,436.65	90,207.41
Total	**$ 2,438,871,269.97**	**$ 5,585,015,208.23**		**2,757,029,724.07**		**16,619,532.42**		**0.00**		**21,827,542.98**	**3,194,345,577.48**	**3,521,104.03**	**3,194,291.85**

Capital Goods - 2024

			CO2		CH4		N2O		Other GHGs		CO2e	CO2e	CO2e
Industry/Commodity	2024 Spend	Inflation Adjustment	Emission Factor	Emissions (kg)	Emission Factor	Emissions (kg)	Emission Factor	Emissions	Emission Factor	Emissions	(kg)	(Short Tons)	(Metric Tons)
Administrative and support services	$ 72,141,809.96	$ 63,484,792.76	0.088	5,586,661.76	0.001	63,484.79	0	0.00	0.004	253,939.17	7,427,720.75	8,187.52	7,427.60
Chemical products	$ 331,366,847.04	$ 291,602,825.40	0.282	82,231,996.76	0.001	291,602.83	0	0.00	0.01	2,916,028.25	92,438,095.65	101,893.84	92,436.54
Computer and electronic products	$ 221,335,281.74	$ 194,775,047.93	0.043	8,375,327.06	0	0.00	0	0.00	0.004	779,100.19	9,154,427.25	10,090.86	9,154.27
Construction	$ 320,972,955.03	$ 282,456,200.43	0.259	73,156,155.91	0.002	564,912.40	0	0.00	0.02	5,649,124.01	92,928,089.94	102,433.96	92,926.53
Electrical equipment, appliances and components	$ 425,368,666.87	$ 374,324,426.85	0.197	83,797,627.37	0.001	374,324.43	0	0.00	0.011	4,117,568.70	97,273,306.74	107,223.66	97,271.67
Fabricated metal product	$ 2,824,803.15	$ 2,485,826.77	0.225	635,580.71	0.001	2,485.83	0	0.00	0.008	19,886.61	717,612.99	791.02	717.60
Machinery	$ 11,160,965.23	$ 9,821,649.40	0.167	1,863,881.19	0.167	1,640,215.45	0	0.00	0.043	422,330.92	43,291,598.37	47,720.02	43,290.87
Miscellaneous professional, scientific, and technical services	$ 544,898,571.78	$ 479,510,743.17	0.109	52,266,671.01	0.001	479,510.74	0	0.00	0.004	1,918,042.97	66,172,482.56	72,941.45	66,171.37
motor vehicles, bodies and trailers	$ 18,174,325.44	$ 15,993,406.39	0.174	2,782,852.71	0.001	15,993.41	0	0.00	0.019	303,874.72	3,486,562.59	3,843.21	3,486.50
Petroleum and coal products	$ 662,260.61	$ 582,789.34	0.755	440,005.95	0.018	10,490.21	0	0.00	0.005	2,913.95	705,175.10	777.31	705.16
Utilities	$ 899,014,666.57	$ 791,132,906.58	2.884	2,592,758,298.39	0.005	3,955,664.53	0	0.00	0.01	7,911,329.07	2,699,561,240.78	2,975,706.84	2,699,515.83
Waste management and remediation	$ 77,938,093.46	$ 68,585,522.24	0.274	18,792,433.10	0.044	3,017,762.98	0	0.00	0.013	891,611.79	95,128,119.35	104,859.04	95,126.52
Total	**$ 2,925,859,246.88**	**$ 2,574,756,137.25**		**2,922,687,491.92**		**10,416,447.59**		**0.00**		**25,185,750.35**	**3,006,336,098.48**	**3,313,862.54**	**3,208,230.47**

Total CO2		Total CH4		Total N20		Total Other GHGs		Total Co2e	
5,679,717,215.99	kg	27,035,980.01	kg	0.00	kg	47,013,293.34	kg	5,753,766,489.33	kg
6,260,711.22	short tons	29,801.57	short tons	0.00	short tons	51,822.41	short tons	6,342,335.20	short tons
5,681,226.15	metric tons	27,043.16	metric tons	0.00	metric tons	47,025.78	metric tons	5,755,295.10	metric tons

Sources

Emissions Factors: SupplyChainEmissionFactorsforUSIndustriesCommodities.xlsx (live.com)

Spend Category Reference: APPENDIX 3 - INDUSTRY AND COMMODITY REFERENCE LISTS .PDF

Inflation Adjustment: Internal 2024 Conversion Factor of 0.880 was used to adjust 2024 spend to 2021 USD leveraging GDP, CPI and PPI

Other GHGs (from EPA)

Other GHGs	GWP-100 Factors	Unit
butane, perfluorocyclo-, pfc-318	10300	kg CO2 eq.
ethane, 1,1,1-trifluoro-, hfc-143a	4470	kg CO2 eq.
ethane, 1,1,1,2-tetrafluoro-, hfc-134a	1430	kg CO2 eq.
ethane, hexafluoro-, hfc-116	12200	kg CO2 eq.
ethane, pentafluoro-, hfc-125	3500	kg CO2 eq.
methane, difluoro-, hfc-32	675	kg CO2 eq.
methane, tetrafluoro-, r-14	7390	kg CO2 eq.
methane, trifluoro-, hfc-23	14800	kg CO2 eq.
nitrogen fluoride	17200	kg CO2 eq.
propane, 1,1,1,3,3,3-hexafluoro-, hcfc-236fa	9810	kg CO2 eq.
propane, perfluoro-	8830	kg CO2 eq.
sulfur hexafluoride	22800	kg CO2 eq.

Power purchased to serve utility customers

Controllable power purchases 2024

				2024			
Code	Plant description	FACILITY CODE (SPO)	State	Total Entergy purchased from plant (MWh)	Unit/Plant-Specific Emission Factor (lbs CO2/MWh), Based on Total Output (from eGRID2023 data, accessed 03/10/2025 unless otherwise noted	CO2 emissions from puchased power (short tons) (using eGRID Unit-Specific Factors (when available))	
[redacted]		x	LA	68,316	106.4	3,634.4	
			LA	110,985	-	-	
		x	LA	2,953,642	769.2	1,135,951.5	
		x	LA	835,156			
		x	LA	104,225		-	
		x	TX	6,247	-	-	
		x	LA	2,402,076	834.155	1,001,851.9	
		x	LA	23,240	-	-	
		x	LA	45,395			
		x	AR	153,604	-	-	
		x	TX	325,780			
		x	LA	213,581			
			LA	85,640			
			LA	6,177			
Totals				**7,334,064**		**2,141,437.8**	**short tons CO2**
N2O emissions from controlled purchases (SERC MS Valley Total Output Rate, eGRID2023)				0.006	lbs/MWh	**7,026.5**	**short tons CO2e**
CH4 emissions from controlled purchases (SERC MS Valley Total Output Rate, eGRID2023)				0.042	lbs/MWh	**3,850.4**	**short tons CO2e**

* - some units may be in different control areas or eGRID subregions; however, impact to the overall GHG inventory is expected to be negligible.

Total CO2e from Controllable Purchases

TOTAL	**2,152,314.7**	**short tons CO2e**

Download Data | US EPA

Indirect Emissions associated with purchased power	**Totalochsd power MWh**	**Loss factor %**	**Total power lost MWh**		
CO2 emissions from T&D losses of purchased power on Entergy system	**21.172.139**	3.080%	652.009	190,377.0	short tons CO2
CH4 emissions from T&D losses of purchased power on Entergy system				342.3	short tons CO2e
N2O emissions from T&D losses of purchased power on Entergy system				624.7	short tons CO2e
			TOTAL	**191,344.0**	**short tons CO2e**

Purchased & Market Power Purchases

Purchase Type	MWh	CO2 Emissions (ST)	CH4 Emissions (ST CO2e)	N2O Emissions (ST CO2e)	Total CO2e (ST)	Total CO2e (MT)
Controllable Purchases	7,334,064	2,141,438	3,850.4	7,027	2,152,314.71	1,952,547.62
Uncontrollable (Market) Purchases	13,838,075	7,849,233	7,265.0	13,258	7,869,755.60	7,139,324.23
	21,172,139	**9,990,671**	**11,115**	**20,284**	**10,022,070.31**	**9,091,871.85**

MWh Market Purchases provided by internal System Planning and Operations team; starting in 2024, used MISO derived marginal emission rate to estimate emissions for uncontrollable market purchases

TOTAL	**2,343,658.67**	**short tons CO2e**

Entergy offices outside of service territory emissions

Office	Sqr Ft	Approx energy consumption (Mwh)[1]	CO2 emissions short tons	CH4 emissions shor	N20 Emissions (Lb/M	Total emissions CO2	total emissions metric tons CO2e
Austin	9,534.00	214.52	79.16011079	1.57	0.02	80.75	73.25
Washington DC	12,407.00	279.16	82.38342603	1.95	0.02	84.36	76.53
			161.5435368	3.52	0.04	165.11	149.78

1 Department of Energy estimate, 22.5 kwh per sq ft, annually

2 eGRID factorrs used to estimate emissions for sites, ERCOT for Austin and SERC Virginia/Carolina for DC office.

Operating Company	Generation GWh	Purchases GWh	Total Power	Losses & Company Usage	%Lost
EAI	26,253	5,359	31,612	1,136	**0.035935721**
ELL	48,111	17,155	65,266	1,645	**2.520454754**
EMI	12,945	5,205	18,150	698	**3.845730028**
ENOI	3,868	4,765	8,633	119	**1.3784316**
ETI	12,032	10,269	22,301	693	**3.107483969**
SERI	10,574		10,574		**0**
ELIM			(17,198)		
TOTALS*	**113,783**	**42,753**	**139,338**	**4,291**	**0.030795619**

Per Leslev & Rick

Source: 2023 Investor Guide pg 36-37

4,291.00 **Total Loss**

139,338.00 **Total Power**

0.0308 % Loss

Delivered Gas Emissions

This spreadsheet provides an estimate of upstream emissions associated with suppliers of natural gas for electric power generation and distribution to LDC customers. Delivered gas data was provided by System Planning & Operations.

Gas Deliveries (mmBtu)				Estimated Upstream Emissions (g CO2e)					
Electric Utility	Local Distribution Companies (ENO and ELL)	Emission Rate for Delivered Gas[1] (grams of CO2e per MJ)	Conversion of Emission Rate to g CO2e per mmBtu	Electric Utility	LDCs	Total	Conversion to lbs	Conversion to Short Tons	Conversion to Metric Tons
575,627,409	17,292,324	14.1	14875.5	8,562,745,522,580	257,231,965,662	8,819,977,488,242	19,427,263,190	9,713,632	8,812,061

Notes and Sources

1 - NETL Report - Industry Partnerships and their Role in Reducing Natural Gas Supply Chain Greenhouse Gas Emissions (2020); pp 50, Exhibit 6-10

NETL-Industry-Partnerships-and-their-Role-in-Reducing-Natural-Gas-Supply-Chain-Greenhouse-Gas-Emissions-Phase-2-12FEB2021.pdf (doe.gov)

Published Feb 12,2021--check to see if new version at this time; may be every few years

GHGe Breakdown			
6,614,983,116,181	5,624,091	**TOTAL CH4, CO2e**	CH4 ~= 75% of Total Natural Gas Industry CO2e GHG Emissions in the U.S. (Exhibit 6-11, p. 44, NETL report)
2,204,994,372,060	1,874,697	**TOTAL CO2, CO2e**	CO2 ~= 25% of Total Natural Gas Industry CO2e GHG Emissions in the U.S. (Exhibit 6-11, p. 44, NETL report)
0.0000	937	**TOTAL N2O, CO2e**	N2O = 0.0005 lbs CO2e N2O/lb CO2 (ETR GHG Inventory emission factor for Industrial natural gas-fired facilities.)
8,267,033	**7,499,726**	**TOTAL CO2e**	Adjusted TOTAL

Employee Business Travel - GHG Footprint Estimate

This section of the GHG inventory was produced in 2025 using 2024 actual travel numbers from AMEX travel.

Updated 1/31/25

Overall Summary	CO2 Emissions (lbs)	CO2 Emissions (short tons)	CO2 Emissions (metric tons)
Airline Flights	5,179,129	2,590	2,350
Rental Cars	465,083	233	211
Hotel Stays	959,415	480	435
Personal Vehicle Use	6,043,227	3,022	2,741
TOTAL ESTIMATE	**12,646,854**	**6,323**	**5,737**

Airline GHG Footprint Estimate

Year	Distance Flown (miles)	CO2 Footprint (lbs)	CO2 Footprint (short tons)	CO2 Footprint (metric tons)
2024	11,827,179	5,179,129	2,590	2,350

Note: The AMEX Travel group provided the CO2 footprint estimate calculations - have requested details of assumptions and calculations

Rental Car GHG Footprint Estimate

		Mileage Assumptions and Calculations				
Year	**Number of Days/Nights**	20% @ 5 mpd	30% @ 10 mpd	30% @ 20 mpd	15% @ 50 mpd	5% @ 100 mpd
2024	23,203	23,203	69,609	139,218	174,023	116,015

GRAND TOTAL	**522,067.5**	**miles**
	210,915.3	**kg CO2** (@404 grams CO2 per mile)
	465,083.3	**lb CO2**
	232.5	**short tons**
	211.0	**metric tons**

Source of assumptions and calculations: https://nepis.epa.gov/Exe/ZyPDF.cgi?Dockey=P100U8YT.pdf

Hotel Nights

Year	Number of Days/Nights	Assumed kwh usage per room per day	Emission Rate Assumption (lbs per MWh)	Natural Gas Usage per room per night (mmBtu)	Total Emissions (lbs)	Total Emissions (short tons)	Total Emissions (metric tons)
2024	23,203						
2024	**23,203**	30	1,000	0.097	**959,415**	**479.7**	**435.2**

Source of assumptions and calculation: https://www.epa.gov/sites/default/files/2018-12/documents/indirectemissions_draft2_12212018_b_508pass_3.pdf

Employee Personal Vehicle Mileage

Employee Personal Car Mileage GHG Footprint Estimate

Year	Miles	kg CO2	lbs CO2	short tons CO2	metric tons CO2
2024	6,783,672	2,740,603	6,043,227	3,022	2,741.16

Source of assumptions and calculations: https://nepis.epa.gov/Exe/ZyPDF.cgi?Dockey=P100U8YT.pdf

Product Combustion - Emissions from combustion of Natural Gas distributed to retail customers

Values below represent those reported in the RY 2023 GHG reports submitted by Gas Operations and provided to SEP for each location.

Gas Operation	CO2 equivalent emissions from supplier subparts LL-QQ (metric tons) Subpart NN Product Combustion	Total CO2 equivalent emissions (short tons)
Entergy Louisiana, L.L.C. Gas Business	365,300.3	402,674.2
Entergy New Orleans, Inc. Gas Business	493,198.3	543,657.4
TOTAL	**858,498.6**	**946,331.6**

Employee Commuting Emission Calculations

Note: Updated for 2024

Commuter Travel Calculations

Commuting Emissions Summary

Employee Commuting Total CO2e					
Commuting method (more than 75% of the time)	**Miles travelled per year**	**Total emissions kg CO2e**	**Total emissions short tons CO2e**	**Total Emissions metric tons CO2e**	**% total commuting emissions**
Individual car	72,464,442	27,143,079	29,920	27,143	97.6%
Public Transportation	491,840	67,603	75	68	0.2%
Carpool	1,573,467	589,375	650	589	2.1%
Bikers	-	-	-	-	0.0%
Walkers	-	-	-	-	0.0%
Total	**74,529,750**	**27,800,057**	**30,644**	**27,800**	**100.0%**

Employee Commuting Total GHG Breakdown						
Commuting method (more than 75% of the time)	**Miles travelled per year**	**Greenhouse gas**	**Total emissions kg CO2e**	**Total emissions short tons CO2e**	**Total Emissions metric tons CO2e**	**% total commuting emissions**
Individual car	72,464,442	CO2	26,377,057	29,075	26,377	94.9%
		CH4	47,174	52	47	0.2%
		N2O	718,847	792	719	2.6%
Public Transportation	491,840	CO2	67,358	74	67	0.2%
		CH4	44	0.05	0.04	0.0%
		N2O	201	0.22	0.20	0.0%
Carpool	1,573,467	CO2	572,742	631	573	2.1%
		CH4	1,024	1.13	1.02	0.0%
		N2O	15,609	17	16	0.1%
Bikers	-	CO2	-	-	-	0.0%
		CH4	-	-	-	0.0%
		N2O	-	-	-	0.0%
Walkers	-	CO2	-	-	-	0.0%
		CH4	-	-	-	0.0%
		N2O	-	-	-	0.0%
Total	**74,529,750**		**27,800,057**	**30,644**	**27,800**	**100.0%**

Commuting Survey Results & Workforce Estimations

Employee Count	
Survey Responses	940
Total Workforce (Dec 31, 2024)	12299

Commuting Frequency					
# of Commutes (Weekly)	**Responses**	**%**	**Per Year Approx Commute Days (Individual)**	**Estimated Commuters for Full Workforce**	**Estimated Commutes for Full Workforce**
Remote (zero)	31	3	0	406	0
0.5	92	10	24	1204	28890
1	122	13	48	1596	76620
2	153	16	96	2002	192178
3	119	13	144	1557	224208
4	247	26	192	3232	620498
5	176	19	240	2303	552670
TOTAL	**940**	**100**	**744**	**12,299**	**1,695,064**

Commuting Method			
Commuting Method	**# Survey Responses**	**estimated employees**	**% of survey respones**
Remote	31	405.61	3.30%
Walkers =	6	78.50	0.64%
Bikers =	6	78.50	0.64%
Carpoolers =	7	91.59	0.74%
Public Transporters =	6	78.50	0.64%
Individual Drivers =	884	11,566.29	94.04%
Total	**940**	**12,299**	**100.00%**

Annual Commute Weighted Average Multiplier		
Commutes weekly	**Commutes annually**	**# responses (survey)**
0	0	123
2	96	394
4.5	216	423
Total responses		**940**
Commute weighted average		**137.44**

Commuting Distance (miles one-way)						
	Low	**Avg**	**High**	**# Employees Estimated**	**SURVEY RESPONSES (#)**	**SURVEY RESPONSES (%)**
Remote	0	0	0	405.61	31	3.30%
	1.0	2.5	5.0	1,439.24	110	11.70%
	5.0	7.5	10.0	2,512.14	192	20.43%
	10.0	15.0	20.0	2,682.23	205	21.81%
	20.0	25.0	30.0	1,792.51	137	14.57%
	30.0	40.0	50.0	1,949.52	149	15.85%
	50.0	62.5	75.0	1,517.75	116	12.34%
Total	116.0	152.5	190.0	12,299	940	100%

Distribution of Commuting Method by Miles (Workforce Estimation)						
Survey	**Individual Drivers**	**Carpoolers**	**Public**	**Bikers**	**Walkers**	**Remote**
1 to 5 miles	1354	0	9	39.25	75	
5 to 10 miles	2362	0	16	39.25	0	
10-20 miles	2522	0	17	0	0	
20-30 miles	1686	0	11	0	0	
30 to 50 miles	1833	0	12	0	0	
50 to 75 miles	1427	92	10	0	0	
Total	**11566**	**92**	**79**	**79**	**79**	**406**

Estimated Emissions from Mileage and Method of Transport							
Method of Transportation	**one way (workforce)**	**round trip (workforce)**	**annual miles (workforce)**	**annual gallons**	**lbs (workforce)**	**short tons (workforce)**	**metric tons (workforce)**
Walkers =	188	375	51,539	-	-	-	-
Bikers =	393	785	107,895	-	-	-	-
Carpoolers =	5,724	11,449	1,573,467	26,224	524,489	262	238
Public Transporters =	1,789	3,579	491,840	1,967	39,347	20	18
Individual Drivers =	263,625	527,251	72,464,442	2,898,578	57,971,554	28,986	26,303
Total			**74,689,184**	**2,926,770**	**58,535,390**	**29,268**	**26,559**

Emissions Calculation for Public Transportation		
Method of Transit	**# of miles**	**Total emissions kg CO2e**
50% Bus	245,920	26,355
5% Intercity Rail	24,592	4,558
5% Commuter Rail	24,592	4,238
40% Transit Rail	196,736	32,206
Total	**491,840**	**67,358**

EPA Methodology

E=VMT*(EF_{CO2} + EF_{CH4}*0.021 + EF_{N2O}*0.310)
E= total CO2e
VMT= vehicle miles travelled per year
EF_{CO2}= CO2 emissions factor
EF_{CH4}= CH4 emissions factor
EF_{N2O}= N2O emissions factor
0.021= conversion factor
0.310= conversion factor

*used for individual car, carpool and vanpool

Method of travel	**EF_{CO2} (kg Co2/vehicle-mile)**	**EF_{CH4} (g CH4/vehicle-mile)**	**EF_{N2O}(g N2O/vehicle-mile)**
Individual car	0.364	0.031	0.032
Vanpool	0.519	0.036	0.047
Carpool	0.364	0.031	0.032
Bus	0.107	0.0006	0.0005
Short haul airline (domestic)	0.185	0.0104	0.0085
Medium haul airline (continental)	0.229	0.0104	0.0085
Long haul airline (intercontinental	0.277	0.0104	0.0085
Itercity rail	0.185	0.002	0.001
Commuter rail	0.172	0.002	0.001
Transit rail	0.163	0.004	0.002

E=PMT*(EF_{CO2} + EF_{CH4}*0.021 + EF_{N2O}*0.310)
E= total CO2e
PMT= passenger miles travelled per year
EF_{CO2}= CO2 emissions factor
EF_{CH4}= CH4 emissions factor
EF_{N2O}= N2O emissions factor
0.021= conversion factor
0.310= conversion factor
*used for bus, air and rail travel

Estimating Fuel Use
Fuel use= DT x FE
DT= Distance travelled activity factor
FE= Fuel economy factor (ie. kgCO2/mile, gCH4/mile, gN2O/mile) *see emissions factors chart above

*used to detrmine the breakdown of CO2, CH4, N20 within total CO2e.

EPA Methodology sourced from EPA website

http://epa.gov/climateleadership/documents/resources/commute_travel_product.pdf
http://www.epa.gov/climateleadership/documents/resources/mobilesource_guidance.pdf

Assumptions

Employees who are either remote or commute every so often were treated as '0' commutes weekly; employees who commute 1-3 times per week were treated as '2' commutes per week; employees who come 4 to 5 times per week were treated as '4.5' commutes weekly
With 2 weeks of vacation, 12 holidays, we assumed an approximate 48 working weeks per year
We assume walkers walk under 5 miles one way, and cyclists/bikers bike up to 10 one-way
Carpoolers and Vanpoolers all put in the over 30 miles category
Used midpoint of mileage ranges surveyed
Assuming 20 pounds of CO2 emitted per gallon of fuel burned
Methodology sourced from *EPA Climate Leaders: Greenhouse Gas Inventory Protocol Core Module Guidance*
Specific sections: "Optional Emissions from Community Business Travel and Product Transport"
"Direct Emissions from Mobile Combustion Sources"
Data sourced from 2023 issued employee survey reflecting 2022 commuting
Public transportation method compiled from percentages estimated from data recording passenger trips in urbanized areas: 50% bus, 5% intercity rail, 5% commuter rail and 40% transit rail.
Source: US Census Bureau, Statistical Abstract of the United States: 2012
Mileage based off of a survey of 940 employees from a pool of 11,700 employees
Data sourced from Employee Commuting Survey 2023

Entergy leases a power facility to a third party for their sole use

Leased Assets

Facility Name	Gross Load	Steam Load	CO2		Heat Input (mmBtu)
	(MWh)	(1000 lb)	short tons	metric tons	
Louisiana 1	3734583	7,464,779.00	2,359,948.00	2,140,908.81	39,710,569.00
			CH4		
			short tons	metric tons	
			1,109.18	1,006.23	
			N20		
			short tons	metric tons	
			1,321.57	1,198.91	

Data obtained from EPA Clean Air Markets division on 2/15/25: https://campd.epa.gov/data/custom-data-download

EPA Climate Leaders Emissions Factors for Fossil Fuel and Biomass Combustion

The emissions factors below have been updated from the EPA Climate Leaders GHG inventory Protocol, October 2004 and with any other EPA Final Rules.

				CO2 Emissions -- kg			CO2 Emissions -- lbs			CH4 Emissions				N20 Emissions			
Fuel type	Heating Value (HHV): custom heating values should be used if available	Carbon content coefficient (kg C/MMBtu) (based on HHV)	Fraction oxidized	EPA emission factor (kg CO2/MMBtu (HHV)*	EPA emission factor (kg CO2/mass or volume unit)	EPA emission factor (kg CO2/mass or volume unit)	EPA emission factor (lbs CO2/MMBtu (HHV)*	EPA emission factor (lbs CO2/mass or volume unit)	EPA emission factor (lbs CO2/mass or volume unit)	EPA emission factor (g CH4/MMBtu)	EPA emission factor (kg **CO2e**/MMBtu) GWP=25	EPA emission factor (lbs **CO2e**/MMBtu)	CH4 (**CO2e**) emissions factor (**lbs** CO2e CH4/**lb** CO2)	EPA emission factor (g N20/MMBtu)	EPA emission factor (kg **CO2e**/MMBtu) GWP=298	emission factor (lbs **CO2e**/MMBtu)	N2O (**CO2e**) emissions (**lbs** CO2e N2O/**lb** CO2)
Liquid fossil	**MMBtu/bbl**				kg CO2/gallon	kg CO2/bbl		lbs CO2/gallon	lbs CO2/bbl								
Gasoline / petrol	5.253	19.34	0.99	70.95	8.79	369.18	156.44	19.38	814.04	Note: CH4/N2O emissions factors for all mobile sources are dependent on many variables; for mobile sources consult the EPA Guidance Protocol							
Kerosene	5.670	19.72	0.99	71.58	9.66	405.88	157.84	21.31	894.97								
Jet Fuel	5.670	19.33	0.99	70.17	9.47	397.74	154.72	20.88	877.02								
Aviation gasoline	5.048	18.87	0.99	68.50	8.23	345.66	151.04	18.15	762.18								
Distillate fuel (# 1,2,4, diesel)	5.825	19.95	0.99	72.42	10.08	423.36	159.68	22.23	933.51	1.8 (ind)	0.045	0.099	0.0006	.54 (ind)	0.16092	0.355	0.0022
										2.7 (elect gen)	0.068	0.149	0.0009	.54 (elect gen)	0.16092	0.355	0.0022
Residual fuel oil (#5,6)	6.287	21.49	0.99	78.01	11.68	490.44	172.01	25.75	1,081.42	1.8 (ind)	0.045	0.099	0.0006	1.8 (ind)	0.16092	0.355	0.0021
										2.7 (elect gen)	0.068	0.149	0.0009	2.7 (elect gen)	0.16092	0.355	0.0021
LPG	3.861	17.25	0.99	62.62	5.65	237.45	138.07	12.47	523.58								
Propane	3.824	17.2	0.99	62.44	5.71	239.90	137.67	12.59	528.98								
Ethane	2.916	16.25	0.99	58.99	4.12	172.91	130.07	9.08	381.27								
n-Butane	4.326	17.72	0.99	64.32	6.66	279.80	141.83	14.69	616.96	Note: CH4/N2O emissions factors for all mobile sources are dependent on many variables; for mobile sources consult the EPA Guidance Protocol							
Isobutane	4.162	17.75	0.99	64.43	6.42	269.52	142.07	14.15	594.29								
E85	ee EPA Guidance					0.00	0.00		0.00								
CNG	1,027	14.47	0.995	52.79	.054 /cf			.12 /cf									
LNG					5.91 /gal			13.01 /gal									
Petroleum coke	6.024	27.85	0.99	101.10	609.00		0.00	0.00									
Gaseous fossil	**MMBtu/mcf**				cu. ft.			cu. ft.									
Natural gas (dry)	1.027	14.47	0.995	52.79	0.0542		116.41	0.1195		4.75 (ind)	0.119	0.262	0.00225	0.095 (ind)	0.028	0.062	0.0005
										0.95 (elect gen)	0.025	0.055	0.00047	0.095 (elect gen)	0.030	0.066	0.0006
Solid fossil	**MMBtu/short ton**				short ton			short ton									
Anthracite	25.09	28.26	0.99	102.58	2,573.83		226.20	5,675.30		10.0 (ind)	0.250	0.551	0.00265	1.4 (ind)	0.42	0.92	0.0044
										1.0 (elect gen)	0.025	0.055	0.00027	1.4 (elect gen)	0.48	1.05	0.0051
Bituminous coal	24.93	25.49	0.99	92.53	2,306.74		204.03	5,086.36		% of "unspecified coal"						% of "unspecified coal"	
Sub-bituminous coal	17.25	26.48	0.99	96.12	1,658.11		211.95	3,656.13		Use the CH4/N2O emissions factors above for all coal types							
Lignite	14.21	26.3	0.99	95.47	1,356.61		210.51	2,991.33									
Coke	24.80	27.85	0.99	101.10	2,507.17		222.92	5,528.31									
Unspecified (elec gen)	20.63	25.98	0.99	94.31	1,945.56		207.95	4,289.96									
Unspecified (indus)	23.03	25.75	0.99	93.47	2,151.84		206.11	4,744.81									
Biofuels																	
Wood and wood waste	15.38 MMBtu /short	25.6	0.995	92.93	1,429.23 /short		204.91	3,135.2 /short		30.1 (ind/elect gen)	0.753	1.659	0.0081	4.01 (ind/elect gen)	1.19	2.63	0.0129
Landfill gas (50/50)	502.5 Btu/cu ft.	14.2	0.995	51.81	.0260 /cf		114.24	.05733 /cf		Note: CH4 and N2O factors for wood are significant. All fossil fuels are less than 1% compared to the factors for CO2.							
Biodiesel					9.29 /gal			20.48 /gal	860.35 /gal	Note: CH4/N2O emissions factors for all mobile sources are dependent on many variables; for mobile sources consult the							
Ethanol (100)	3.539 MMBtu/bbl	17.99	0.99	65.30	5.5 /gal		143.99	12.13 /gal	509.46 /bbl								

Note: it is assumed the combustion of biomass and biofuels does not contribute to net CO2 emissions. As a result, Partners are required to list biomass CO2 emissions in terms of total gas but the emissions are not included in the overall CO2-equivalent emissions corporate inventory.

Conversion Factors used in this inventory

Mass			
1 pound (lb)	453.6 grams (g)	0.4536 kilograms (kg)	0.0004536 metric tons (tonne)
1 kilogram (kg)	2.205 pounds (lb)		.0011023 short tons
1 short ton (ton)	2'000 pounds (lb)	907.2 kilograms (kg)	.9072 metric tons
1 metric ton	2'205 pounds (lb)	1'000 kilograms (kg)	1.1023 short tons (tons)
Volume			
1 cubic foot (ft^3)	7.4805 US gallons (gal)	0.1781 barrel (bbl)	
1 cubic foot (ft^3)	28.32 liters (L)	0.02832 cubic meters (m^3)	
1 US gallon (gal)	0.0238 barrel (bbl)	3.785 liters (L)	0.003785 cubic meters (m^3)
1 barrel (bbl)	42 US gallons (gal)	158.99 liters (L)	0.1589 cubic meters (m^3)
1 litre (L)	0.001 cubic meters (m^3)	0.2642 US gallons (gal)	
1 cubic meter (m^3)	6.2897 barrels (bbl)	264.2 US gallons (gal)	1,000 liters (L)
Energy			
1 kilowatt hour (kWh)	3,412 Btu (btu)	3,600 kilojoules (KJ)	
1 megajoule (MJ)	0.001 gigajoules (GJ)		
1 gigajoule (GJ)	0.9478 million Btu (million btu)	277.8 kilowatt hours (kWh)	
1 Btu (btu)	1,055 joules (J)		
1 million Btu (million btu)	1.055 gigajoules (GJ)	293 kilowatt hours (kWh)	
1 therm (therm)	100,000 btu	0.1055 gigajoules (GJ)	29.3 kilowatt hours (kWh)
Other			
kilo	1,000		
mega	1,000,000		
giga	1,000,000,000		
tera	1,000,000,000,000		
1 psi	14.5037 bar		
1 kgf / cm^3 (tech atm)	1.0197 bar		
1 atmosphere (atm)	0.9869 bar	101.325 kilo pascals	14.696 pounds per square inch (psia)
1 mile (statue)	1.609 kilometers		
1 metric ton CH_4	21 metric tons CO_2 equivalent		
1metric ton N_2O	310 metric tons CO_2 equivalent		
1 metric ton carbon	3.664 metric tons CO_2		

Global Warming Potentials and Atmospheric Lifetimes (years)		
Gas Atmospheric Lifetime GWP[a]		
Greenhouse Gas	**Atmospheric Lifetime**	**Global Warming Potential**
Carbon dioxide (CO2)	50-200	1
Methane (CH4)[b,c]	12 +/- 3	25
Nitrous oxide (N2O)[c]	120	298
HFC-23[c]	264	14,800
HFC-125[c]	32.6	3,500
HFC-134a[c]	14.6	1,100
HFC-143a[c]	48.3	4,470
HFC-152a[c]	1.5	124
HFC-227ea[c]	36.5	3,220
HFC-236fa[c]	209	9,810
HFC-4310mee[c]	17.1	1,640
CF4	50,000	6,500
C2F6	10,000	9,200
C4F10	2,600	7,00
C6F14	3,200	7,400
SF6[c]	3,200	22,800

Source: Unless otherwise noted by note 'c' below, IPCC's Fourth Assessment Report (2007) GWPs.

a using a 100 year time horizon

b The methane GWP includes the direct effects and those indirect effects due to the production of tropospheric ozone and stratospheric water vapor.

c Effective January 1, 2014, the Environmental Protection Agency, through issuance of a final rule, raised the GWP for methane and several classes of hydrofluorocarbons, while lowering the GWP for both nitrous oxide and sulfur hexafluoride.

The indirect effect due to the production of CO2 is not included.