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# **Greenhouse Gas (GHG) Emissions Report**

Company Name: Centro Incorporated Reporting Period: 1/1/2024 – 12/31/2024

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Date of Report: 8/25/2025

### 1. Executive Summary

Centro Incorporated is a leading custom rotational molding manufacturer headquartered in North Liberty, IA. Founded in 1970, the company has grown into one of the largest privately held businesses in the Iowa Corridor region. Centro specializes in producing highly engineered plastic components for Original Equipment Manufacturers across a range of industries, including agriculture, construction, and lawn and garden equipment.

With a global footprint that includes Manufacturing facilities in the United States and Brazil, along with Engineering resources located in Northern Ireland, Centro operates thirteen locations and employs approximately 1,000 people worldwide. The company is known for its robust product offerings – ranging from fuel tanks and cab roofs to high-end dog kennels and utility vehicle cargo beds. The organization is committed to innovation through proprietary technologies like RotoLoPerm.

Centro Incorporated, a global leader in custom rotational molding, is committed to operational excellence. This Greenhouse Gas Emissions Report provides a comprehensive overview of the company's carbon footprint for the reporting period of 2024, aligning with recognized standards such as the GHG Protocol. This report covers emissions across Centro's operations in the United States. Emissions are categorized into two scopes:

- Scope 1: Direct emission from on-site fuel combustion and company-owned vehicles
- Scope 2: Indirect emissions from purchased electricity used in manufacturing and office operations

Centro's total emissions for the 2024 reporting period were 17,435 metric tons CO<sub>2</sub> equivalent (tCO<sub>2</sub>e) across its eleven U.S. based locations, Scope 1 emissions representing the largest share due to high usage of natural gas combustion in the manufacturing processes. The organization has already implemented several initiatives to reduce its environmental impact, such as energy-efficient lighting, implementation of electrically heated molding capabilities, and processes optimization through the Management Operation System.

This report serves as a more detailed baseline over our 2023 calculations for future sustainability efforts and supports Centro's long-term goal of reducing its carbon footprint while maintaining high standards of product quality, and customer service. It also reinforces the company's commitment to transparency, innovation and responsible growth.

# 2. Organizational Boundaries

We have defined our organizational boundaries using the Operational Control Approach, which is widely recommended for its clarity and alignment with sustainability reporting frameworks such as the GHG Protocol, CSRD and PCAF

Under this approach, we report 100% of scope 1 and 2 emissions from facilities and operations withing the United States where we have the authority to implement operating policies. This includes:

- Facilities where Centro holds the operating license
- Locations managed directly by Centro personnel
- Assets under finance or operating leases where Centro has operational control

This method ensures comprehensive coverage of emissions from all U.S. operations that we actively manage, regardless of ownership percentage.

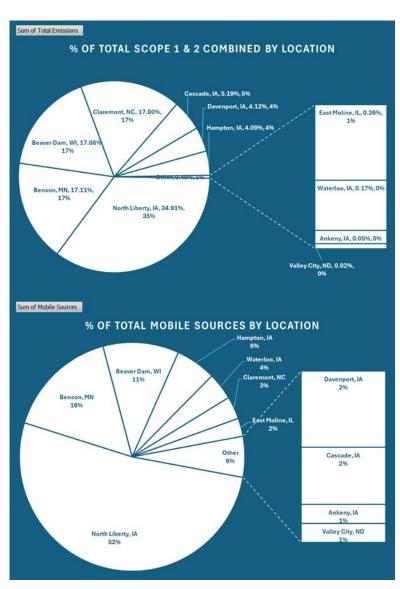
#### **Facilities Included:**

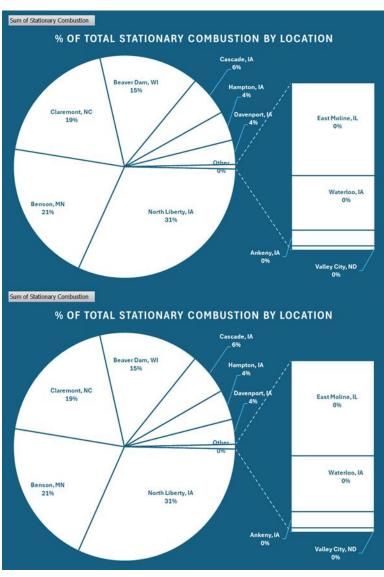
- Corporate Headquarters: North Liberty, IA
- U.S. Manufacturing Plants:
  - o Ankeny, IA
  - o Cascade, IA
  - o Davenport, IA
  - o Hampton, IA
  - o North Liberty, IA
  - o Waterloo, IA
  - o East Moline, IL
  - o Benson, MN
  - o Claremont, NC
  - o Valley City, ND
  - o Beaver Dam, WI

Centro has not included the manufacturing facility in Horizontina Brazil or the engineering firm in Northern Ireland in its calculations for 2024 and Centro does not include emissions from joint ventures or affiliates where it lacks operational control.

# 3. Emissions Scope and Categories

Scope	Description	<b>Emission Sources</b>	Emissions (tCO2e)
Scope 1	Direct Emissions from owned/controlled sources	Stationary Combustion, Mobile Sources, Refrigeration/AC, Purchased Gasses	11,532
Scope 2	Indirect emissions from purchased electricity	Purchased Electricity	5,902
<b>Total Emissions</b>		Scope 1 and 2 combined	17,435





# 4. Methodology

Our GHG emissions were calculated in accordance with the Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard, the globally recognized framework for GHG accounting. The methodology ensures consistency, transparency, and comparability across reporting periods.

Emission factors were sourced from:

 The U.S. Environmental Protection Agency (EPA) Emissions Factors Hub and the EPA GHG Emissions Calculator Workbook

These factors were selected for their credibility, relevance and alignment with our operations footprint in the United States

We used the following primary data sources for emissions calculations:

- Utility Bills: Electricity and natural gas usage from all owned and leased facilities in the U.S.
- Purchase orders: Fuel purchases for company owned vehicles and equipment, purchased gas, and AC repair

Where direct data was not available, reasonable estimates were made using industry benchmarks and historical averages, with assumptions clearly documented in the appendices.

Centro utilized the EPA GHG Emissions Calculator Workbooks, a spreadsheet-based tool that automates the emissions calculations based on input data and selected emission factors. This tool was supplemented with custom Excel workbooks to bring all U.S. operations summaries into one combined carbon emission workbook.

### **5. Emission Reduction Initiatives**

### I. Installation of Machines Capable of Accommodating Electrically Heated Tooling

We have begun quoting and prioritizing projects that utilize electrically heated tooling, which operates on 100% electric power for projects that fit into the electrically heated tooling portfolio. This transition away from traditional fuel-based systems significantly reduces Scope 1 emissions and is the beginning of a broader electrification strategy. By leveraging electric tooling, we not only lower our carbon footprint but also enhance process precision and energy efficiency.

# II. LED Lighting Upgrades

We have initiated a phased upgrade of lighting systems across our facilities, replacing conventional fixtures with high-efficiency LED lighting. This initiative reduces electricity consumption (scope 2 emissions), lowers maintenance costs, and improves workplace lighting quality. While we have not yet quantified the emissions reductions from this initiative, due to previously untracked baseline data and fluctuating business conditions, we anticipate meaningful energy savings and operations benefits over time. The upgrades are part of a broader strategy to modernize infrastructure and reduce Scope 2 emissions.

### III. MOS is the Gold Standard

In 2024, we expanded monitoring and reporting of Management Operating System (MOS) compliance across all manufacturing facilities, excluding our smallest operation. This initiative is supported by an internal audit process based on defined criteria, resulting in a compliance score reviewed weekly during our weekly enterprise staffing meeting. Since implementation, eight of ten tracked locations have consistently achieved 100% compliance. While we are still working to quantify the emissions reductions associated with this initiative, due to previously unavailable baseline data and variable business conditions, we have successfully reduced our waste index by 19%. We expect this program to continue to deliver meaningful energy savings and have observed increased operational efficiencies over time.

#### 6. Recommendations

To enhance our sustainability efforts and improve the scope and effectiveness of our GHG emissions reporting, the following recommendations are proposed for evaluation and potential implementation:

# I. Expand Geographic Scope of Emissions reporting

- Evaluate Inclusion of Non-U.S. Locations: Consider incorporating emissions data from international facilities and operations to provide a more comprehensive corporate GHG inventory.
- Assess Data Collection Capabilities: Review existing systems and processes to determine feasibility
  of consistent data collection across regions.
- **Enhance Transparency:** Explore ways to clearly communicate boundaries, methodologies, and assumptions used in international emissions reporting.

# **II.** Evaluate Opportunities to Reduce Scope 2 Emissions

- Assess Green Energy Procurement Options: Investigate the availability and cost-effectiveness of purchasing Renewable Energy Certificates (RECs), participating in utility green energy programs, or entering into power purchase agreements (PPAs).
- Explore On-Site Renewable Energy Feasibility: Conduct site assessments to determine the viability of solar, wind, or other renewable energy installations.

- Review Energy Efficiency Measures: Identify opportunities for upgrades such as LED lighting, additional electrically heated tooling projects, HVAC systems, and energy management tools to reduce electricity consumption.
- Maintain M.O.S. Compliance: Maintain 100% compliance in all previously established locations and increase compliance in the remaining two monitored locations.

# III. Evaluate Electrification Strategies to Reduce Scope 1 Emissions

- **Fleet Electrification Assessment:** Analyze operational needs and infrastructure readiness to determine where transitioning to electric or hybrid vehicles may be feasible.
- Facility and Equipment Electrification: Identify processes and equipment that could be converted to electric power, considering cost, performance and emissions impact.

# **IV.** Monitor and Report Progress

- Establish internal review mechanisms to track progress on evaluated initiatives.
- Set preliminary targets based on feasibility assessments.
- Engage stakeholders in ongoing discussions to refine strategies and align with broader sustainability goals.

# 7. Appendices

Electrical Consumption by Location

Location	Electrical Usage Reported (kwh)
Ankeny Iowa	0*
Beaver Dam Wisconsin	1,933,367
Benson Minnesota	1,408,349
Cascade Iowa	536,178
Claremont North Carolina	2,846,235
Davenport Iowa	729,302**
East Moline Illinois	0*/**
Hampton Iowa	513,000
North Liberty Iowa	5,666,974
Valley City North Dakota	0*
Waterloo Iowa	0*

Natural Gas Consumption by Location

Location	Natural Gas Reported (therm)
Ankeny Iowa	0*
Beaver Dam Wisconsin	304,990
Benson Minnesota	435,368
Cascade Iowa	124,367
Claremont North Carolina	401,810
Davenport Iowa	73,368**
East Moline Illinois	0*/**
Hampton Iowa	89,984
North Liberty Iowa	657,588
Valley City North Dakota	0*
Waterloo Iowa	0*

LPG Consumption by Location

Location	LPG usage Reported (gallons)
Ankeny Iowa	1,161
Beaver Dam Wisconsin	6,312
Benson Minnesota	7,625
Cascade Iowa	1,658
Claremont North Carolina	2,960
Davenport Iowa	2,219**
East Moline Illinois	7,251**
Hampton Iowa	1,111
North Liberty Iowa	15,438
Valley City North Dakota	319
Waterloo Iowa	4,138

Vehicle Consumption by Location

Location	Fuel usage Reported (gallons)
Ankeny Iowa	145
Beaver Dam Wisconsin	1,987
Benson Minnesota	2,875
Cascade Iowa	343
Claremont North Carolina	522
Davenport Iowa	458**
East Moline Illinois	420**
Hampton Iowa	213
North Liberty Iowa	9,172
Valley City North Dakota	84
Waterloo Iowa	696

Purchased Gasses Consumed by Location

Location	Carbon Dioxide Reported (lb.)
Ankeny Iowa	33
Beaver Dam Wisconsin	33
Benson Minnesota	0
Cascade Iowa	33
Claremont North Carolina	330
Davenport Iowa	0**
East Moline Illinois	0**
Hampton Iowa	33
North Liberty Iowa	462
Valley City North Dakota	0
Waterloo Iowa	33

Refrigeration and A/C gasses purchased

Location	Refrigerant Reported (kg)
Ankeny Iowa	0
Beaver Dam Wisconsin	0
Benson Minnesota	0
Cascade Iowa	1.1 (R-410A)
Claremont North Carolina	0
Davenport Iowa	0
East Moline Illinois	0
Hampton Iowa	0
North Liberty Iowa	0
Valley City North Dakota	0
Waterloo Iowa	0

<sup>\* -</sup> Location does not purchase electricity or natural gas due to agreement with landlord. The property owner would capture those emission factors.

LPG usage is assumed generated by tank exchanges multiplied by average gallons per cylinder for locations that do not pay by the gallon at 4.7 gallons per 20lb cylinder and 8 gallons per 33lb cylinder

<sup>\*\* -</sup> Partial data collection due to location not being in operation for entire reporting year Vehicle fuel usage is assumed generated by dollars spent/average national fuel price for 2024 as reported by U.S. Energy Information Administration.

# **Emission Factors**

All Emission factors are sourced from the EPA's Emission Factors Hub, June 2024 unless otherwise noted. Fuel emission factors presented represent the combustion-only (tank-to-wheel).

Stationary Combustion

Fuel Type	CO <sub>2</sub> Factor (kg CO <sub>2</sub> / mmBtu)	CH4 Factor (g CH4 / mmBtu)	N <sub>2</sub> O Factor (g N <sub>2</sub> O / mmBtu)	CO <sub>2</sub> Factor (kg CO <sub>2</sub> / unit)	CH4 Factor (g CH4 / unit)	N <sub>2</sub> O Factor (g N <sub>2</sub> O / unit)	Unit
Natural Gas	53.06	1.0	0.10	0.05444	0.00103	0.00010	scf
Distillate Fuel Oil No. 2	73.96	3.0	0.60	10.21	0.41	0.08	gallons
Residual Fuel Oil No. 6	75.10	3.0	0.60	11.27	0.45	0.09	gallons
Kerosene	75.20	3.0	0.60	10.15	0.41	0.08	gallons
Liquefied Petroleum Gases (LPG)	61.71	3.0	0.60	5.68	0.28	0.06	gallons
Anthracite Coal	103.69	11	1.6	2,602	276	40	short tons
Bituminous Coal	93.28	11	1.6	2,325	274	40	short tons
Sub-bituminous Coal	97.17	11	1.6	1,676	190	28	short tons
Lignite Coal	97.72	11	1.6	1,389	156	23	short tons
Mixed (Commercial Sector)	94.27	11	1.6	2,016	235	34	short tons
Mixed (Electric Power Sector)	95.52	11	1.6	1885	217	32	short tons
Mixed (Industrial Coking)	93.9	11	1.6	2468	289	42	short tons
Mixed (Industrial Sector)	94.67	11	1.6	2116	246	36	short tons
Coal Coke	113.67	11	1.6	2819	273	40	short tons
Municipal Solid Waste	90.7	32	4.2	902	318	42	short tons
Petroleum Coke (Solid)	102.41	32	4.2	3072	960	126	short tons
Plastics	75	32	4.2	2850	1216	160	short tons
Tires	85.97	32	4.2	2407	896	118	short tons
Agricultural Byproducts	118.17	32	4.2	975	264	35	short tons
Peat	111.84	32	4.2	895	256	34	short tons
Solid Byproducts	105.51	32	4.2	1096	332	44	short tons
Wood and Wood Residuals	0	7.2	3.6	1,640	126	63	short tons
Propane Gas	61.46	3	0.60	0.15	0.01	0.00	scf
Landfill Gas	O O	3.2	0.63	0.03	0.00	0.00	scf
Biodiesel (100%)	73.84	1.1	0.11	9.45	0.14	0.01	gallons
Ethanol (100%)	68.44	1.1	0.11	5.75	0.09	0.01	gallons
Rendered Animal Fat	71.06	1.1	0.11	8.88	0.14	0.01	gallons
Vegetable Oil	81.55	1.1	0.11	9.79	0.13	0.01	gallons

# Mobile Combustion

# Mobile Combustion CO<sub>2</sub>

Fuel Type	CO <sub>2</sub> Emission Factor (kg CO <sub>2</sub> / unit)	Unit
Aviation Gasoline	8.31	gallon
Biodiesel	9.45	gallon
Compressed Natural Gas (CNG)	0.05	scf
Diesel Fuel	10.21	gallon
Ethanol	5.75	gallon
Kerosene-Type Jet Fuel	9.75	gallon
Liquefied Natural Gas (LNG)	4.5	gallon
Liquefied Petroleum Gases (LPG)	5.68	gallon
Motor Gasoline	8.78	gallon
Residual Fuel Oil	11.27	gallon

#### Mobile Combustion CH<sub>4</sub> and N<sub>2</sub>O Emissions for On-Road Gasoline Vehicles

Vehicle Type	Model Year	CH <sub>4</sub> Factor (g CH <sub>4</sub> / vehicle-mile)	N <sub>2</sub> O Factor (g N <sub>2</sub> O / vehicle-mile)	Notes
Gasoline Passenger Cars	1984-93	0.0704	0.0647	
	1994	0.0617	0.0603	
	1995	0.0531	0.0560	
	1996	0.0434	0.0503	
	1997	0.0337	0.0446	
	1998	0.0240	0.0389	
	1999	0.0215	0.0355	
	2000	0.0175	0.0304	
	2001	0.0105	0.0212	
	2002	0.0102	0.0207	
	2003	0.0095	0.0181	
	2004	0.0078	0.0085	
	2005	0.0075	0.0067	
	2006	0.0076	0.0075	
	2007	0.0072	0.0052	
	2008	0.0072	0.0049	
	2009	0.0071	0.0046	
	2010	0.0071	0.0046	
	2011	0.0071	0.0046	
	2012	0.0071	0.0046	
	2013	0.0071	0.0046	
	2014	0.0071	0.0046	
	2015	0.0068	0.0042	
	2016	0.0065	0.0038	
	2017	0.0054	0.0018	
	2018	0.0052	0.0016	
	2019	0.0051	0.0015	
	2020	0.0050	0.0014	
	2021	0.0051	0.0014	
	2022	0.0051		Held constant from most recent data (year 2021 factor)
	2023	0.0051		Held constant from most recent data (year 2021 factor)
Mobile Compustion CH, and N-O Emissions for	2024	0.0051	0.0014	Held constant from most recent data (year 2021 factor)

Mobile Combustion CH<sub>4</sub> and N<sub>2</sub>O Emissions for On-Road Gasoline Vehicles

Vehicle Type	Model Year	CH4 Factor (g CH4 / vehicle-mile)	N <sub>2</sub> O Factor (g N <sub>2</sub> O / vehicle-mile)	Notes
Gasoline Passenger Cars	1984-93	0.0704	0.0647	
	1994	0.0617	0.0603	
	1995	0.0531		
	1996	0.0434		
	1997	0.0337		
	1998	0.0240	0.0389	
	1999	0.0215	0.0355	
	2000	0.0175		
	2001	0.0105		
	2002	0.0102		
	2003	0.0095		
	2004	0.0078		
	2005	0.0075	0.0067	
	2006	0.0076	0.0075	
	2007	0.0072	0.0052	
	2008	0.0072	0.0049	
	2009	0.0071		
	2010	0.0071	0.0046	
	2011	0.0071	0.0046	
	2012	0.0071	0.0046	
	2013	0.0071	0.0046	
	2014	0.0071	0.0046	
	2015	0.0068	0.0042	
	2016	0.0065	0.0038	
	2017	0.0054	0.0018	
	2018	0.0052	0.0016	
	2019	0.0051	0.0015	
	2020	0.0050	0.0014	
	2021	0.0051		
	2022	0.0051	0.0014	Held constant from most recent data (year 2021 factor)
	2023	0.0051	0.0014	Held constant from most recent data (year 2021 factor)
	2024	0.0051	0.0014	Held constant from most recent data (year 2021 factor)

Mobile Combustion CH<sub>4</sub> and N<sub>2</sub>O Emissions for On-Road Gasoline Vehicles

Vehicle Type	Model Year	CH4 Factor (g CH4 / vehicle-mile)	N <sub>2</sub> O Factor (g N <sub>2</sub> O / vehicle-mile)	Notes
oline Passenger Cars	1984-93	0.0704	0.0647	
	1994	0.0617	0.0603	
	1995	0.0531	0.0560	
	1996	0.0434	0.0503	
	1997	0.0337	0.0446	
	1998	0.0240	0.0389	
	1999	0.0215	0.0355	
	2000	0.0175	0.0304	
	2001	0.0105	0.0212	
	2002	0.0102	0.0207	
	2003	0.0095	0.0181	
	2004 2005	0.0078	0.0085	
		0.0075	0.0067	
	2006	0.0076	0.0075	
	2007	0.0072	0.0052 0.0049	
	2008	0.0072		
	2009	0.0071	0.0046	
	2010	0.0071	0.0046	
	2011	0.0071	0.0046	
	2012	0.0071	0.0046	
	2013	0.0071	0.0046	
	2014	0.0071	0.0046	
	2015	0.0068	0.0042	
	2016	0.0065	0.0038	
	2017	0.0054	0.0018	
	2018	0.0052	0.0016	
	2019	0.0051	0.0015	
	2020	0.0050	0.0014	
	2021	0.0051	0.0014	
	2022	0.0051		Held constant from most recent data (year 2021 factor)
	2023	0.0051		Held constant from most recent data (year 2021 factor)
	2024	0.0051		Held constant from most recent data (year 2021 factor)
ine Heavy-Duty Vehicles	1985-86	0.4090	0.0515	
	1987	0.3675	0.0849	
	1988-1989	0.3492	0.0933	
	1990-1995	0.3246	0.1142	
	1996	0.1278	0.1680	
	1997	0.0924	0.1726	
	1998	0.0655	0.1750	
	1999	0.0648	0.1724	
	2000	0.0630	0.1660	
	2001	0.0577	0.1468	
	2002	0.0634	0.1673	
	2003	0.0602	0.1553	
	2004	0.0298	0.0164	
	2005	0.0297	0.0083	
	2006	0.0299	0.0241	
	2007	0.0322	0.0015	
	2008	0.0340	0.0015	
	2009	0.0339	0.0015	
	2010	0.0320	0.0015	
	2010 2011	0.0320 0.0304	0.0015	
	2010 2011 2012	0.0320 0.0304 0.0313	0.0015 0.0015	
	2010 2011 2012 2013	0.0320 0.0304 0.0313 0.0313	0.0015 0.0015 0.0015	
	2010 2011 2012 2013 2014	0.0320 0.0304 0.0313 0.0313 0.0315	0.0015 0.0015 0.0015 0.0015	
	2010 2011 2012 2013 2014 2015	0.0320 0.0304 0.0313 0.0313 0.0315 0.0315	0.0015 0.0015 0.0015 0.0015 0.0021	
	2010 2011 2012 2013 2014 2015 2016	0.0320 0.0304 0.0313 0.0313 0.0315 0.0315 0.0321	0.0015 0.0015 0.0015 0.0015 0.0021 0.0021	
	2010 2011 2012 2013 2014 2015 2016 2017	0.0320 0.0304 0.0313 0.0313 0.0315 0.0332 0.0321	0.0015 0.0015 0.0015 0.0015 0.0021 0.0061	
	2010 2011 2012 2013 2014 2015 2016 2017 2018	0.0320 0.0304 0.0313 0.0313 0.0315 0.0332 0.0321 0.0329	0.0015 0.0015 0.0015 0.0015 0.0021 0.0061 0.0084 0.0082	
	2010 2011 2012 2013 2014 2015 2016 2017 2018 2019	0.0320 0.0304 0.0313 0.0313 0.0315 0.0312 0.0321 0.0329 0.0326	0.0015 0.0015 0.0015 0.0015 0.0021 0.0021 0.0084 0.0084 0.0082	
	2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020	0.0320 0.0304 0.0313 0.0313 0.0315 0.0315 0.0321 0.0329 0.0326 0.0330 0.0330	0.0015 0.0015 0.0015 0.0015 0.0021 0.0084 0.0084 0.0082 0.0091	These factors are used for ethanol heavy-duty vehicles and buses
	2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020 2021	0.0320 0.0313 0.0313 0.0313 0.0315 0.0321 0.0321 0.0329 0.0326 0.0330 0.0330	0.0015 0.0015 0.0015 0.0015 0.0021 0.0061 0.0084 0.0082 0.0091 0.0091	
	2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020 2021	0.0320 0.0304 0.0313 0.0313 0.0315 0.0321 0.0322 0.0329 0.0326 0.0330 0.0332 0.0332	0.0015 0.0015 0.0015 0.0015 0.0021 0.0061 0.0064 0.0082 0.0091 0.0091 0.0100	Held constant from most recent data (year 2021 factor)
	2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020	0.0320 0.0313 0.0313 0.0313 0.0315 0.0321 0.0321 0.0329 0.0326 0.0330 0.0330	0.0015 0.0015 0.0015 0.0015 0.0015 0.0021 0.0061 0.0082 0.0082 0.0091 0.0100 0.0100 0.0100	

The latest mobile combustion factors reflect year 2021 data. Therefore, for all vehicle model years 2022 onward, the 2021 year factor is used.

#### Electricity

CO2, CH4 and N2O Total Output Emission Factors by Subregion eGRID2022, January 2024

eGRID Subregion	CO <sub>2</sub> Factor (lb CO <sub>2</sub> /MWh)	CH₄ Factor (lb CH₄/MWh)	N <sub>2</sub> O Factor (lb N <sub>2</sub> O/MWh)
ASCC Alaska Grid	1,052.1	0.088	0.012
ASCC Miscellaneous	495.8	0.023	0.004
WECC Southwest	776.0	0.051	0.007
WECC California	497.4	0.030	0.004
ERCOT All	771.1	0.049	0.007
FRCC All	813.8	0.048	0.006
HICC Miscellaneous	1,155.5	0.124	0.019
HICC Oahu	1,575.4	0.163	0.025
MRO East	1,479.6	0.133	0.019
MRO West	936.5	0.102	0.015
NPCC New England	536.4	0.063	800.0
WECC Northwest	602.1	0.056	800.0
NPCC NYC/Westchester	885.2	0.023	0.003
NPCC Long Island	1,200.7	0.135	0.018
NPCC Upstate NY	274.6	0.015	0.002
Puerto Rico Miscellaneous	1,593.5	0.087	0.014
RFC East	657.4	0.045	0.006
RFC Michigan	1,216.4	0.116	0.016
RFC West	1,000.1	0.087	0.012
WECC Rockies	1,124.9	0.101	0.014
SPP North	952.6	0.100	0.014
SPP South	970.4	0.072	0.010
SERC Mississippi Valley	801.0	0.040	0.006
SERC Midwest	1,369.9	0.151	0.022
SERC South	893.3	0.064	0.009
SERC Tennessee Valley	933.1	0.082	0.012
SERC Virginia/Carolina	623.0	0.047	0.007
US Average	823.1	0.066	0.009
Note:			

These factors do not include upstream transmission and distribution emissions associated with delivered electricity

# **Glossary of Terms and Acronyms**

### **General Terms**

- Carbon Footprint: The total amount of greenhouse gases emitted directly or indirectly by an organization, expressed in metric tons of CO<sub>2</sub> equivalent (tCO<sub>2</sub>e).
- **Emission Factor**: A coefficient that quantifies the emissions associated with a specific activity, such as fuel combustion or electricity use.
- **Operational Control Approach**: A method for defining organizational boundaries in GHG reporting, where emissions are reported from operations over which the company has control.
- **Rotational Molding**: A manufacturing process used to create hollow plastic products by rotating a mold during heating and cooling.
- Waste Index: A combination of Scrap, Downtime and Inventory Adjustments

#### **Scopes of Emissions**

- **Scope 1 Emissions**: Direct GHG emissions from owned or controlled sources (e.g., fuel combustion, company vehicles).
- **Scope 2 Emissions**: Indirect GHG emissions from the consumption of purchased electricity, steam, heating, and cooling.
- **Scope 3 Emissions**: All other indirect emissions not included in Scope 2, such as those from the supply chain (not covered in this report).

### **Energy and Fuel Types**

- LPG: Liquefied Petroleum Gas, used as a fuel source in some facilities.
- **Therm**: A unit of heat energy used to measure natural gas consumption.
- **kWh**: Kilowatt-hour, a unit of energy used to measure electricity consumption.

### **GHG** Reporting Standards and Tools

- **GHG Protocol**: The Greenhouse Gas Protocol, a widely used international standard for GHG accounting and reporting.
- EPA: U.S. Environmental Protection Agency, which provides emission factors and calculation tools.
- **EPA GHG Emissions Calculator Workbook**: A spreadsheet tool provided by the EPA to calculate emissions based on activity data and emission factors.

# Sustainability and Energy Initiatives

- **RECs**: Renewable Energy Certificates, tradable commodities that represent proof that electricity was generated from a renewable energy source.
- **PPAs**: Power Purchase Agreements, contracts to buy electricity from renewable sources.
- **LED Lighting**: Energy-efficient lighting technology that reduces electricity consumption.
- **Electrification**: The process of replacing fossil fuel-based systems with electric alternatives to reduce emissions. Regulatory and Reporting Frameworks
  - **CSRD**: Corporate Sustainability Reporting Directive, an EU regulation requiring sustainability disclosures.
  - **PCAF**: Partnership for Carbon Accounting Financials, a global initiative to standardize GHG accounting for financial institutions.