2023 ESG Data Tables

The data behind our ESG efforts.

The following tables compare our year-to-year environmental performance across key data points. They align with and supplement our annual ESG reports.

Our company.

Crown Castle works in every major US market to build, operate and maintain the communications infrastructure that supports the essential connections people, communities and businesses rely on every day. We own, operate and lease a portfolio of over 40,000 towers, approximately 115,000 small cells on air or under contract and approximately 90,000 route miles of fiber throughout the US.

We were founded in 1994, and today operate as a real estate investment trust (REIT) that owns, operates and leases space on our shared infrastructure through contracts with our customers. Our business model not only makes economic sense but also is a more sustainable means of meeting today's growing connectivity needs. It's a tangible representation of our long-standing ESG commitment.

We are headquartered in Houston, TX, with several additional office locations in the communities we serve throughout the US.

Driving toward carbon neutrality.

Our shared infrastructure model is inherently sustainable, as it allows us to build once and serve multiple customers with the same assets—reducing the use of natural resources. Building on that strong foundation, we continue to invest in energy reduction initiatives, source renewable energy and, to a lesser extent, utilize high-quality carbon offsets—which we believe puts us on track to reach our goal of being carbon neutral in Scope 1 and 2 emissions by 2025.

For 2023, we finalized our first comprehensive Scope 3 emissions inventory, reporting on the categories that we believe are relevant to our business. This foundational work confirmed the most significant drivers of our value chain emissions and areas where we may be able to impact future reductions.

Greenhouse Gas (GHG) Emissions[1,2]

	2020	2021	2022	2023
Scope 1 & 2 GHG Emissions ($MTCO_2e$)				
Scope 1	13,979	13,052	13,328	14,332
Scope 2[3]				
Market-based (with renewables)	—	—	18,609	4,626
Location-based	63,821	57,787	60,329	55,271

	Description	2023
Scope 3 GHG Emissions ($MTCO_2e$)		
Scope 3[4]		
Category 1: Purchased goods and services[5]	Emissions from the spend supporting our ongoing operations	117,318
Category 2: Capital goods[5]	Emissions from construction-related spend, largely associated with fiber installation	357,139
Category 3: Fuel and energy-related activities[6]	Emissions associated with activities required to extract, process and transport fuels or energy to Crown Castle	9,622
Category 4: Upstream transportation and distribution[7]	Emissions associated with third-party transportation and distribution of our materials	651

	Description	2023
Scope 3 GHG Emissions ($MTCO_2e$) cont'd		
Category 5: Waste generated in operations[8]	Emissions from third-party disposal and treatment of waste from our operations	268
Category 6: Business travel[9]	Emissions associated with employees traveling for business	2,832
Category 7: Employee commuting[10]	Emissions related to employees commuting to and from work in non-company-owned vehicles	6,428
Category 8: Upstream leased assets[11]	Indirect emissions from operation of assets leased by Crown Castle that are not already included in Scope 1 and 2	4,584
Category 13: Downstream leased assets[12]	Emissions from our customers' energy use on our infrastructure assets, primarily related to electricity use for telecommunications equipment and HVAC units at tower sites	1,116,621
Total Scope 3		**1,615,463**

Fuel Consumption and Refrigerants[13,14]

	2020	2021	2022	2023
Natural Gas (therms)				
Offices and Warehouses	346,122	380,520	362,838	373,030
Generators	8,347	14,725	11,478	7,937
Total Natural Gas	**354,469**	**395,245**	**374,316**	**380,967**
Diesel, Gasoline and Propane (MMBtu)				
Fleet[15]	132,050	116,729	130,444	134,374
Generators	20,299	20,909	22,299	26,928
Total Diesel, Gasoline and Propane	**152,349**	**137,638**	**152,743**	**161,302**
Total Fuel Consumption (gigajoules)	**198,126**	**186,906**	**200,635**	**210,367**
Refrigerants (kg)[16]				
Towers	—	—	—	22
Offices and Warehouses	—	—	—	344
Fleet	—	—	—	89
Total Refrigerants	—	—	—	**455**

Consolidated Electricity Use

	2020	2021	2022	2023
Electricity (kWh)				
Towers[17]	71,753,219	72,485,536	72,518,291	69,019,613
Small Cells and Fiber[18]	67,877,983	72,145,362	65,133,975	60,759,961
Offices and Warehouses[19]	39,680,535	30,766,147	29,959,989	27,796,939
Total Electricity (kWh)	**179,311,737**	**175,397,045**	**167,612,255**	**157,576,513**
Total Electricity (gigajoules)	**645,522**	**631,429**	**603,404**	**567,275**
Renewable Electricity Contracted (kWh)	—	—	114,193,000	144,193,000
% Renewable Electricity[20]	0%	0%	68%	92%
% Grid Electricity	100%	100%	32%	8%

LED Lighting

	2020	2021	2022	2023
Total towers upgraded to LED	6,390	6,950	7,234	7,355
Total lit towers[21]	12,059	12,101	12,117	12,137
Percentage covered[22]	53%	57%	60%	61%

1 Based on an operational control approach, as defined by World Resource Institute (WRI) GHG Protocol and scope guidance. Boundaries include all material operating locations. **2** We used emission factors from 40 CFR Part 98 Tables C-1 and C-2 and EPA eGRID factors. Global Warming Potential documented in the Intergovernmental Panel on Climate Change AR5 report was used to calculate CO2e for methane (CH4) and nitrous oxide (N2O). **3** Our 2022 and 2023 Scope 2 emissions were calculated using WRI GHG Protocol's market-based method. Prior years' Scope 2 emissions calculations were reported using WRI GHG Protocol's location-based method. **4** Scope 3 emissions were calculated using the Corporate Value Chain (Scope 3) Accounting and Reporting Standard: Supplement to the GHG Protocol Corporate Accounting and Reporting Standard. Scope 3 emissions quantification is subject to significant inherent measurement uncertainty due to the emissions being outside of Crown Castle's organizational boundaries, where the company has limited control over the availability of primary data. Additionally, uncertainties arise from (1) using GHG emissions factors, which are themselves estimates, in mathematical models for calculating emissions and (2) the models' inability, due to incomplete scientific knowledge and other factors, to precisely measure the relationship between various inputs and the resultant GHG emissions in all scenarios. **5** Scope 3 emissions from Category 1: Purchased goods and services and Category 2: Capital goods were calculated using the spend-based method based on the economic value of goods and services purchased or acquired as recorded in Crown Castle's financial reporting system. Certain spend categories, such as taxes, land rent, and payroll-related spend, are not included in the analysis because Crown Castle determined that there are not significant emissions associated with the spend. Total category spend was multiplied by the corresponding NAICS emissions factors from NAICS v1.2 (2022), adjusted for inflation. **6** Scope 3 emissions from Category 3: Fuel- and energy-related activities were calculated using Scope 1 and 2 energy consumption totals. A standard 5.3% grid loss is applied to all US electric consumption. Emissions factors were then applied from the UK Department for Environment, Food and Rural Affairs (DEFRA) 2023 WTT ("Well-to-Tank") Fuels for Scope 1 and DEFRA 2021, EPA eGRID for Scope 2. **7** Scope 3 emissions from Category 4: Upstream Transportation and Distribution were calculated using the spend-based method on the economic value of transportation and distribution services purchased, as recorded in Crown Castle's financial reporting system. Relevant spend was multiplied by the corresponding NAICS emissions factors from NAICS v1.2 (2022), adjusted for inflation. **8** Many of our employees work in a hybrid capacity (mix of remote and in-office work), while others are fully remote or fully in-office. As such, our calculation methodology projects waste generated and recycled both in Crown Castle offices (owned and leased) and remotely (e.g., employees working from home or in the field). We used emissions factors from U.S. EPA, 2024, Emission Factors for Greenhouse Gas Inventories, Table 9 (Waste Generated in Operations). **9** Scope 3 emissions from Category 6: Business Travel were calculated using both the activity-based method for travel (air, rail and ground transportation) using distances traveled and emissions factors from the 2024 EPA GHG Emissions database and the spend-based method based on the economic value of employee hotel stays for business purposes as recorded in Crown Castle's financial reporting system, using emissions factors from DEFRA 2023. **10** Scope 3 emissions from Category 7: Employee Commuting were calculated using both a distance-based approach, measuring total employee commuting distance and frequency and applying the 2024 EPA GHG Emissions factors for travel in passenger vehicles, and an estimate-based approach of emissions generated by employees working remotely, using EPA eGRID 2022 emissions factors. **11** Scope 3 emissions from Category 8: Upstream Leased Assets were calculated to estimate the "overhead" power associated with auxiliary equipment within leased Fiber Points of Presence ("PoPs") that support the operation of Crown Castle's owned network devices. Estimate calculated by using Crown Castle's POP equipment data from its Scope 2 measurement and applying a Power Usage Effectiveness (PUE) factor for smaller data centers, derived from the Uptime Institute Global Data Center Survey 2022. **12** Scope 3 emissions from Category 13: Downstream Leased Assets were calculated separately for tower, small cell and fiber customers, with emissions across all three asset types calculated by zip code to align with the correct eGRID regions. For tower customers' energy use, an average data method was used that estimated annual consumption per tower for each of our largest customers individually and grouped similar smaller customers together based on their anticipated energy use profiles. These estimates were validated with a sample of our largest customers. Where applicable, customer renewable energy contributions were factored in to reduce market-based emissions, using publicly reported data. For small cell customers, average equipment electricity use was estimated based on device type and location. For fiber customers, average energy consumption calculations were based on service type and speed. **13** Based on an operational control approach, as defined by WRI GHG Protocol and scope guidance. Boundaries include all material operating locations. **14** Where actual consumption data was not available, we used a sampling approach or public information, such as equipment fuel efficiency and power ratings, to estimate fuel and energy consumption. **15** Based on estimated allocation between diesel and gasoline vehicles. **16** Refrigerant estimates, which we began reporting in 2023, were determined using vehicle data, active HVAC unit data, and assumed refrigeration and HVAC systems in office and warehouse spaces, based on square footage, using the EPA's Accounting Tool to Support Federal Reporting of Hydrofluorocarbon Emissions: Supporting Documentation (Oct. 2016). **17** The 2020 methodology for capturing emissions associated with HVAC systems at our tower sites leveraged an assumed energy consumption for all sites with HVAC. Beginning in 2021, we improved our data collection processes by identifying the type of HVAC systems situated in ground shelters at our tower sites (e.g., central air, window unit, etc.) to more precisely reflect the differing energy consumption levels of each type of unit and resulting emissions, also taking into account assumptions regarding (i) customer tenancy at company-owned shelters, (ii) customer reliance (or lack thereof) on our HVAC units and (iii) HVAC system operations in unoccupied shelters. **18** Beginning with the 2020 ESG Report, we have refined our methodology for calculating energy consumption and the resulting emissions for the Small Cell and Fiber asset base, accordingly impacting the year-over-year comparability of the results. Detailed explanations of these adjustments are available in our ESG reports for the respective years. **19** Based on (1) actual office consumption data, when available, (2) owned and leased square footage and (3) estimates derived from nationwide energy intensity statistics from the Energy Information Administration's (EIA) Commercial Building Energy Consumption (CBEC) Survey for the remainder of the offices, taking into account significant events impacting the company and its operations, where appropriate. **20** Percentage calculated using reported annual renewable energy contracted compared with reported annual electricity consumption. **21** The number of total lit towers is subject to slight fluctuations year-over-year as the result of regulatory changes. **22** Percentages calculated based on the total lit tower count as of December 31 of each year represented.