2024 GREENHOUSE GAS REPORT

Updated May 2025

altafiber
elevating connection

Introduction

Cincinnati Bell Inc., a telecommunications and global IT services company, began doing business as **altafiber** in March of 2022. Building upon a long legacy of environmental responsibility and stewardship, we have embarked on a path to net-zero greenhouse gas (GHG) emissions by 2040. That journey starts with tracking emissions with enough accuracy and detail to manage them effectively and find reductions. In 2021 an internal cross-functional GHG inventory team was formed to accomplish this goal. **altafiber** is publishing its greenhouse gas emissions report for 2024, which provides an accounting of the company's GHG emissions, as compared to our baseline year of 2021. This GHG inventory has been independently verified by a third-party auditor, Cameron-Cole, LLC. Cameron-Cole provided a limited level[1] of assurance that our GHG emissions assertions submitted to are free of material errors, omissions, or misstatements (Appendix II).

Who we are:

Cincinnati Bell Inc. and its consolidated subsidiaries provide integrated communications and IT solutions that keep consumer and business customers connected with each other and with the world. Our Company operates its businesses through its Network and IT Services and Hardware segments. The Network segment serves customers in the Greater Cincinnati region through our **altafiber** brand and services customers in Hawaii through our Hawaiian Telcom brand. The IT Services and Hardware segment services customers in the U.S. and Europe through our CBTS brand and in Canada through our OnX brand. Additional subsidiaries Agile IWG Holdings, LLC, and BridgeLink Communications LLC complete our family of companies.

[1] A "limited level" means that the auditor checked for any errors, omissions, or misstatements in exceedance of the allowable 10% materiality range


Let's get started.

Emissions Inventory Boundaries

altafiber follows The GHG Protocol[2], A Corporate Accounting and Reporting Standard from the World Resources Institute (WRI) to calculate and report our GHG emissions.

The protocol provides standards and guidance for the following:

- GHG Accounting and Reporting Principles
- Setting Organizational Boundaries
- Setting Operational Boundaries
- Tracking Emissions over Time
- Reporting GHG Emissions

The GHGs reported under this protocol are:

- Carbon Dioxide (CO2)
- Sulfur Hexafluoride (SF6)
- Methane Gas (CH4)
- Nitrous Oxide (N2O)
- Hydrofluorocarbons (HFC)
- Perfluorochemicals (PFC)
- Nitrogen Trifloride (NF3)

Note there are other GHGs that occur in **altafiber's** operations and for which it is also responsible, such as chlorofluorocarbons (CFCs) and halons. These are governed under the Montreal Protocol and consequently are not reported under greenhouse gas inventories. Other GHGs emitted by our operations such as ozone or VOCs are short-lived in the atmosphere when considered over a decadal timeframe and by convention are not managed and reported in GHG inventories.

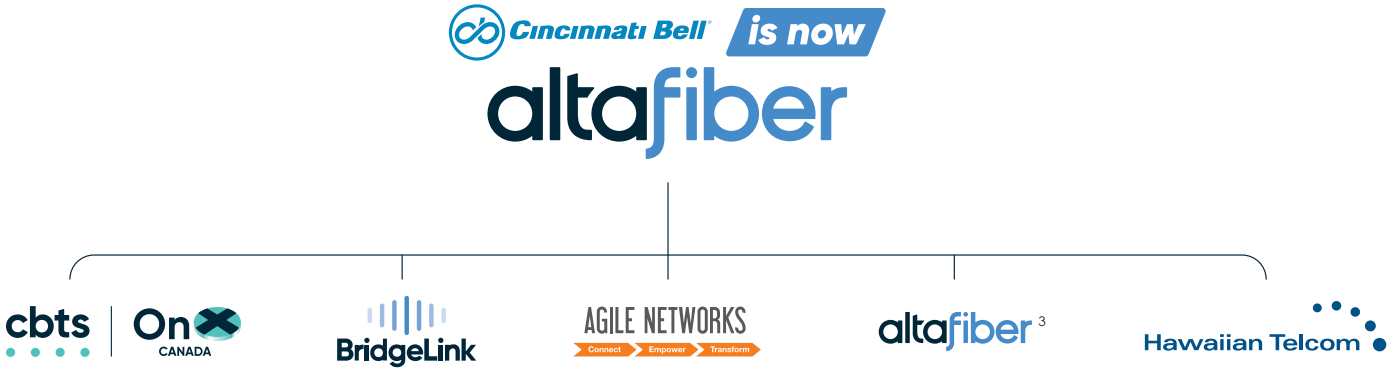
GHG Accounting and Reporting Principles: altafiber's GHG accounting and reporting is based on the principles defined by the GHG protocol that include relevance,

[2] Found at http://www.ghgprotocol.org/

completeness, consistency, transparency and accuracy. Our reporting uses emissions factors and Global Warming Potential (GWP) values of reputable sources including the US Environmental Protection Agency (EPA), the Climate Registry, the Intergovernmental Panel on Climate Change and others to arrive at the metric of carbon dioxide equivalents (CO2-e) across our GHG emissions. All emissions factors and assumptions are provided in Appendix III, Methodology.

Setting Organizational Boundaries: An organizational boundary defines the entities and facilities that will be included in this GHG inventory. **altafiber's** GHG inventory follows the operational control approach, whereby a company accounts for 100% of the GHG emissions from operations over which it or one of its subsidiaries has control (financial or operational), and does not account for GHG emissions from operations in which it owns an interest but has no control. Having operational control means **altafiber** has full authority to introduce and implement its operating policies at the operation. Having selected the operational control approach, it shall be applied at all levels of the organization.

Our organizational boundary includes **altafiber**[3] (legally, Cincinnati Bell Inc., doing business as **altafiber**) and its subsidiaries CBTS LLC, Cincinnati Bell Telephone Company LLC (CBT), BridgeLink Communications LLC, Agile IWG Holdings, LLC., and Hawaiian Telcom Holding Inc (HT).



[3] Formerly Cincinnati Bell Telephone (CBT) in prior year reporting.

Setting Operational Boundaries: To help delineate direct and indirect emission sources and improve transparency, consistency and accuracy, three different scopes are defined for GHG accounting and reporting purposes:

- **Scope 1:** Direct GHG Emissions—emissions that occur from sources owned and controlled by the company; for example **altafiber's** owned or controlled vehicles, boilers, furnaces, generators, and any refrigerant[4] releases.

- **Scope 2:** Electricity Indirect GHG Emissions—GHG emissions from the generation of purchased electricity brought into the organizational boundary of the company and consumed. It is based on site electricity use, and does not include transmission and distribution losses.

- **Scope 3:** Other Indirect Emissions—an optional reporting category that allows for the treatment of all other indirect emissions. Scope 3 emissions are a consequence of the activities of the company but occur from sources not owned or controlled by the company, such as emissions from the commuting of our employees to work and home; business-related travel whether by vehicle or commercial air; emissions related to the materials (copper and fiber lines, customer premise equipment, paper, ink, etc.) consumed by **altafiber**; emissions related to our material reuse and recycling, waste disposal and transport; emissions from our extensive supply chain of subcontractors including construction contractors; and emissions from the use of our products and services.

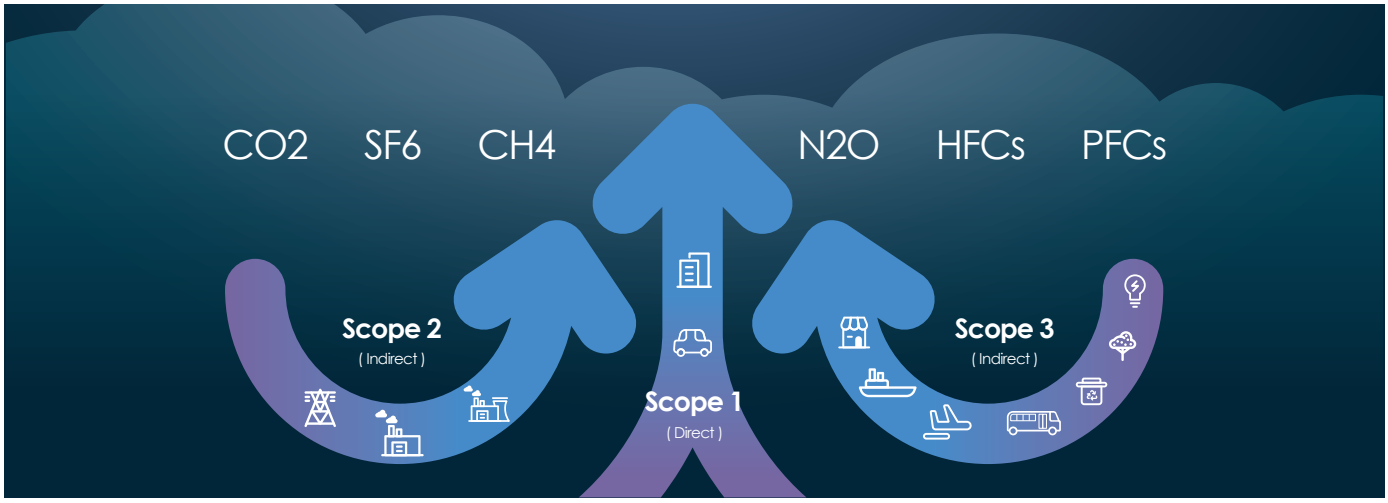


Figure 1: Overview of scopes and emission across a value chain (from GHG protocol)

[4] GHG emissions not covered by the Kyoto Protocol because they are governed by other treaties (e.g., Montreal Protocol) such as certain refrigerants shall not be included in scope 1, but may be reported separately.

Scopes 1 and 2 are carefully defined in the GHG protocol to prevent double counting of emissions by **altafiber** and other reporting companies; therefore, these emissions must be separately accounted for and reported. The protocol does not require reporting of scope 3 emissions. For our baseline year in 2021 we have accounted for our scope 1 and 2 emissions as required. Scope 3 emissions are not yet fully inventoried; however, altafiber completed a materiality assessment in 2024 to identify the most relevant categories and has initiated efforts to begin phased tracking.

Operational control is clear for assets that we own, such as our owned facilities, equipment, and fleet vehicles. We also have operational control over facilities that we lease, and have worked to capture emissions associated with their operation. Almost all our leases are financial control leases, where we have limited control of a small space in comparison to the building footprint. From an accounting perspective leased and right-of-use (ROU) spaces are "financer operated" and are brought onto our balance sheet when leased for over a year. Viewed through the lens of the GHG Protocol, we have operational control over the energy consuming equipment and lighting in our leased office spaces and have estimated the purchased electricity associated with them in our scope 2 inventory. Subsidiary OnX has operational control of two data centers included in our scope 2 inventory. We do not have operational control of other data center leasing activity within both CBTS and Hawaiian Telcom negotiated on behalf of our customers but under their control. Therefore all such data center leases entered into on behalf of our customers and not operated by us fall under our scope 3 emissions.

Tracking Emissions over Time: The GHG protocol requires us to identify a base year for which verifiable emissions data are available and specify our reasons for choosing that year. We established our base year as 2021, our first year of GHG reporting.

For posterity and context, note that in 2021 the company, our customers, and society writ large was experiencing the global Covid-19 pandemic. It's difficult to predict how **altafiber's** emissions will respond in the post-Covid-19-pandemic world, against the 2021 baseline year. If subsequent baseline recalculation helps us to meaningfully track and act on our emissions, we will document such future actions.

altafiber's policy for recalculating base-year emissions follows the GHG protocol's requirements. The following would trigger a recalculation of base-year emissions:

- Structural changes in the reporting organization that have a significant impact on the company's base-year emission (mergers, acquisitions, outsourcing/insourcing of activities).
- Changes in the calculation methodology or improvements in the accuracy of data.
- Discovery of significant, single or cumulative errors.

On December 2, 2024, altafiber completed the sale of its subsidiary CBTS. Because CBTS was under altafiber's operational control for the majority of the 2024 calendar year, it is still included in this year's GHG inventory. A full assessment to determine whether a baseline recalculation is warranted will be conducted as part of our 2025 inventory cycle, in accordance with the GHG Protocol's guidance for structural changes.

Our significance threshold for deciding to recalculate our base year and historic emissions is a 5% or greater change (increase or decrease) in the base year inventory resulting from the change. Base year emissions and any historic data are not recalculated for organic growth or decline.

Reporting GHG Emissions: altafiber has identified the following GHG emissions within its operational and organizational boundaries:

Scope 1 Emissions

- Stationary Combustion (Natural Gas)—emissions resulting in onsite combustion of natural gas in some Cincinnati-area facilities for water or area heating.
- Stationary Combustion-Generators & Equipment (Diesel Fuel)—emissions, resulting in onsite combustion of diesel fuel to operate back-up generators during utility outages or during periodic tests and also to operate any ground equipment.
- Fugitive Emission (Refrigerants)—refrigerants leak from heating, ventilation and air conditioning (HVAC) equipment in our facilities.
- Mobile Combustion-Fleet (Gas and Diesel)—emissions resulting from the operation of fleet vehicles in both the Hawaii and Midwest geographies.

Scope 2 Emissions

- Purchased Electricity (kWh)
  - In buildings we own and some leased facilities we receive the utility bills directly and therefore track actual electrical consumption.
  - Many of our facilities are leased spaces in commercial buildings and we do not receive utility statements or bills. For such facilities we estimate our electricity consumption based on our leased square footage and an estimate of energy use intensity (EIU) in energy use per square foot (kWh/sf) for the type of facility. EUIs are derived from the Department of Energy's Commercial Buildings Energy Consumption Survey
    (CBECS) data or by benchmarking similar facilities in our own inventory for facility types not in CBECS.

Scope 3 Emissions (optional)

- Purchased Goods and Services—emissions from the extraction, production, and delivery of materials and equipment used in altafiber's operations, including fiber cable, networking hardware, and office supplies.

- Capital Goods—emissions from the manufacture and transport of infrastructure and equipment purchased for long-term use, including network upgrades and data center investments.
- Business Travel—emissions resulting from commercial air travel, car rentals, and other forms of transportation used by employees for work-related travel.
- Employee Commuting—emissions generated by employees traveling to and from their work locations.
- Use of Sold Products—emissions from electricity used to power customer-premises equipment such as modems and routers provided by altafiber.

Methodology

Appendix III shows the sources of our emissions data along with assumptions or limitations.

GHG Emissions

Table 1 shows **altafiber's** emissions by scope in the units of carbon dioxide equivalents (CO2e), a standard unit for measuring carbon footprints. The term expresses the impact of each different greenhouse gas in the amount of CO2 that would create the same amount of warming. That way, a carbon footprint consisting of many different greenhouse gases can be expressed as a single number. Standard ratios are used to convert the various gases into equivalent amounts of CO2. These ratios are based on the global warming potential (GWP) of each gas, which describes its total warming impact relative to CO2 over a set period. The CO2e is expressed in the unit of metric tons of emissions and was calculated by using the GHG Protocol's methodology for each scope.

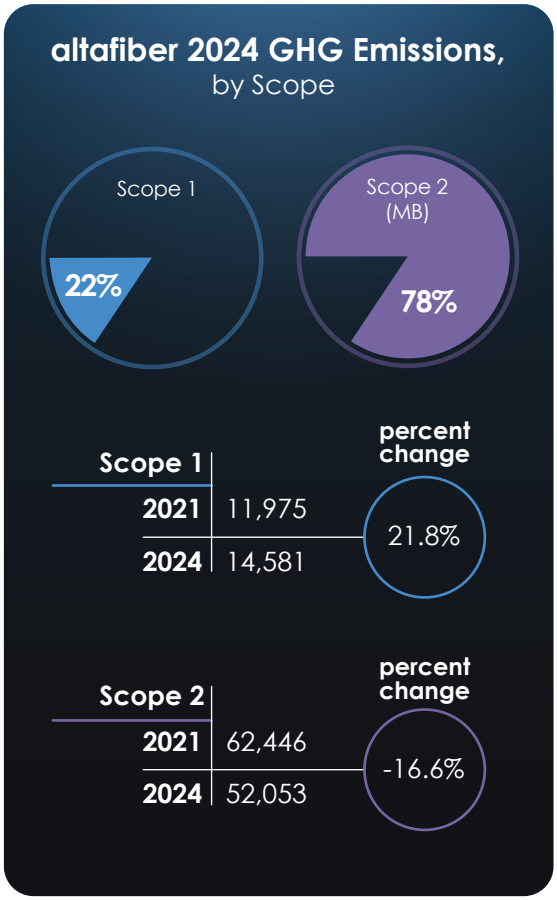


Table 1: Emissions Inventory – Current Year Compared to Baseline (2021)

altafiber GHG Emissions Summary				
Scope	**Activity Type**	**2021 Metric Tons of CO2e**	**2023 Metric Tons of CO2e**	**2024 Metric Tons of CO2e**
Scope 1	Stationary combustion	2,151	2,340	2,213
	Mobile combustion	9,248	10,836	10,378
	Fugitive emissions from refrigerants	576	826	1,990
	Scope 1 - Total	**11,975**	**14,001**	**14,581**
Scope 2	Purchased electricity - location based	64,459	62,563	58,971
	Purchased electricity - market based*	53,412	48,546	45,369
	Purchased Electricity Leased Facilities	9,034	7,146	6,683
	Scope 2 - Total (location based)	**73,494**	**69,710**	**65,655**
	Scope 2 - Total (market based)*	**62,446***	**55,692***	**52,053***
Total GHG Emissions (Market Based)		**74,420**	**69,693**	**66,634**
Total GHG Emissions (Location Based)		**85,468**	**83,711**	**80,236**

* Market based emissions figures for Hawaiian Telcom (HT) were not available at the time of our 3rd-party audit; therefore, these totals were not validated. All location based figures and the market based figure for CBT have been 3rd party verified. See Appendix III

Table 2 shows each of **altafiber's** subsidiary companies GHG emissions by scope for 2021. With this baseline, we will be able to track and reduce emissions in each unique business over time.

2024 Total GHG Emissions
(MT), by Company

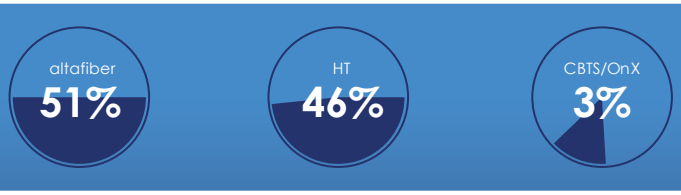


Table 2: Emissions by Subsidiary

Company	Scope	Activity Type	Metric Tons of CO2e		
			2021	2023	2024
altafiber	Scope 1	Stationary Combustion	2,151	2,327	2,124
		Mobile Combustion	6,673	8,046	7,447
		Fugitive Emissions	497	795	1,957
	Scope 2	Purchased Electricity - Market Based	24,927	20,766	19,430
		Purchased Electricity - Location Based (LB)	30,802	29,953	27,049
		Purchased Electricity - Leased Facilities (LB)	4,256	3,159	2,911
Total altafiber Emissions:**			**38,504**	**35,093**	**33,869**
Hawaiian Telcom	Scope 1	Mobile Combustion + Stationary Combustion	2,425	2,670	2,871
		Fugitive Emissions	79	30	34
	Scope 2	Purchased Electricity - Location Based	33,657	32,610	31,922
		Purchased Electricity - Market Based*	28,484*	27,780	25,939
		Purchased Electricity - Leased Facilities (LB)	1,836	1,698	1,759
Total HT Emissions:			**32,824***	**32,180**	**30,603**
CBTS & OnX	Scope 1	Stationary Combustion	N/A	N/A	49
		Mobile Combustion	150	178	100
		Fugitive Emissions	N/A	N/A	N/A
	Scope 2	Purchased Electricity - Location Based	N/A	N/A	N/A
		Purchased Electricity - Leased Facilities (LB)	2,942	2,289	2,013
Total CBTS & OnX Emissions:			**3,092**	**2,420**	**2,162**

* **altafiber** was reported as Cincinnati Bell Telephone (CBT) in the baseline year (2021) report

In 2021 Market based emissions figures for Hawaiian Telcom (HT) were not available at the time of our third-party audit; therefore, these totals were not validated. All location based figures and the market based figure for **altafiber have been third-party verified. See Appendix III.

Lastly, Table 3 provides some emission intensity metrics we can use to track progress over time as the business grows and changes. Our stakeholders and customers can also see these metrics alongside those reported by our businesses peers. The carbon emissions per full-time equivalent (FTE) employee and the emissions per $1M in revenue (referred to as carbon efficiency) are two common intensity metrics in our industry.

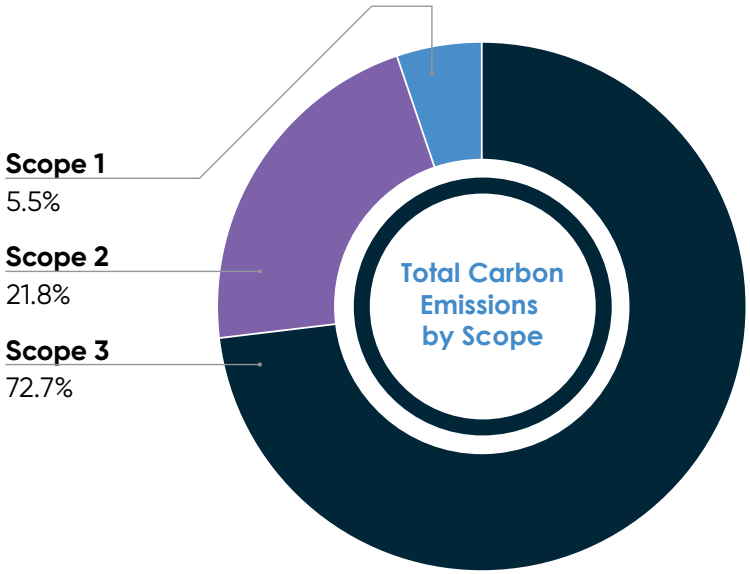
Table 3: 2021 Emissions Intensities, using Market Based Emissions

altafiber	2021 baseline	2023 baseline	2024 baseline
Carbon Emissions per FTE* (Metric Tons CO_2e per employee)	25.5	25.1	23.1
Carbon Efficiency (Metric Tons CO_2e per $1M Net Revenue)	33	29	28
Subsidiaries' Carbon Efficiency (Metric Tons CO_2e per $1M Net Revenue)			
Hawaiian Telcom	95	85	88
altafiber**	57	51	46
CBTS & OnX	3	2	2

* Carbon emissions per full-time employee calculated using only E&C employee headcount

****altafiber** was reported as Cincinnati Bell Telephone (CBT) in the baseline year (2021) report

Scope 3 Emissions



In 2024, we completed a materiality assessment of our indirect, scope 3 GHG emissions. Our "scope 3" emissions are those created or caused by the upstream and downstream activities of our business, not under our direct control but caused or influenced by our business activities. We evaluated the 15 categories of scope 3 emissions defined by the WRI's Corporate Accounting and Reporting Standard. The materiality assessment allowed us to identify the most significant emission sources and categories related to our operations.

The report revealed that the four largest categories contributing to altafiber's Scope 3 emissions are:

- Category 2: Capital Goods (63%)
- Category 1: Purchased Goods and Services (17%)
- Cat 11/13: Customer Product Use (8-11%)
- Category 3: Fuel and Energy Related Activities (9%)

On the whole, our scope 3 emissions are significant. altafiber's corporate scope 3 emissions were 185,608 MT CO2e, making up 73% of altafiber's total carbon footprint (Scope 1-3), which is aligned with the telecommunication industries average of 70-80%. The Midwest-based altafiber business is responsible for 106,312 MT CO2e (57%) of Scope 3 emissions, while Hawaiian Telcom accounts for 79,296 MT CO2e (43%).

With the completion of the assessment, we expanded our understanding of our emissions footprint and obtained relevant insight into our scope 3 emissions in order to make meaningful change.

Future Inventory Practices

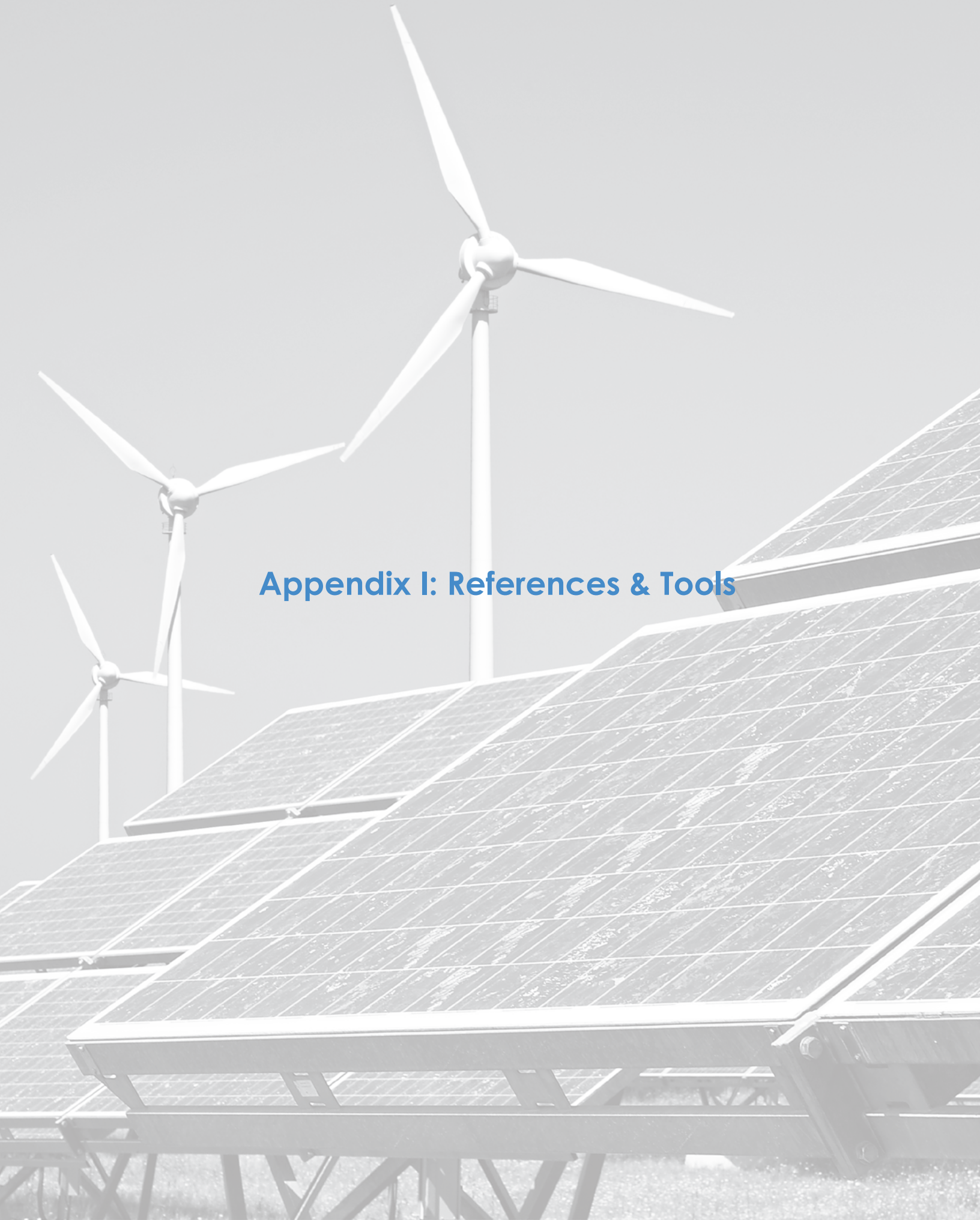
In future years, we will continue to refine and adapt our tracking methodology to improve accuracy and efficiency. Our focus will remain on the primary sources of GHG emissions identified in our baseline year, while applying simplified, appropriate-level tracking methods for smaller sources such as refrigerant losses and generator fuel usage.

To expand our emissions accounting, altafiber has taken the first step in addressing Scope 3 emissions by completing a materiality assessment. This assessment examined all 15 categories defined by the Greenhouse Gas Protocol and helped identify the categories most relevant to our operations.

As recommended by the GHG Protocol, we will prioritize tracking Scope 3 categories that:

- Are large relative to our Scope 1 and 2 emissions
- Contribute to our GHG risk exposure
- Are important to our stakeholders
- Present opportunities for meaningful emissions reductions

Going forward, altafiber is committed to updating Scope 3 emissions data every 3 to 5 years. This update frequency reflects the fact that many Scope 3 activities are based on broad operational patterns and supply chain dynamics that do not materially change year to year. A full reassessment every few years allows us to maintain relevance while balancing resource efficiency.



Appendix I: References & Tools

References and Tools

The following guidance documents were used to prepare this report:

- World Resources Institute (March 2004). The Greenhouse Gas Protocol, A Corporate Accounting and Reporting Standard, Revised Edition.
  - With February 2013 Amendment, "Required gases and GWP values."
- World Resource Institute (December 2002). Working 9 to 5 on Climate Change: An Office Guide.
- World Resource Institute (May 2006). Hot Climate, Cool Commerce: A Service Sector Guide to Greenhouse Gas Management.

The following tools were used to calculate our GHG emissions:

- Intergovernmental Panel on Climate Change, Fifth Assessment Report (2014)
- Intergovernmental Panel on Climate Change, Fourth Assessment Report (AR4) (2007), section 2.10.2 Direct Global Warming Potentials and Chapter 2: Changes in Atmospheric Constituents and in Radiative Forcing
- Department for Environmental, Food & Rural Affairs (DEFRA), 2021 Guidelines to DEFRA/DECC's Greenhouse gas reporting Conversion Factors 2021 for Company Reporting. From the Department for Business, Energy & Industrial Strategy. Published June 2nd 2021. Last updated January 24th, 2022.
- EPA, "Emission Factors for Greenhouse Gas Inventories," Table 1 Stationary Combustion Emission Factors, April 2021 (https://www.epa.gov/sites/default/files/2021-04/documents/emission-factors_apr2021.pdf).
- EPA eGRID2020, January 2022, https://www.epa.gov/egrid/summary-data
- The Climate Registry, Default Emission Factors, May 2021 (https://www.theclimateregistry.org/wp-content/uploads/2021/05/2021-Default-Emission-Factor-Document.pdf)
- United Nations Framework Convention on Climate Change (UNFCCC) https://unfccc.int/ghg-inventories-annex-i-parties/2021 Canada – download 'NIR' (national inventory report) (Published: 15 Apr 2021).
- India Climate Transparency Report (2021) https://www.climate-transparency.org/wp-content/uploads/2021/10/CT2021India.pdf

Appendix II: GHG Inventory Verification Statement

Verification Opinion
Cincinnati Bell Inc. (Altafiber) CY2024 GHG Inventory

Background

Cameron-Cole, LLC (Cameron-Cole) was retained by Cincinnati Bell Inc., doing business as Altafiber (Altafiber) to perform an independent verification of its Greenhouse Gas (GHG) Emissions Inventory (GHG Statement) for Calendar Year (CY) 2024. The Scope 1 and 2 GHG Inventory was developed according to the World Resources Institute (WRI)/World Business Council for Sustainable Development (WBCSD) Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard (2004 revised edition) along with its associated amendments. Our opinion on the results of the inventory, with respect to the verification objectives and criteria, is provided in this statement.

Responsibility of Altafiber & Independence of Verification Provider

Altafiber has sole responsibility for the content of its GHG Statement. Cameron-Cole accepts no responsibility for any changes that may have occurred to the GHG emissions results since they were submitted to us for review. Based on internationally accepted norms for impartiality, we believe our review represents an independent assessment of Altafiber's CY2024 GHG Emissions Inventory. Finally, the opinion expressed in this verification statement should not be relied upon as the basis for any financial or investment decisions.

Level of Assurance

The level of assurance is used to determine the depth of detail that a Verification Body designs into the Verification Plan to determine if there are material errors, omissions, or misstatements in a company's GHG assertions. Two levels of assurance are generally recognized—reasonable and limited. Reasonable Assurance generates the highest level of confidence that an emissions report is materially correct (with the exception of Absolute Assurance which is generally impractical for companies to achieve). Limited Assurance provides less confidence and involves a less-detailed examination of GHG data and supporting documentation. Limited Assurance statements assert that there is no evidence that an emissions report is not materially correct. Cameron-Cole's verification of Altafiber's GHG Emissions or Inventory for CY2024 was constructed to provide a Limited Level of Assurance.

Objectives

The primary objectives of this verification assignment were as follows:

- Verify whether Altafiber's CY2024 GHG Emissions Inventories meet the generally accepted GHG emissions accounting principles of accuracy, completeness, transparency, relevance, and consistency;
- Determine if Altafiber has reported all emissions in conformance with the WRI/WBCSD GHG Protocol; and
- Determine whether or not Altafiber's CY2024 GHG Emissions Inventories meet/exceed the 90 percent threshold for accuracy.

Verification Criteria

Cameron-Cole conducted verification activities in alignment with the principles of ISO-14064-3:2019(E) Specification with guidance for the verification and validation of greenhouse gas statements. Altafiber's GHG statement was prepared to, and verified against, the WRI/WBCSD GHG Protocol.

Verification Scope & GHG Statement

The scope of the verification covers Altafiber's CY2024 GHG Emissions Inventory with the following boundaries:

- Geographical: Worldwide
- Chemical: carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), and Hydrofluorocarbons (HFCs)
- Organizational Boundary: Approximately 1,800 locations under the operational control boundary
- Operational Boundary: The following sources/emissions were identified in Altafiber's organizational boundary, which includes Cincinnati Bell Telephone, Altafiber, CBTS, Cincinnati Bell Any Distance, OnX Canada, Hawaiian Telcom, and Agile Networks:
  - Scope 1
    - Direct emissions from stationary combustion sources: natural gas and diesel generators
    - Direct emissions from mobile combustion sources: fleet vehicles
    - Direct emissions from fugitive sources: refrigerants
  - Scope 2
    - Indirect emissions from purchased electricity
    - Indirect emissions from purchased heating

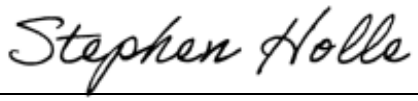
Altafiber's GHG assertions are as follows: For CY2024, Altafiber reported 14,581.38 metric tons (MT) of carbon dioxide equivalents (CO_2e) from direct emission sources (Scope 1), 65,654.52 MT CO_2e from Scope 2 location-based emission sources, and 52,052.63 MT CO_2e from Scope 2 market-based emission sources.

Verification Opinion

Based on the method employed and the results of our verification activities, Cameron-Cole has found no evidence of material errors, omissions, or misstatements in Altafiber's CY2024 GHG Statement. Cameron-Cole also found that Altafiber's GHG accounting and calculation methodologies, processes, and systems for this inventory conform to the WRI/WBCSD GHG Protocol.

Cameron-Cole, LLC

April 16, 2025



Stephen Holle
Lead Verifier
Project Manager

Minxing Si
Independent Reviewer
Senior Project Manager

Appendix III: Methodology

Methodology

While the overall methodology and emission sources remain consistent with previous years' inventories, minor updates have been made to emission factors and activity data collection methods to reflect improved accuracy and practices observed in 2024. The methodology described below reflects the approach used for the 2024 inventory. For details on past methodologies, please refer to Appendix III of the 2021 Greenhouse Gas Report, available on our website.

GHG calculations follow the formula below unless otherwise indicated:
Activity data x emission factor x global warming potential (GWP) = CO2 equivalent (CO2e) emissions

- Where:
    - Activity data is a quantitative measure of a level of activity (e.g. liters of fuel consumed, kilometers traveled, etc.) that results in GHG emissions
    - Emission factor is a factor that converts activity data into GHG emissions data (e.g. kg CO2 emitted per liter of fuel consumed, kg CH4 emitted per kilometer traveled, etc.)
    - Global warming potential (GWP) is a factor describing the radiative forcing impact (degree of harm to the atmosphere) of one unit of a given GHG, relative to one unit of CO2 over a 100-year time horizon. Multiplying emissions of a given GHG by its GWP gives us the CO2 equivalent emissions.

The global warming potential factors, detailed methodology, and emission factors used for each emission source are listed in this document.

Global Warming Potentials used in this inventory:

Greenhouse Gas	GWP (100-year)	Source
CO2	1	Intergovernmental Panel on Climate Change, Fifth Assessment Report (2014)
CH4	28	Intergovernmental Panel on Climate Change, Fifth Assessment Report (2014)
N2O	265	Intergovernmental Panel on Climate Change, Fifth Assessment Report (2014)
HFC-134a	1300	Intergovernmental Panel on Climate Change, Fifth Assessment Report (2014)
R-410 A	1923.5	High-GWP Refrigerants | California Air Resources

		Board - AR5
R-438 A	2058.76	High-GWP Refrigerants | California Air Resources Board - AR5
R-458A	1564.4	High-GWP Refrigerants | California Air Resources Board - AR5
R404A	3942.8	High-GWP Refrigerants | California Air Resources Board - AR5

Scope 1 Methodology

Scope 1 includes direct GHG emissions from sources that are owned or controlled by the company. For example, emissions from combustion in owned or controlled boilers, furnaces, or vehicles.

Scope 1 Stationary: Natural Gas	Description
Activity Data	altafiber uses natural gas at 33 sites serviced by Duke Energy and one site serviced by the City of Hamilton Utility. NZero, altafiber's energy and GHG software, collects and processes activity data from utility bills retrieved from online portals. The data is then converted from CCF to Therms.
Method	Calculation follows the general formula.
Limitations	Only fuel consumption is known in mass/volume units, and no information is available about the fuel heat content or carbon content. This method has the most uncertainty because the emission factor is based on default fuel heat content, rather than actual heat content
Emission Factor for Natural Gas	53.1145 kg CO2e/mmBtu
Emission Factor Source	EPA, "Emission Factors for Greenhouse Gas Inventories," Table 1 Stationary Combustion Emission Factors, Jan 2025, https://www.epa.gov/system/files/documents/2025-01/ghg-emission-factors-hub-2025.pdf

Scope 1 Stationary: Generators	Description
Activity Data	**altafiber:** Fuel purchase records are used as actual equipment usage is not tracked. Randy Wooten oversees diesel fuel procurement for all Midwest generators except those at the West 7th building in Cincinnati. Kevin W. Daniel provides fuel data for West 7th St generators. Both send data to Nadja Turek, who forwards it to NZero. **Hawaiian Telcom:** HT refuels generators via WEX card purchases distinguished through vehicle identification in the transaction reports: "SPARE xx" or "xx GENERATOR". Bulk tanks, used for both generators and the mobile fleet, are not tracked separately, but personnel indicate most fuel is for the fleet, so all bulk tank usage is categorized under Mobile Combustion.
Method	Calculation follows the general formula.
Limitations	Generator fuel consumption is estimated based on the quantity of fuel purchased to fill generator tanks, as actual usage is not currently monitored or tracked.
Emission Factor for Generator	**Distillate Fuel Oil #2**: 10.243 kg CO2e/gal **Motor Gasoline Stationary Equipment:** 8.812kg CO2e/gal
Emission Factor Source	EPA, "Emission Factors for Greenhouse Gas Inventories," Table 1 Stationary Combustion Emission Factors, Feb 2024, https://www.epa.gov/system/files/documents/2024-02/ghg-emission-factors-hub-2024.pdf

Scope 1 Fugitive: Refrigerants	Description
Activity Data	**altafiber**: Adam Buskirk from altafiber provided estimated amounts to Nadja Turek via email, based on purchased quantities. Beginning in 2025, a ledger will track exact refill quantities for leakage, allowing for more precise attribution to fugitive emissions. Currently, the only available data is personnel estimates based on purchases. **Hawaiian Telcom:** HT technicians and contractors submit an "Accidental or Unintentional Release Report" whenever refrigerant is added after a loss. These reports document the amount released, which is recorded as fugitive emissions in this inventory. They also track refrigerant additions, recovery and disposal, serving as the primary data source for refrigerant inventory. If a released quantity is not disclosed, but a leak and repair is identified, NZero processes the quantity added as fugitive. These logs are sent to NZero, who processes and compiles the data.
Method	Simplified Material Balance Method - https://www.epa.gov/sites/default/files/2020-12/documents/fugitiveemissions.pdf Equation 6: Calculating Refrigerant Emissions with the Simplified Material Balance Method
Limitations	altafiber's estimation is based on the amount purchased during the reporting year and is likely an overestimation, as purchases may have included new equipment, upgrades, and transitions—not just replacements for leaks. However, for 2024, this distinction cannot be determined, so the conservative purchase estimation was used. A ledger will be implemented in 2025 to improve data tracking and quality moving forward.
GWP Factor for Refrigerants	**R410A**: 1923.5 **HCF134A**: 1530 **R407C**: 1624.21
Emission Factor Source	**AR 5 Emission Factor Source:** IPCC AR5- High-GWP Refrigerants | California Air Resources Board - AR5 **AR 6 Emission Factor Source:** IPCC Global Warming Potential Values

Scope 1 Mobile: Fleet	Description
Activity Data	**altafiber**: Fuel is purchased via Speedway Superfleet credit cards and invoiced monthly. NZero retrieves transaction reports from Speedway's portal. Purchases are tracked across three accounts for altafiber and one for CBTS, altafiber accounts: EI522 – Cincinnati Bell corporate (CBI) vehicles (included in CBT's fleet fuel use). EI527 – CBT. EI533 – Supply chain vehicles (included in CBT's fuel use). **CBTS:** Fuel is purchased via Speedway Superfleet credit cards and invoiced monthly. NZero retrieves transaction reports from Speedway's portal. Purchases are tracked across three accounts for altafiber and one for CBTS, CBTS account: EI525 – CBTS **Hawaiian Telcom**: Fuel is purchased via WEX gas cards or bulk tanks at three self-owned fueling stations. HT categorizes fuel tracking as either "Commercial Detail" or "Bulk Tanks" Commercial Detail: Fuel purchased with WEX gas cards is tracked through transaction summaries, detailing fuel type, quantity, and date. The data source remained consistent in 2024. Bulk Tanks: Fuel purchased from bulk fuel tanks in house, invoices are shared to NZero detailing fuel type, quantity and transaction date. Biodiesel (B99): HT trialed biodiesel in 2023, continuing into early 2024, using it for a vehicle on Maui. This was HT's first biodiesel trial. nZero retrieved activity data from HT's purchase order invoices, detailing gallons purchased and dates.

Method	Calculation follows the general formula. When calculating CO2 emissions, the activity data gathered is the quantity of fuel combusted for each fuel type. Since vehicle models from the fleet inventory could not be paired with purchase reports, distance was not captured. CH4 & N20 was calculated using estimates from The Climate Registry. **CO2**: Emissions = Fuel x EF **Where**: Emissions= Mass of CO2 emitted Fuel= Mass or volume of fuel combusted EF = CO2 emission factor per mass or volume unit CH4 and N2O: Emissions=MT CO2 x EF **Where**: Emissions = Mass of CH4 or N2O emitted MT CO2 = calculated from fuel consumption data & formula above EF = MT GHG (CH4/N20) per MT of CO2
Limitations	**CO_2**: Fuel consumption is available only in mass or volume units, with no data on fuel heat content or carbon content. **CH_4 & N_2O**: Emissions were estimated using factors from The Climate Registry for gasoline and diesel vehicles (SEM). Pairing distance data with vehicle classification would improve accuracy. No emission factor exists for estimating CH_4 and N_2O from Biodiesel (B99), so only CO_2 emissions were calculated for its usage.
Emission Factor CO2 (Diesel & Motor Gasoline)	**Diesel Fuel CO2**: 10.21 kg CO2/gal **Motor Gasoline CO2:** 8.78 kg CO2e/gal **Biodiesel (B99):** 9.446 kg CO2/gallon
Emission Factor for Estimating CH4 and N2O	MT GHG per MT of CO2 **CH4**: 0.0000249 **N2O**: 0.0000206
Source CO2	EPA, "Emission Factors for Greenhouse Gas Inventories," Table 1 Mobile Combustion Emission Factors, Jan 2025, https://www.epa.gov/system/files/documents/2025-01/ghg-emission-factors-hub-2025.pdf
Source CH4 N2O	Table 2.9 The Climate Registry, Default Emission Factors, Feb 2025, Link: https://theclimateregistry.org/wp-content/uploads/2025/03/2025-Default-Emission-Factors-03-2025.pdf

Scope 2 Methodology

Scope 2 includes GHG emissions from the generation of purchased electricity consumed by the company. Purchased electricity is electricity to be consumed that is purchased or otherwise brought into the organizational boundary of the company. These disclosures are consistent with the reporting requirements of the Scope 2 Guidance | Greenhouse Gas Protocol

Location-based Method

The location-based method calculates emissions based on electricity consumption at the location where the energy is used, considering the fuel mix used to generate electricity within the locations and time periods in which altafiber operates. altafiber uses EPA eGRID average emission factors to report location-based emissions for all offices included in the inventory scope.

For the international leased assets in CBTS (United Kingdom, South India and Canada - Alberta, British Columbia, Newfoundland, Labdrado, Nova Scotia, Ontario), the following static international emission factors are used: DEFRA for the UK, Province level Canadian Greenhouse Gas Offset Credit System Regulations and the UN CTR for India.

Scope 2: Location Based	Description
Activity Data	**altafiber**: altafiber operates 1,584 sites that utilize purchased electricity. Monthly usage data from 12 utilities is tracked via bill data, which is collected and transcribed by NZero. Additionally, two utilities (Duke & Owen) provide 15-minute interval data, which NZero imports daily into its software. Where usage data is tracked monthly via utility bills with unique billing cycles, NZero ingests and processes the bill cycle as it is billed and our software pro-rates the monthly total across number of days in the billing cycle and displays a calendarized monthly total. **Hawaiian Telcom:** Hawaiian Telcom (HT) uses purchased electricity at 390 sites across two utility companies. For one utility, NZero ingests monthly consumption totals directly from posted utility bills, while the other provides hourly interval data, which NZero imports daily into its software. Where usage data is tracked monthly via utility bills with unique billing cycles, NZero ingests and processes the bill cycle as it is billed and our software pro-rates the monthly total across number of days in the billing cycle and displays a calendarized monthly total. Additionally, HT acquired the on-site PV solar system previously operated by TWSG. Previously, HT purchased solar power from TWSG through a PPA, but now the system's production data is owned and managed in-house. HT classifies this energy as carbon-free, with data collection overseen by Bobby Tracy, an analyst on the Real Estate Operations team.

Method	**Location-based, Grid average:** Calculation follows the general formula. Activity data for each CBT and HT location (MWh) are multiplied by grid average emission factors and GWP factors to convert electricity consumption into CO2e emissions **Location-based, Advanced Grid Study:** NZero implements a GHGP "Advanced Grid Study" methodology for calculating altafiber's Scope 2 emissions within the PJM Balancing Authority. This approach processes facility energy consumption at 15-minute intervals (aggregated hourly) and pairs it with corresponding hourly emission factors from EIA-930 data, capturing real-time grid carbon fluctuations. Compared to conventional location-based methods using static annual averages, this methodology increases accuracy in regions with high renewable penetration or facilities with variable operational patterns. In compliance with GHG Protocol requirements, altafiber reports two location-based values: one utilizing the advanced grid study methodology and another using standard EPA eGRID factors (which typically contain 1-2 year data lags). This dual reporting approach satisfies GHGP Scope 2 Guidance while providing more temporally-precise emissions calculations.
Limitations	Most leased facilities in our inventory are not sub-metered or metered; therefore, we have to estimate to account for the fuel/energy use in those facilities using the assumptions and methods above.
Emission Factor for Location based	**Grid Average:** eGRID2023 Subregion Total Output Emission Rates Released: 1/30/2025 - https://www.epa.gov/system/files/documents/2025-01/ghg-emission-factors-hub-2025.pdf **Advanced Grid Study:** EIA930. PJM Balancing Authority-https://www.eia.gov/survey/#eia-930

Market-based Method

The market-based method shows emissions for which altafiber is responsible through its purchasing decisions based on contractual emissions

Scope 2: Market-Based, altafiber	Description
Activity Data	Total electricity consumed (MWh) (see "location-based activity data," above)
Method	Follows the GHGP Scope 2 Guidance Hierarchy. First, we account for all applicable financial instruments—in 2024, altafiber purchased a non-facility-specific REC. Since the REC was not tied to a specific facility, its associated usage was deducted from the organization's total annual consumption- see the "Rec-Adjusted Usage" tab on how this was performed. No other applicable financial instrument-based emission factors were available for the remaining usage. For the market-based grid-level emission factor, we applied the carbon intensity from our location-based advanced grid study (PJM-EIA930) to calculate emissions for the remaining usage.
Limitations	Due to lack of information, market-based reporting was not conducted on leased facilities.
Emission Factor for Market Based	2024 Purchased RECs, certified by Green-e and Carbon Solutions Group. When reaching the "Location-based" method within the market based hierarchy, GHG emissions are calculated using the latest available emissions factor for accuracy in calculations, which is the Advanced Grid Study, utilizing EIA930 PJM hourly emissions factor dataset

Scope 2: Market-Based, HT	Description
Activity Data	Total electricity consumed (MWh) (see "location-based activity data," above)
Method	Follows the GHGP Scope 2 Guidance Hierarchy. First, we account for all applicable financial instruments—in 2024, altafiber purchased a non-facility-specific REC. Since the REC was not tied to a specific facility, its associated usage was deducted from the organization's total annual consumption- see the "Rec-Adjusted Usage" tab on how this was performed. For Hawaiian Telcom, due to its limited utility providers and the islanded nature of its grid, supplier-specific emission factors (EFs) were applied in accordance with GHGP guidelines for regional grids with constrained interconnectivity for all remaining usage. Supplier-specific EFs for Hawaii, Oahu, and Maui County were sourced from publicly reported utility emissions data.

Limitations	
Emission Factor for Market Based	For Hawaii, Oahu, and Maui County, supplier-specific EFs were sourced from Page 17 of the HEI 2023 ESG Report- https://s2.q4cdn.com/268623243/files/doc_downloads/2024/03/2023_hei_sustainability-report_r8_a.pdf For KIUC, COO Brad W. Rockwell provided the emission factor via email (consistent with prior years). This data is publicly available through the EPA FLIGHT program (Link) and KIUC's Annual Reports (Link), confirmed via email and aligned with GHGP guidance on supplier-specific EFs. All contacts received GHGP Scope 2 Guidance to ensure correct values, emphasizing: Public disclosure using best practice methods, including- The Climate Registry Electric Power Sector Protocol). Transparency on certificate use in emission factor calculations. Inclusion of emissions from all delivered energy, not just supplier-owned generation. Consideration of certificates retired for compliance (e.g., U.S. state RPS programs).

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