clearwater
CREDIT UNION

2024

ENVIRONMENTAL IMPACT ASSESSMENT

clearwatercreditunion.org/resources/measuring-our-impact

INTRODUCTION

This report details Clearwater Credit Union's 2024 environmental impact. To assess our impact, we focus on issues:

- That are important to local and global sustainability,
- That we have a significant impact on, and
- That cover most of our impact.

These issues are greenhouse gas emissions (operational and balance sheet), water use, paper use, and municipal solid waste generation. We have provided complete disclosures and methods in the technical appendix.

GREENHOUSE GAS EMISSIONS

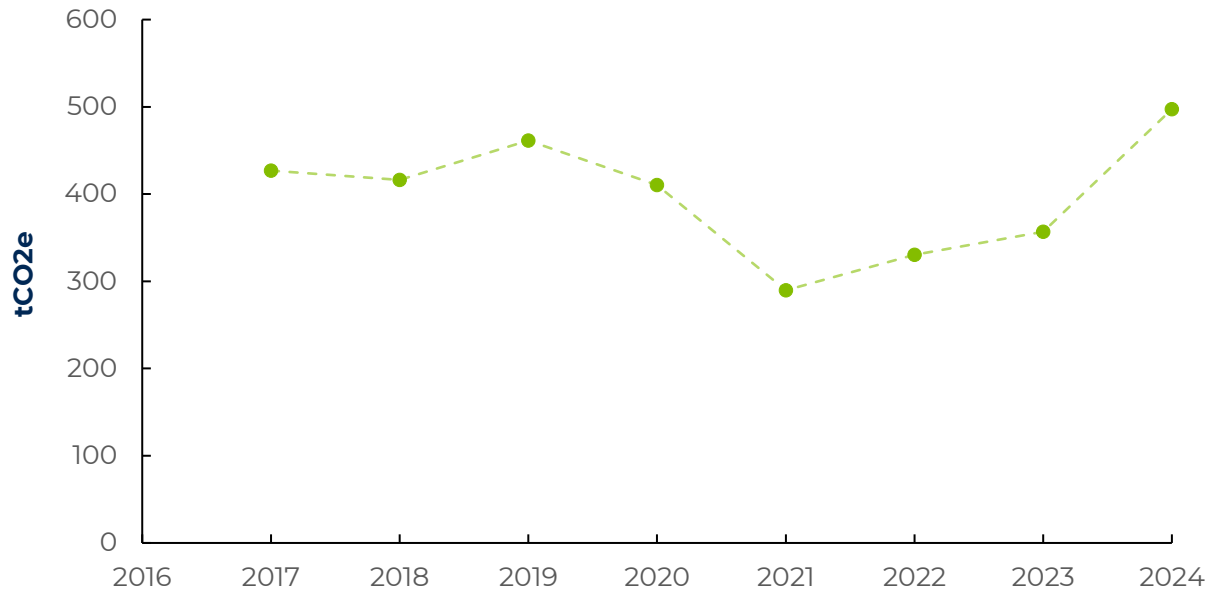
Operational emissions are those that result from the credit union's day-to-day operations.

- **Scope 1** emissions are from sources we own or directly control, such as burning fuel in our vehicles or natural gas in our buildings.
- **Scope 2** emissions are from the production of purchased energy, such as electricity we use in our facilities.
- **Scope 3** emissions are from activities the organization does not control but influences, such as commuting, business air travel, and balance sheet greenhouse gas emissions. Balance sheet emissions are those that result from activities Clearwater financed and are reported separately because they are so much larger than operational emissions

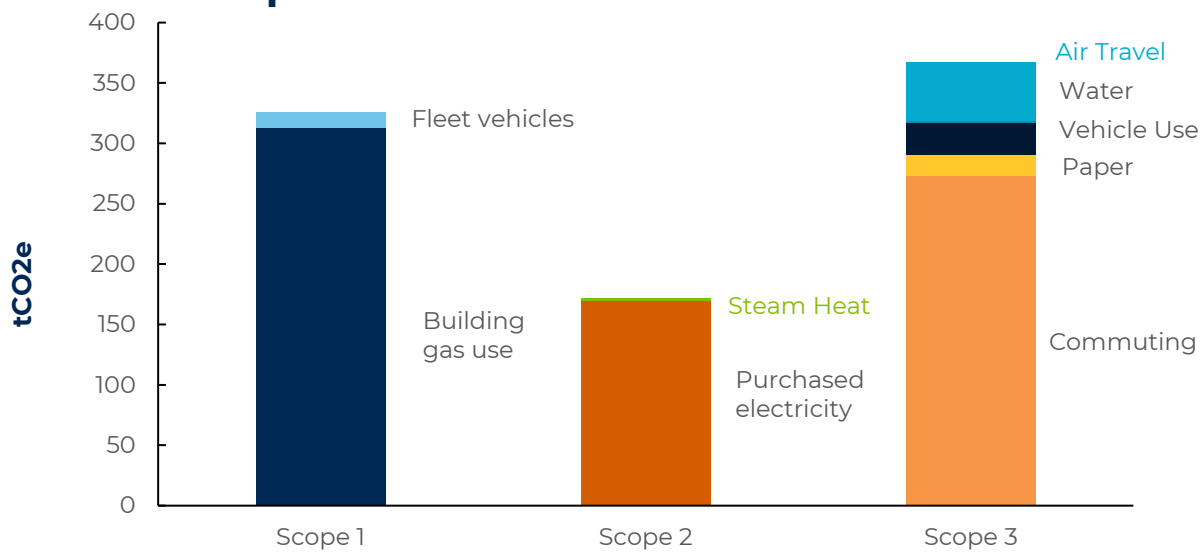
OPERATIONAL GREENHOUSE GAS EMISSIONS

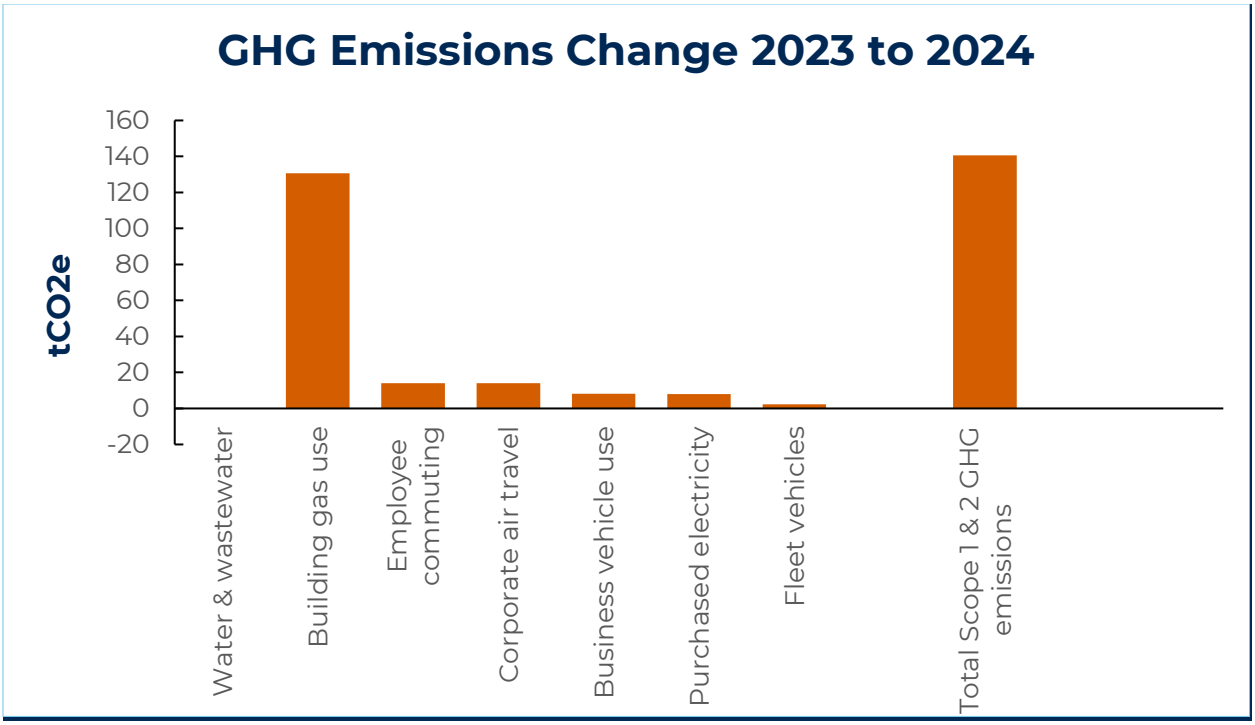
In 2024, Clearwater saw a large increase in operational GHG emissions. This was mostly due to increased natural gas use in our largest facility. The cause is under investigation. The remaining growth in operational GHG emissions is in line with what would be expected from business growth.

Scope 1 and 2 GHG Emissions



Operational GHG Emissions 2024





OPERATIONAL GREENHOUSE GAS EMISSIONS

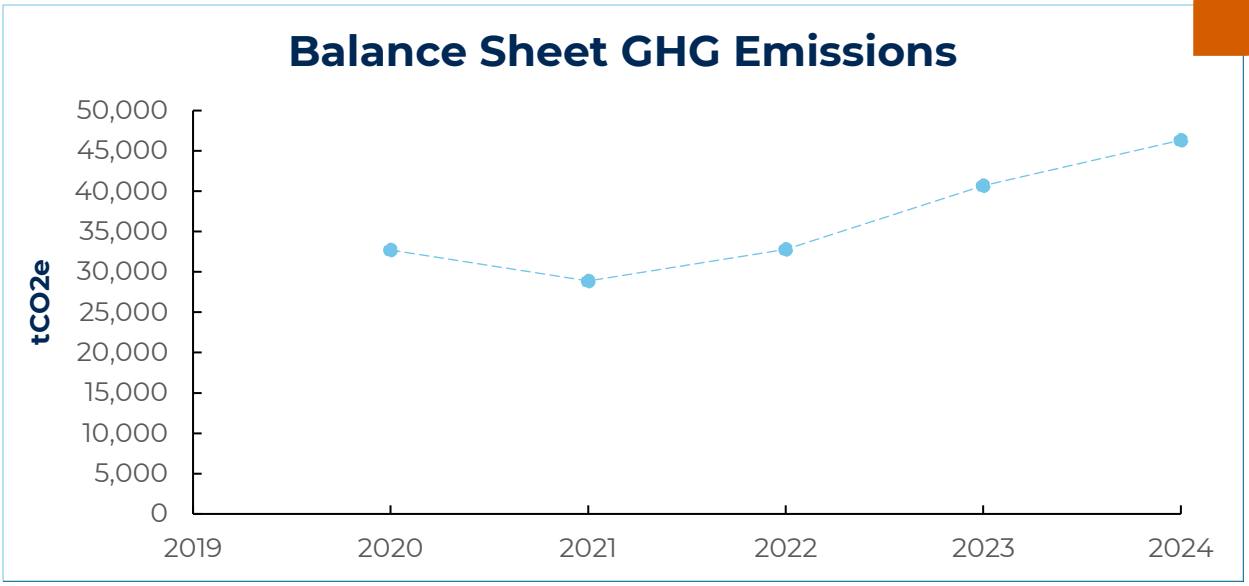
		2017 (Base Year)	2023	2024	YOY Change
Scope 1	tCO_2e	189	193	**326**	133
Scope 2	tCO_2e	238	164	**172**	8
Scope 3 - Operational	tCO_2e	270	331	**367**	36
Scope 1 & 2, Total	tCO_2e	427	357	**497**	141
Scope 1 & 2, Per FTE	tCO_2e	2.99	1.96	**2.53**	0.57

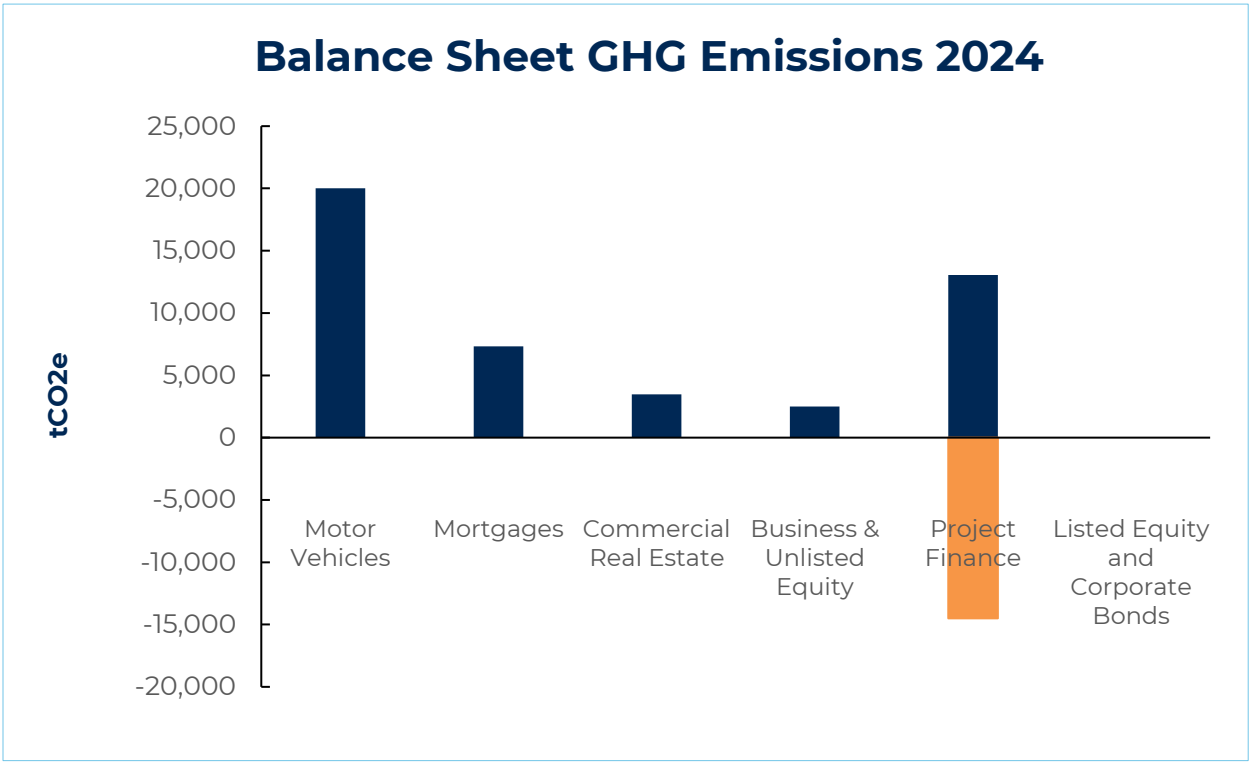
Net-Zero Greenhouse Gas Operations

Clearwater offsets our Scope 1 and 2 greenhouse gas emissions with purchased carbon offsets to achieve net-zero emissions. For 2024, these credits were generated in eastern Montana by the Northern Great Plains Improved Grazing Project, a collaboration between the Western Sustainability Exchange and Native, A Public Benefit Corporation. Through the Northern Great Plains Improved Grazing Project, Montana ranchers receive financial support to implement improved grazing practices that enhance soil health and sequester carbon below ground. The credits are registered on the Verra carbon credit registry.

BALANCE SHEET GREENHOUSE GAS EMISSIONS

Balance sheet emissions are those that result from credit union-financed activities. They are accounted for as Scope 3, Category 15 using the Global GHG Accounting and Reporting Standard for the Financial Industry issued by the Partnership for Carbon Accounting Financials (PCAF Global GHG Standard). The GHG intensity (GHG per $ financed) of our balance sheet has been nearly constant, so continued growth of the balance sheet has led to rising total emissions.



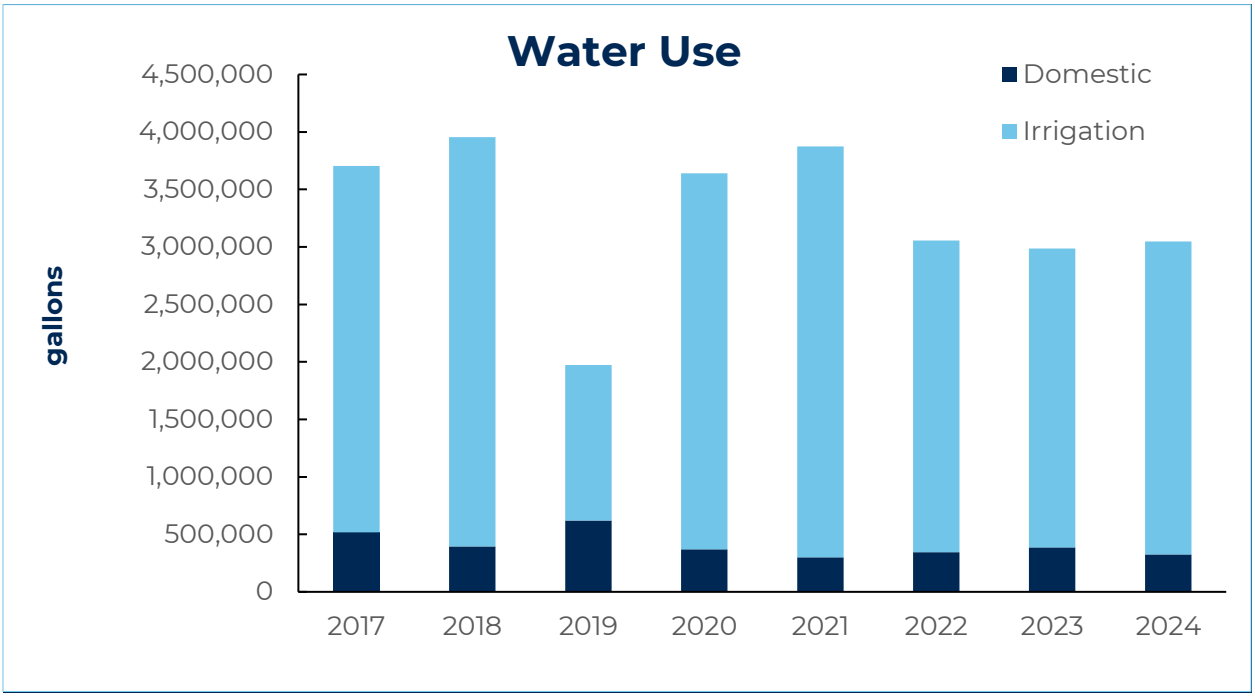


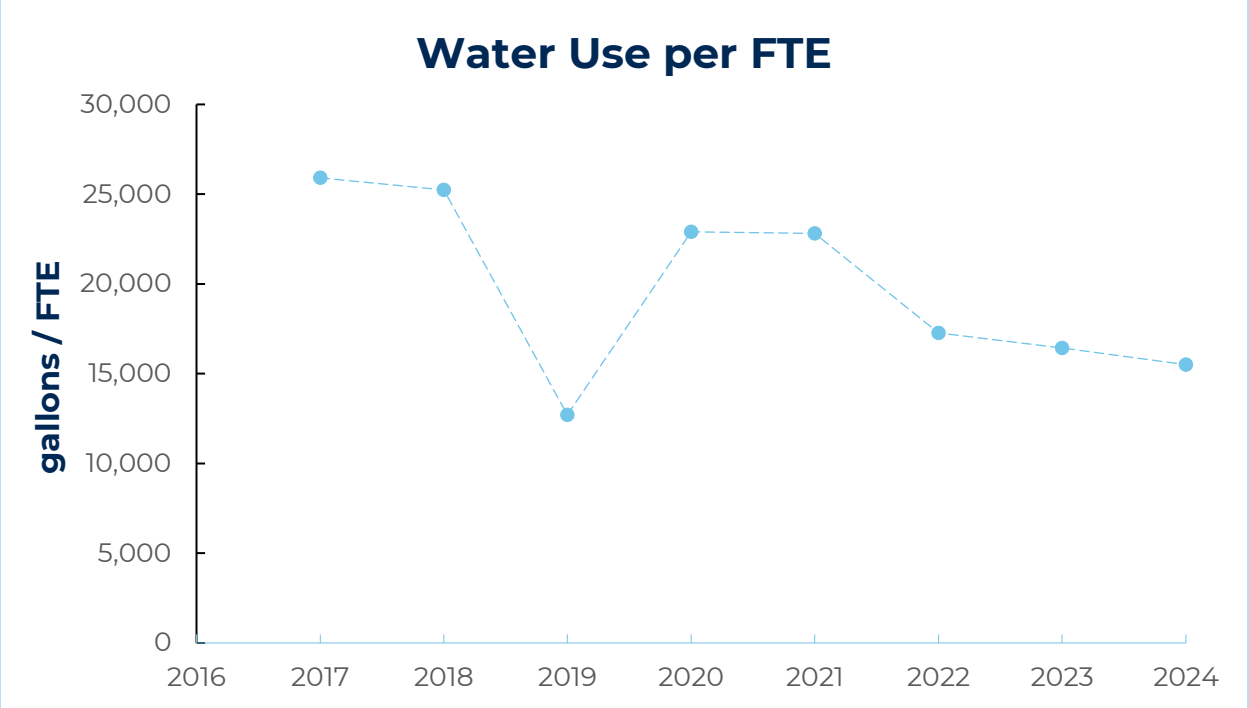
BALANCE SHEET GREENHOUSE GAS EMISSIONS

		2020 (Base Year)	2023	2024	YOY Change
Total Balance Sheet Assets	Million $	753	1,032	**1,098**	67
Assets Covered by PCAF	Million $	549	725	**778**	53
Assets Assessed	Million $	510	673	**728**	54
Total GHG	tCO2e	32,703	40,697	**46,336**	5,639
% of Total Assets Assessed	%	68%	65%	**66%**	1%
% of Covered Assets Assessed	%	93%	91%	**94%**	1%
GHG Intensity	tCO_2e / Million $	64.2	53.4	**63.7**	3.2
Weighted Average DQ score	1=Highest; 5=Lowest	4.1	3.9	**4.2**	0.3

WATER

Clearwater's water use is separated into domestic use (water used in buildings) and irrigation. For most facilities both domestic and irrigation water is supplied by the municipal utility. The notable exception is irrigation water at our largest facility, which is provided by on-site wells. Water use per employee has been trending down as much of our recent expansion has been into leased facilities with very little irrigation.

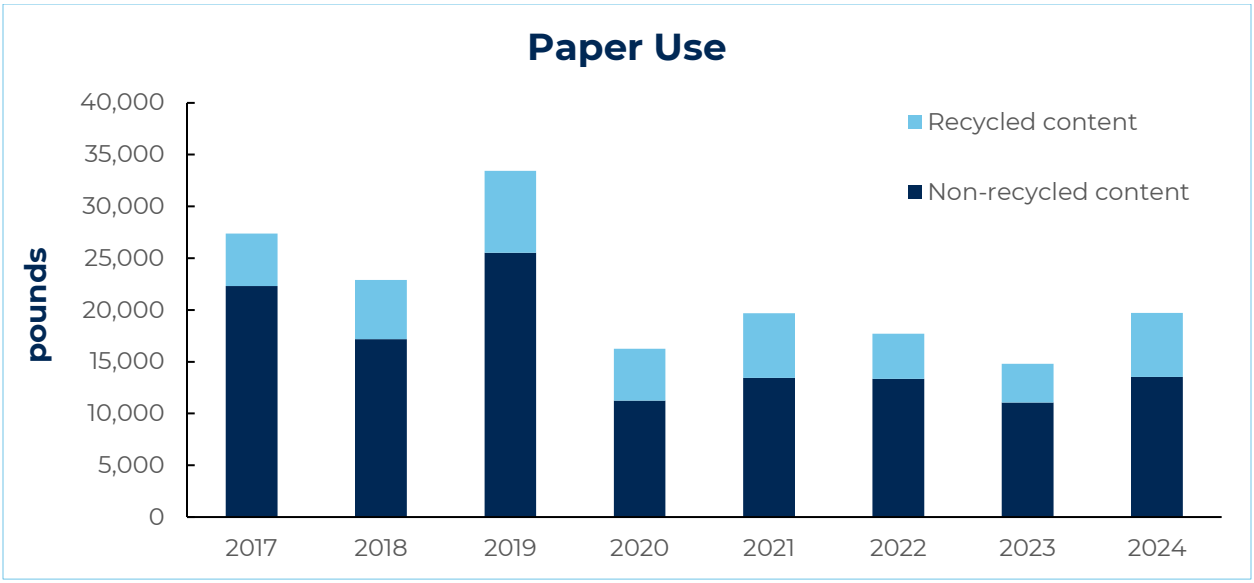


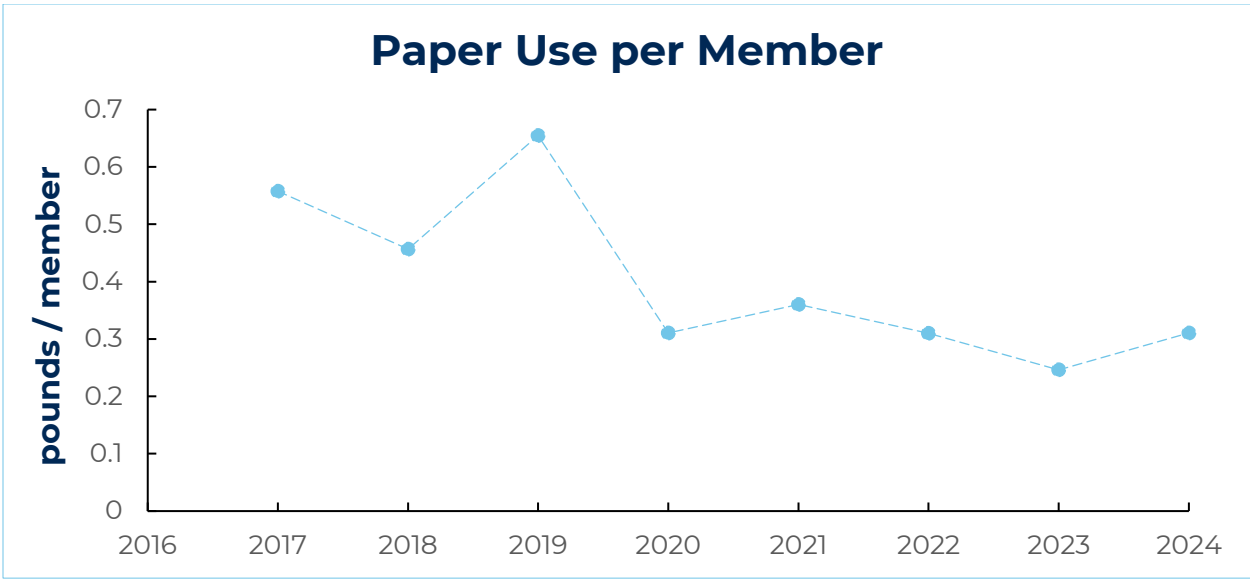


Water Use		(Base year) 2017	2023	2024	YOY change
Domestic	gallons	517,206	385,228	**325,482**	-59,745
Irrigation	gallons	3,187,440	2,600,636	**2,722,563**	121,926
Total use	gallons	3,704,647	2,985,864	**3,048,045**	62,181
Total use per FTE	gallons	25,907	16,428	**15,508**	-921

PAPER

Paper is one of Clearwater's largest material uses. Total paper use has been essentially flat for several years as we have continued to grow, leading to a declining trend in paper use per member.





Paper use		2017	2023	2024	YOY change
Non-recycled	pounds	22,320	11,062	**13,537**	2,475
Recycled	pounds	5,053	3,740	**6,167**	2,427
Total paper use	pounds	27,373	14,802	**19,704**	4,902
Recycled content	%	18%	25%	**31%**	6%

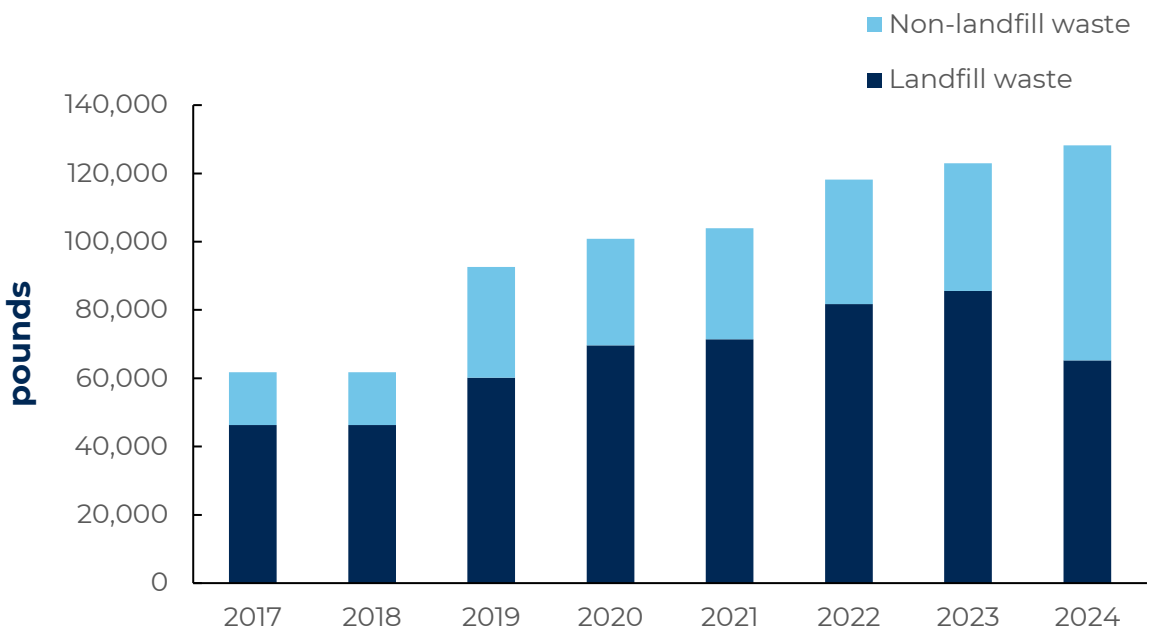
MUNICIPAL SOLID WASTE

Municipal solid waste is the material waste generated by our operations. It is separated into two main categories.

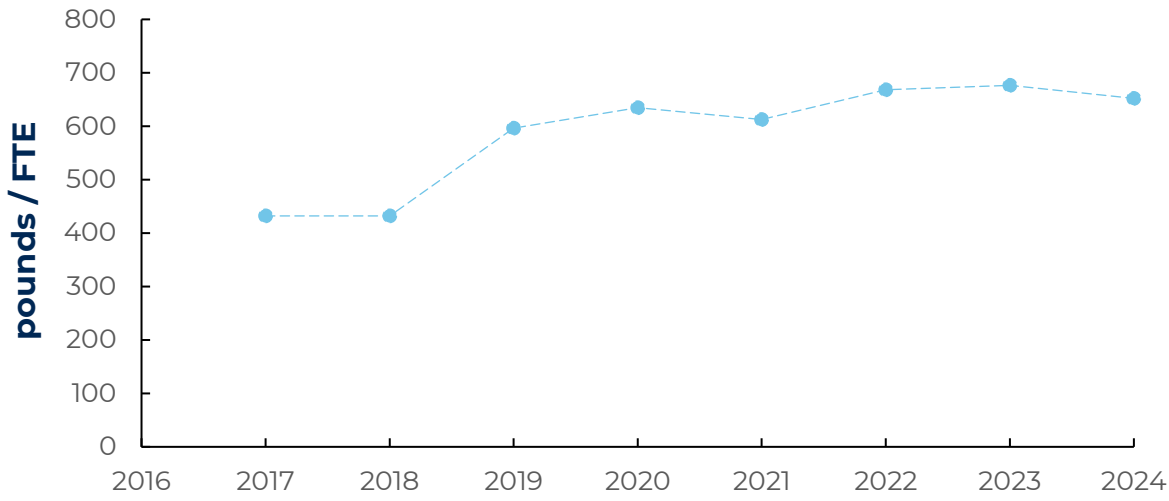
- Non-landfill waste includes recycling and compost.
- Landfill waste is everything else.

All facilities in the Missoula area have general recycling, glass recycling, and composting available. We continue to seek non-landfill pathways for our facilities outside Missoula.

Municipal Solid Waste



Municipal Solid Waste Intensity



Municipal solid waste generated		2017	2023	2024	YOY Change
Landfill waste	pounds	46,265	85,537	**65,275**	-20,262
Recycling	pounds	10,150	27,136	**51,915**	24,779
Compost	pounds	5,386	10,281	**11,025**	745
Total solid waste	pounds	61,800	122,954	**128,216**	5,262
Percent waste diverted from landfill	%	25.1%	30.4%	**49.1%**	0
Total solid waste per employee	pounds	432	676	**652**	-24
Landfill waste per employee	pounds	324	471	**332**	-139

Conclusion

Clearwater is committed to conserving and protecting Montana's resources by reducing our environmental impact. As a member-owned financial cooperative, we are also committed to wise management of our member-owners' resources. The last few years have been a period of sustained growth for the credit union. By reducing our per-capita impacts, we have been able to keep our total impact roughly constant. As we advance, we are challenging ourselves to deliver total impact reductions in cost-effective ways.

TECHNICAL APPENDIX & GREENHOUSE GAS DISCLOSURES

This appendix provides the technical details of our environmental assessment. It is intended to provide greater depth for interested readers, assist other financial institutions with their own environmental assessments, and meet disclosure requirements. Please feel free to reach out to us with any questions at clearwatercreditunion.org.

Our greenhouse gas assessment follows the World Resources Institute's Greenhouse Gas Protocol Corporate Accounting and Reporting Standard, Revised Edition[1]. Our balance sheet greenhouse gas assessment follows the PCAF Global GHG Accounting and Reporting Standard for the Financial Industry[2]

Two adjustments to our GHG calculation methodology led to small changes in the published emissions from previous years. First, a technical change to the calculation of building energy use slightly altered the allocation of use to each calendar year. Second, all previous years' emissions were re-calculated using 2025 emission factors to more accurately capture changes to our emitting activities. The one exception to this recalculation was building energy emissions, which used each year's emission factors to capture changes to the grid production mix.

Company Description

Clearwater Credit Union is a member-owned, not-for-profit financial cooperative headquartered in Missoula, Montana. Founded in 1956 as a policemen's cooperative credit union, Clearwater has grown to serve 68,000 members with total assets of $1.1 billion at year-end 2024. We serve anyone who lives, works, worships, studies, or participates in an association headquartered in the 20 westernmost counties of western Montana. At year-end 2024, Clearwater had 196.6 full-time equivalent positions and occupied seven owned buildings and four leased locations.

Organizational Boundaries

Clearwater is a member-owned financial cooperative with no subsidiaries or equity positions in other organizations. Therefore, we selected the operational control approach to set organizational boundaries for this assessment. Under this approach, we will report all greenhouse gas emissions for organizations and operations that we have direct operational control over. No sources, facilities, or operations were excluded.

Operational Boundaries

Clearwater measures and reports our scope 1 and scope 2 greenhouse gas emissions, as well as selected scope 3 emissions: balance sheet impacts, coworker commuting, paper, business use of personal vehicles, water use, and airline travel.

To account for emissions from leased space we followed GHG Protocol Appendix F and included emissions from on-site natural gas combustion in scope 1 emissions and purchased electricity in Scope 2 emissions.

Scope 1 (Direct Emissions)

As a financial institution, Clearwater has few sources of direct emissions. These sources are: (1) on-site combustion of natural gas for space and water heating; (2) operation of a small vehicle fleet.

Scope 2 (Energy Indirect)

Energy indirect emissions result from the production of electricity purchased by Clearwater and steam heat used at Clearwater's University Center branch.

Scope 3 (Other Indirect)

Scope 3 emissions are those that result from business operations but are not covered under Scopes 1 & 2. Clearwater reports scope 3 emissions from activities that have a significant impact on total GHG emissions and are potentially responsive to management activities. We assessed the greenhouse gas impact of our balance sheet (Scope 3, chapter 15) using the Platform for Carbon Accounting Financials (PCAF) methodology. The Scope 3 emissions sources reported here are: corporate air travel, business travel in non-fleet vehicles, water use, paper use, employee commuting, and balance sheet assets.

Base Year

The GHG Protocol requires an organization to define a base year as a point of comparison for reporting emissions, progress towards targets, and compliance with applicable reporting requirements. Clearwater has defined calendar year 2017 as its base year for our operations, and 2020 as the base year for our balance sheet emissions. 2017 was the first year an operational greenhouse gas inventory was completed; 2020 was the first year a balance sheet assessment was completed. Recalculation of base year emissions shall follow the guidance and procedures in the GHG Protocol. Per GHG Protocol, base year emissions shall be recalculated in the case of:

- Acquisitions or divestments
- Outsourcing or insourcing of emitting activities
- Changes in calculation methodology that result in a significant impact on the base year emissions data
- Discovery of significant errors, or several cumulative errors that are collectively significant.

What constitutes a significant impact on base year emissions data is left to the organization; Clearwater has set this threshold at 10% of total GHG emissions in CO_2e.

Base year recalculation is not required for:

- Organic growth or decline
- Acquisition or insourcing of facilities that did not exist in the base year
- Outsourcing or insourcing of scope 2 and scope 3 emissions.

METHODOLOGY

Due to the nature of Clearwater's operations, emissions are not measured directly. Instead, emissions were estimated for each source using the following model:

$$emissions = activity\ level\ x\ emissions\ factor$$

The units and sources of the activity levels and emission factors are described below.

Natural Gas Combustion

Activity Level

Natural gas use is metered directly at all of Clearwater's owned facilities. In two of the four leased locations, the gas use of the entire building is metered, and Clearwater's share of the total building consumption was calculated based on proportional floor space. The two remaining leased spaces have small staffs and footprints. In these cases, a per-FTE gas use metric was calculated for the known facilities and applied to these two.

Emission Factors

Emission factors used were from the US EPA Emission Factors for Greenhouse Gas Inventories, Table 1 – Stationary Combustion[3].

Fleet Vehicle Use

Activity Level

Fleet vehicle use for the reporting period was measured directly in miles. In some cases, interpolation between recorded services was required to match vehicle mileage to the reporting period.

Emission Factors

Emissions were calculated for vehicle-miles for each class of vehicle (light truck and passenger car). Emission factors used were from the US EPA Emission Factors for Greenhouse Gas Inventories, Table 3 – Scope 3 Category 6: Business Travel and Category 7: Employee Commuting[4]. Note that the US EPA class "passenger car" includes "passenger cars, minivans, SUVs, and small pickup trucks (vehicles with wheelbase less than 121 inches)." The US EPA class "light truck" includes "full-size pickup trucks, full-size vans, and extended-length SUVs (vehicles with wheelbase greater than 121 inches)." In the case of one hybrid vehicle, the emissions were estimated as one half of the emissions of a passenger car.

Building Electricity Use

Activity Level

Electricity use is directly metered at all owned Clearwater facilities, and at two of our four leased spaces. The two unmetered spaces were assigned a per-FTE electricity use number calculated from the known data.

Emission Factors

Emissions were calculated using US EPA eGRID total production emission factors for the Northwest Power Pool (NWPP) subgrid from the US EPA Emission Factors for Greenhouse Gas Inventories, Table 6 – Electricity[5].

Steam Heat

Activity Level

Steam heat is used only at Clearwater's leased University of Montana branch. In this case, Clearwater's share of the total building consumption was calculated based on proportional floor space.

Emission Factors

Emission factors used were from US EPA Emission Factors for Greenhouse Gas Inventories– Table 7 Steam and Heat[6].

Corporate Air Travel

Activity Level

Origins, intermediate stops, and destinations for all corporate air travel were collected. Distances between airports were calculated along great circle routes, and an additional 9% was added to account for route deviations and airport traffic control patterns. Flight segments were then classified as short-, medium-, and long-haul following US EPA emissions factor categories (<300 miles, ≥300 and <2300 miles, and ≥2300 miles, respectively).

Emission Factors

Emissions were calculated per passenger-mile for each of the three flight length categories (short-, medium-, and long-haul) using US EPA Emission Factors for Greenhouse Gas Inventories, Table 3 –

Scope 3 Category 6: Business Travel and Category 7: Employee Commuting[7]. Because emissions from aviation have an enhanced radiative forcing effect on the atmosphere, emissions from aviation were multiplied by a radiative forcing coefficient of 2[8,9].

Business Travel in Non-Owned Vehicles

Activity Level

Business travel in non-owned vehicles occurred almost entirely in employees' personal vehicles. Total miles traveled were collected from accounting records. Vehicle class is not recorded, so vehicle miles are assumed to be 75% in passenger cars and 25% in light trucks.

Emission Factors

Emission factors used were from the US EPA Emission Factors for Greenhouse Gas Inventories, Table 3 – Scope 3 Category 6: Business Travel and Category 7: Employee Commuting[10]. Note that the US EPA class "passenger car" includes "passenger cars, minivans, SUVs, and small pickup trucks (vehicles with wheelbase less than 121 inches)." The US EPA class "light truck" includes "full-size pickup trucks, full-size vans, and extended-length SUVs (vehicles with wheelbase greater than 121 inches)." In the case of one hybrid vehicle, the emissions were estimated as one half of the emissions of a passenger car.

Paper Use

Activity Level

Clearwater uses a wide variety of paper from several sources, and total paper use is necessarily an estimate with significant uncertainty. Efforts to quantify paper use focused on the major categories of use and the most common products. It is recognized that, given the quantity and variety of paper products used, not all paper use will be captured. A simplifying assumption used here is that paper *used* during the reporting period is equivalent to paper *ordered* during the reporting period.

Generally speaking, paper use is recorded as quantity of products which must then be converted to weight. This can be accomplished in four ways, listed here in decreasing order of preference: (1) Shipping weights determined from product specifications; (2) unit weights determined from product dimensions and paper specification weights[11]; (3) paper products may be subsampled and directly weighed; (4) estimated using fixed conversion factors.

As described in emission factors (below), paper is separated into the total weight of recycled (pre- and post-consumer content) and non-recycled content by multiplying the total weight of each particular paper product by its recycled content percentage:

$$recycled\ content = total\ weight\ x\ \%\ recycled\ content$$

Where the recycled percentage is unknown, it was assumed to be zero.

Emission Factors

Environmental impact estimates were made using the Environmental Paper Network Paper Calculator Version 3.2.1. For more information, visit www.papercalculator.org. It was determined that GHG emissions were a perfect linear function of the percentage of recycled material. As a result, paper can be aggregated into total recycled content (100% recycled) and total non-recycled content (0% recycled) using the formula in activity level above. The emission factors used were for uncoated groundwood for uncoated freesheet. Note that the emission factors provided by the Environmental Paper Network are lifecycle emissions, that is, they include emissions from disposal.

Water Use

Activity Level

Water use at Clearwater falls into two categories: domestic (i.e. facilities use) and irrigation. Water use can also be separated by source: municipal water supplies or groundwater wells.

Most Clearwater facilities use metered municipal water supplies. For our leased locations, Clearwater's water use was calculated from the building total using proportional floor area. Most facilities also had separate meters for irrigation supply. In the case of a building with a single meter for domestic and irrigation use, domestic use was estimated by averaging the use over the winter months, when no irrigation was taking place, then subtracting this value from the summer months.

Emission Factors

For this assessment, emission factors for municipal supply and wastewater treatment were taken from the City of Missoula's Greenhouse Gas Inventory[12].

Employee Commuting

Activity Level

Employee commuting emissions were calculated using a survey of annual commuting behavior. The survey asks:

- How many days per week do you work?
- How far do you live from your office?
- Is your primary vehicle:
  - Gas/diesel?
  - Hybrid?
  - Full electric?
- In an average week, how many days do you travel to work by:
  - Driving alone?
  - Carpooling?
  - Taking the bus?
  - Riding a bike/walking?
  - Working from home?
- Any other notes?

From these responses, the total miles to work can be calculated. Emission factors used were from the US EPA Emission Factors for Greenhouse Gas Inventories[13]. As elsewhere, vehicle-miles were assumed to be split 75% passenger car, 25% light truck. Hybrids and carpooling were assumed to have ½ the emissions per occupant-mile of passenger cars. Electric vehicle miles were converted to kWh at a rate of 0.346 kWh/vehicle-mile, and kWh were then converted to emissions using the same emissions factors as for building electricity use. Total weekly commuting emissions as surveyed were converted to

per-FTE emissions, then multiplied by total FTE and 50 weeks to calculate total annual commuting emissions.

Municipal Solid Waste

Solid waste is not included in our greenhouse gas inventory, but the activity level estimation method is presented here for reference.

Activity Level

Very little data is available for solid waste generation. Each facility is contracted for regular pickup of a fixed-size container, but there is no data on weight or % full of each container. To estimate annual weight, the average fullness of the containers was estimated visually over several weeks, and a density coefficient was applied to convert volume to weight. There is considerable uncertainty in this method and in the resulting estimates of the total weight of solid waste.

All conversion factors are from US EPA Volume-to-Weight conversion factors[14].

Balance Sheet Greenhouse Gases

We assessed the greenhouse gas impact of our balance sheet assets using the Platform for Carbon Accounting Financials methodology (PCAF). The standard is designed to fit into the World Resources Institute's GHG Protocol Corporate Accounting and Reporting Standard, Revised Edition as Scope 3, Chapter 15 emissions and shares several features, but it is essentially its own method.

The PCAF standard currently covers six asset classes: Business Loans and Unlisted Equity, Commercial Real Estate, Listed Equity and Corporate Bonds, Mortgages, Motor Vehicles, and Project Finance. These categories, as defined in the standard, likely do not align perfectly with the categorization used by the institution. For example, PCAF would categorize a loan to a business for a truck as a motor vehicle loan. Throughout this appendix we will refer to "accounting classifications" to describe how we organize our balance sheet and "asset class[es]" to describe how loans are organized for PCAF analysis. Throughout our analysis we used emission factors from the PCAF emission factors database.

Business and Unlisted Equity

This asset class covers "all loans and lines of credit for general corporate purposes (i.e. with unknown use of proceeds as defined by the GHG Protocol) to businesses, nonprofits, and any other structure or organization that are not traded on the market and are on the balance sheet of the financial institution." All of Clearwater's loans in this asset class were in-house.

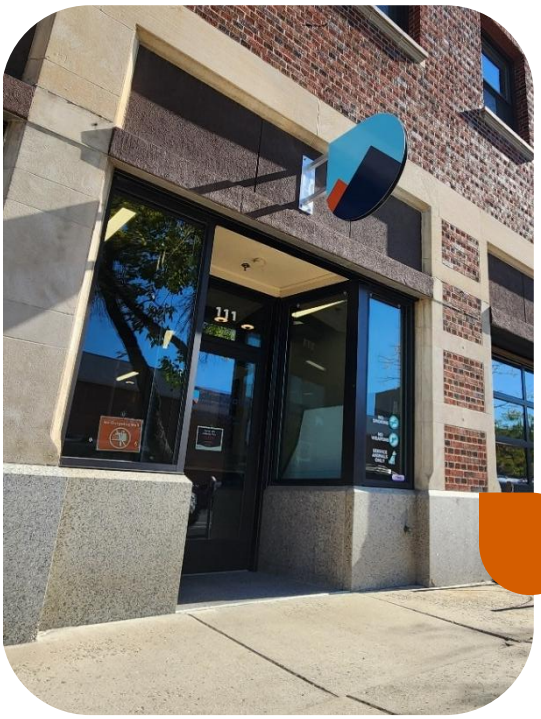
We first identified business loans using our accounting classification, then removed loans with known business purposes that would put them in another PCAF asset class (e.g. vehicle or real estate purchases). We then selected those loans for which the business North American Industry Classification System (NAICS) code was available (roughly 40% of the total portfolio balance). For the majority of our loans, we did not have the business total value (equity + debt). In these cases, the emission factor was from the PCAF database and NAICS-specific emissions per dollar financed, and the attribution factor was simply 1. For loans where we did know the business revenue, the emission factor used was NAICS-specific per $ revenue, and the attribution factor was the loan balance outstanding divided by the business revenue.

Commercial Real Estate

This asset class covers on-balance-sheet loans for the purchase and refinance of commercial real estate, including multi-family housing (>4 units) and on-balance-sheet investments. Clearwater's Commercial Real Estate (CRE) assets were of three types: in-house loans, loan participations, and investments.

The in-house loans were identified in our business portfolio by the NAICS industry classification as “Real Estate, Rental, and Leasing.” Details on the building type (to match PCAF database categories), size (where available), and value at origination were obtained by manually reading appraisal documents for the loans. The emission factors used were from the PCAF database and were state and building-type-specific. Per-area emission factors were used where building size was available; per-unit emission factors were used where it was not. The attribution factor was calculated as the outstanding loan balance divided by the total value at origination.

Clearwater had a single CRE loan participation. Calculation of the emissions was similar to those for the in-house loans.



Clearwater’s CRE investments were in the form of commercial loan-backed securities and made up a significant portion (~67%) of our CRE asset class. To assess these loans, we first selected a random sample of the securities (roughly 16% of the portfolio by dollar amount) and requested detailed loan records from our broker. These records provided the state in which the building was located, the building type, the number of units, the appraised value at origination, the balance outstanding, and the portion of the loan owned by Clearwater. These were used to calculate the financed emissions for in-house CRE loans, with the additional step of including the proportion of the outstanding balance owned by Clearwater in the attribution factor. The calculated emissions intensity (t CO_2e/million $) was then applied to the remaining investment portfolio to calculate total financed emissions.

Listed Equity and Corporate Bonds

This asset class covers “all listed corporate bonds and all listed equity for general corporate purposes (i.e., unknown use of proceeds as defined by the GHG Protocol) that are traded on a market and are on the balance sheet of the financial institution.” Clearwater did not have any assets that fit this definition.

Mortgages

This asset class covers on-balance sheet loans for the purchase and refinance of residential real estate, including multifamily housing with ≤4 units. The class does not include home equity loans or lines of credit. Clearwater’s Mortgage asset class consists of four components: in-house, participations, investments, and business loans (i.e. loans that we classify internally as business loans, but that are for the purchase or refinance of rental properties with ≤4 units).

In-house loans were identified as mortgages by Clearwater’s existing accounting classification. The loan details provided the outstanding balance and the value at origination. A Python script matched the property tax IDs to the Montana cadastral database to obtain the size (square footage) of the buildings and the property class (e.g. single-family home, condominium, etc...). Emission factors were from the PCAF database and were state- and property-class-specific, by area where available and by unit if not. The attribution factor was the outstanding balance divided by the balance at origination.

Clearwater’s participations were in the form of Hybrid ARMs. The loan data gave the value outstanding and value at origination. Loan data also give the state and property class, but not the building size. The

emission factors were from the PCAF database and were state and property class specific per unit. The attribution factor was calculated as the outstanding loan balance divided by the total value at origination.

The business loans (loans for residential properties with ≤4 units) were identified during our assessment of the Commercial Real Estate asset class. Appraisals were reviewed by hand to determine property type and size, if available. Property tax IDs were then mapped to the Montana cadastral database to determine building size if it was not available from the appraisal reports. The emission factors were from the PCAF database and were state and building type specific per area if available, per unit if not. The attribution factor was the outstanding value divided by the value at origination.

Clearwater's investments are in the form of purchased mortgage-backed securities and make up a significant portion of the Mortgage asset class (36%). To calculate these emissions, we sampled a portion of the securities (roughly 10% by dollar total) and requested detailed loan records from our broker. These records included the outstanding value, the value at origination, the portion of the tranche owned by Clearwater, the property type, and the state. The emission factor was from the PCAF database and was state and property-type-specific per unit. The attribution factor was the amount outstanding times the percentage of the tranche owned by Clearwater, divided by the value at origination.

Motor Vehicles

This asset class covers on-balance sheet loans to individuals for the purchase of motor vehicles. Clearwater's loans of this type were entirely in-house and originated in both our consumer and business banking portfolios.

We identified these loans using internal loan classifications. Consumer loans were already listed in our system as motor vehicle, and our loans to businesses for motor vehicles were identified by collateral type. Internal loan data includes vehicle make, model, and VIN. These VINs were matched to a National Highway Traffic Safety Administration website to procure a second set of vehicle make and model descriptions. These were then both matched to the PCAF database using a fuzzy match package in Python, and the best match was used to select the emission factor from the PCAF database. These emission factors were vehicle-specific per-year numbers. A small number of loans failed to match based

on vehicle make and model; these were assigned an emission factor based on vehicle type. The attribution factor was the loan amount outstanding divided by the value at origination.

Project Finance

This asset class covers loans or equities to projects for specific purposes. Clearwater Project Finance loans were all for solar photovoltaic projects. This includes in-house loans and purchased participations.

The emission factors used were from the PCAF database and were per-dollar emissions for the NAICS code 221114. Because a per-dollar invest EF was used, the attribution factor was 1. It is worth noting that this asset class had the highest emissions intensity of all classes, higher even than motor vehicles. This is surprising, given that these projects were exclusively solar PV installations.

Clearwater also estimated the avoided emissions of these projects. To do so, we started with the outstanding loan amount, converted it to installed capacity using a rate of $3/Wdc for small-scale projects (< 50 kWdc) and $2/W for larger-scale projects. We then used the web application PVWatts (National Renewable Energy Laboratory) to determine a production factor (kWh/kW_{dc}-year) for the system. This was used to calculate the system's total annual production. The total annual production was then multiplied by the marginal emission factor for the eGRID subgrid where the project was located[15].

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