



VERMONT
COMMUNITY
LOAN FUND
Invest in Vermont

A Carbon Impact Analysis of VCLF's Loan Portfolio

November 2020

The Vermont Community Loan Fund in 2020

An expert in finding and financing opportunities that don't qualify for credit from traditional lenders, the [Vermont Community Loan Fund](#) puts capital in the hands of Vermont's entrepreneurs and community organizations who can't access it anywhere else, to benefit the Vermonters who need it most. A certified [Community Development Financial Institution \(CDFI\)](#), our mission-guided lending generates both financial *and* community returns: our borrowers are building businesses and creating quality jobs, and helping lower-income Vermonters access safe, affordable homes, quality early care & learning and essential community services. We make sure our borrowers have access not just to capital, but to the tools and resources they need to succeed; we provide comprehensive business development advisory services, financial education and training, both in-house and through third-party partners.

The money we lend is loaned to us by hundreds of impact investors who want to do more with their money. VCLF investors want a safe, sensible tool for putting their assets to work here in Vermont. Investors in the Loan Fund earn a fixed-interest return, can receive tax benefits, and know they're doing good for Vermonters today while saving for their own tomorrow. Anyone can invest in the Loan Fund: individuals and families, businesses and banks, communities of faith, nonprofits and foundations, educational institutions...even municipal, state and the federal governments. With \$112 million loaned over 33 years, the Loan Fund has never failed to return an investor's funds, with interest, upon maturity, as agreed.

At years' end 2019, our portfolio consisted of 239 loans with \$31 million outstanding, representing employment for 2,213 Vermonters, 1,081 affordable homes, quality early care & learning serving 1,379 children & families, and community organizations & facilities providing essential services for 35,141 Vermonters annually.

Since 1987, we've loaned over \$112 million, creating or preserving 6,800 jobs, 4,300 homes, care for 4,400 children and essential services for hundreds of thousands of Vermonters.



The Vermont Community Loan Fund creates opportunities that lead to healthy communities and financial stability for all Vermonters.

Dear Friends,

**As a mission-first lender and impact investment fund,
and as a leader in the Community Development
Financial Institution (CDFI) industry, the Vermont
Community Loan Fund is committed to doing our part
in the fight for environmental justice.**



In November 2019, VCLF joined the [Partnership for Carbon Accounting Financials North America](#), a working group of financial institutions committed to transparency, accountability and climate action. This spring, we employed PCAF's still-developing methodology to analyze the carbon impacts of every loan in the VCLF portfolio. Viewing our work through this new-to-us lens, we can better understand and begin to mitigate the negative consequences of our work, and foster the positive.




When I look at the frosty, classically “Vermont” vista on the cover¹ of this report, I can’t help but consider the dynamic interplay between priorities, strategies and goals guiding the Loan Fund’s work today. Rural economic development. Environmental stewardship. Working lands. Sustainability. Economic justice. Our vibrant outdoor economy. Tradition. Innovation. Our agrarian past, and our bright future (still pretty agrarian!).

Yet, for all that complexity, all those aligned or competing interests, I hope it’s the basic elements of this picture that resonate with you today.

One sky. One planet.

This report is our commitment to keeping that simple picture ever in focus.


Will Belongia, Executive Director

¹ You’ll find this view from the top of the high pastures of the Plainfield farm of VCLF borrower [Greenfield Highland Beef](#), looking northwest over central Vermont’s rolling hills towards the Canadian border.

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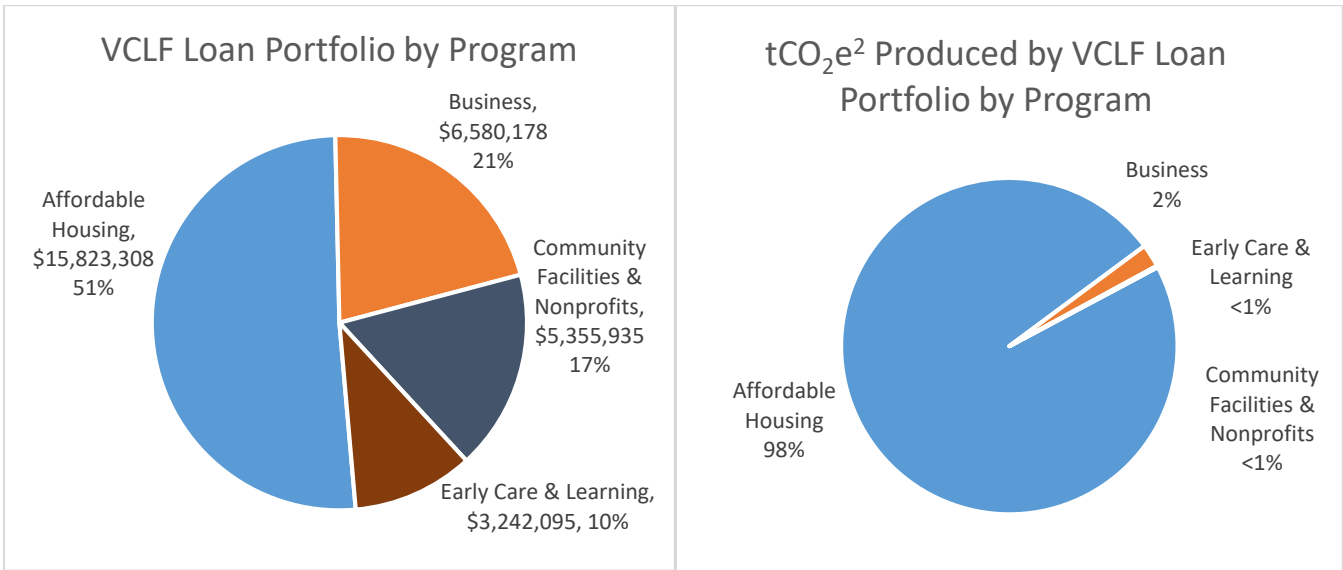
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Carbon analysis conducted by Alex Trehubenko, University of Vermont BS '20
Report prepared by Jake Ide, VCLF

Executive Summary

In November 2019, the [Vermont Community Loan Fund](#) joined the [Partnership for Carbon Accounting Financials \(PCAF\)](#), a global partnership of financial institutions committed to transparency and accountability in the financial sector. PCAF’s primary strategy for promoting these values is an open-source methodology that allows financial institutions like the Loan Fund to calculate their work’s environmental impact. This impact can be measured (in part) by the amount of greenhouse gas emissions (GHGs) produced by businesses and organizations in a loan or investment portfolio.

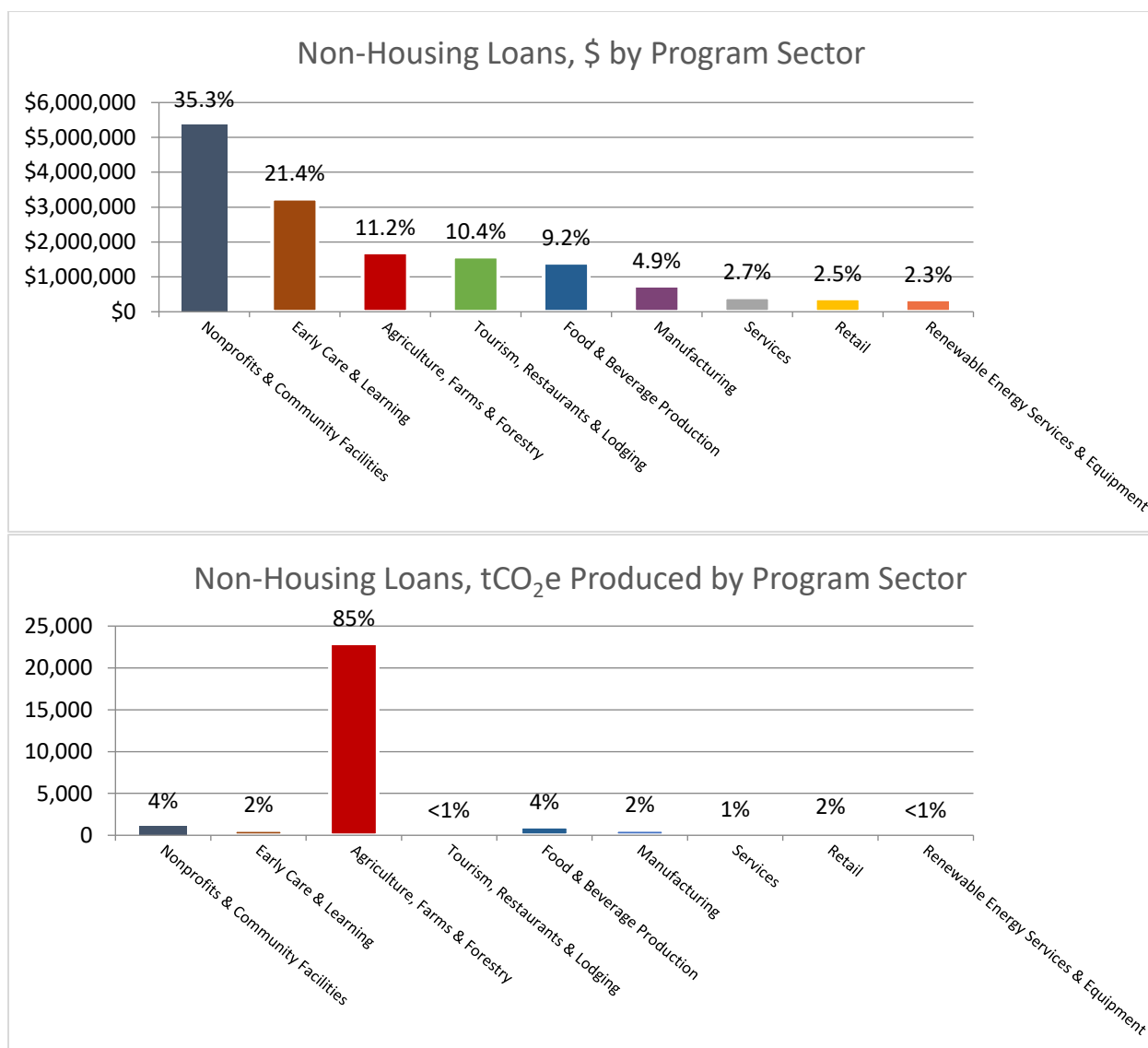
In spring 2020, VCLF used the PCAF methodology to analyze the carbon impacts of our loan portfolio, comprised of 239 loans with \$31 million outstanding on December 31st, 2019.



VCLF’s loan portfolio is comprised of loans from four core loan programs: Affordable Housing, Business, Community Facilities & Nonprofits, and Early Care & Learning Programs. Viewed through the lens of dollars loaned per program, Affordable Housing constitutes just over half of the total capital outstanding (\$15,823,308, 51%); the other three programs comprise the balance (Business: \$6,580,178, 21% / Community Facilities & Nonprofits: \$5,355,935, 17% / Early Care & Learning, \$3,012,218, 10%). However, when considering the amount of greenhouse gasses produced by the portfolio-at-large, the affordable housing sector of VCLF’s portfolio is responsible for almost all (98%) of the portfolio’s total emissions.

Small business loans comprise almost half of VCLF’s non-housing portfolio (43%), with nonprofits & community facilities (35%) and early care & learning (21%) making up the balance. However, the carbon impacts of these sectors are not nearly so evenly apportioned: agriculturally-related loans, which make up just 11% of non-housing loans outstanding, are responsible for 85% of the non-housing portfolio’s greenhouse gas emissions output.

² Absolute emissions are expressed in the form of metric tons of CO₂ (tCO₂e).



The concentrations of GHGs in specific segments of the VCLF portfolio provide a clear path to mitigating the negative impacts of our work. If we seek to improve our carbon impact, we need to continue to analyze and make adjustments to our lending standards, most critically for our affordable housing work. If we seek to improve the carbon impact of the Loan Fund's non-housing work, we need to continue to analyze and make adjustments to our standards for our lending for food, farms & forestry enterprises.

PCAF's carbon accounting methodology is still being developed for financial institutions in North America. VCLF anticipates conducting regular analyses using the methodology and improving our data collection and analyses wherever possible to better understand and improve the environmental impacts of our work.

VCLF and the Partnership for Carbon Accounting Financials

Justice has always been at the heart of our work at the Vermont Community Loan Fund. Guided by our vision of access to capital for *all* Vermonters, we've dedicated ourselves to the fight for a more socially and economically just Vermont since 1987.

As popular concern about the climate crisis has grown, the relationships between social justice, economic justice and environmental justice have only become more apparent. It's well-documented that the climate crisis has disproportionately greater impacts upon those living in lower-income/-wealth communities, communities of color and other marginalized populations the Loan Fund seeks to serve. Lower-wealth households struggle to accumulate the financial resources to prepare for and recover from natural disasters. They're also more likely to live and work in geographies or buildings with greater exposure to the hazards brought about by extreme weather events. Lower-wealth communities are less likely to receive federal aid in response to natural disasters, and receive disproportionately less aid than higher-wealth communities, when they get anything at all. Lower-wealth households are more likely to have climate crisis-related health problems exacerbated by higher rates of chronic conditions and increased exposure to pollutants.

As a mission-driven lender & impact investment fund, and as a leader in the Community Development Financial Institution (CDFI) industry, the Vermont Community Loan Fund is committed to the fight for environmental justice. We included this statement of intent in our current Strategic Plan, adopted in September 2018:

VCLF will value activities and opportunities in its business and lending operations that lead to beneficial impacts on the natural environment and strive to mitigate negative environmental impacts.

We quickly recognized that we'd need a more complete understanding of our work's current environmental impact to inform the development of strategies for mitigation and improvement.

VCLF staff first became aware of the [Partnership for Carbon Accounting Financials](#) during a breakout session at the fall 2019 Opportunity Finance Network annual conference in Washington, DC. PCAF is a global partnership of financial institutions working together to develop a harmonized approach to assessing and disclosing the greenhouse gas emissions associated with their loans and investments:

For a financial institution, emissions from loans and investments are often the most significant part of its GHG emissions inventory and special consideration must be made regarding how these financed emissions are measured. The Global Carbon Accounting Standard aims to provide a standardized approach to account for financed emissions, ensuring that the approach used by financial institutions is robust, transparent, and comparable. This is crucial because

measuring financed emissions is the first step financial institutions take when they decide to align their loans and investments with those required to decarbonize the global economy and achieve the goals of the Paris Agreement.

VCLF joined PCAF in November 2019. In January 2020, University of Vermont senior Alex Trehubenko joined VCLF for a spring internship through UVM's Department of Economics. After collecting and organizing the required portfolio data, Alex performed the first-ever carbon analysis of VCLF's loan portfolio.

While other PCAF members (with far more assets under management than VCLF!) have performed carbon analyses of segments of their loan and investment portfolios, or are in process, VCLF is the first Community Development Financial Institution (CDFI) in North America to apply the PCAF methodology to our entire loan portfolio.

Methodology and Implementation

This section is intended to briefly give the reader a very general understanding of PCAF North America's carbon accounting methodology and its application to VCLF's portfolio.

For further detail on the PCAF NA methodology employed by VCLF, including formulae and sample calculations, please see PCAF's October 2019 report: [Harmonizing and implementing a carbon accounting approach for the financial sector in North America](#).

PCAF's carbon accounting methodology is still under development. The most recent iteration, released November 2020: [The Global GHG Accounting and Reporting Standard for the Financial Industry](#).

For greater detail on VCLF's carbon impact analysis, please contact Jake Ide at jake@vclf.org or 802-223-4423.

ASSET CLASSES AND CLASSIFICATION OF LOANS

PCAF's North American methodology classifies loans and investments into six distinct asset classes:

1. Residential Mortgages
2. Commercial Real Estate
3. Business Loans
4. Listed Equity
5. Energy Finance
6. Motor Vehicle Loans

The Vermont Community Loan Fund classifies our lending activities into four distinct loan programs:

1. Affordable Housing
2. Small Business
3. Nonprofits & Community Facilities
4. Early Care & Learning Programs

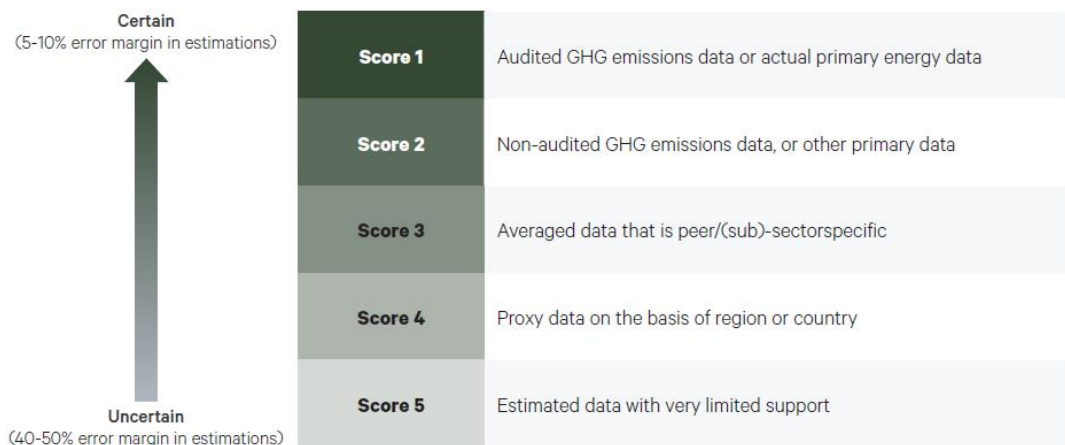
Based on PCAF’s definitions and best practices, VCLF’s loans were reorganized to conform to three PCAF asset classes – Residential Mortgages, Commercial Real Estate and Business Loans – as follows:

Affordable Housing ≤4 units =	Residential Mortgages Asset Class
Affordable Housing >4 units =	Commercial Real Estate Asset Class
Business =	
Nonprofits & Community Facilities =	Business Loans Asset Class
Early Care & Learning Programs =	

DATA QUALITY SCORE

The data required for PCAF’s methodology is drawn from two sources: (1) transaction level data from the VCLF loan portfolio/audited data from portfolio businesses, and (2) publicly-available data including industry-specific GHG emissions factors & attributions, gathered and provided by PCAF. Wherever possible, the data provided by PCAF is as specific as possible (based on latest research/statistics, geographic region, industry or other characteristics of the loan).

The data for each asset class is assigned a quality score from 1 to 5 based on its specificity and accuracy:



This general scoring framework is further defined and adapted for each of the individual PCAF Asset Classes. Given the VCLF loan data currently available, we were able to achieve a data quality score of 4 for each of the asset classes comprising our portfolio. It may be feasible to improve VCLF's data quality in the future; please see Reflections, following.

MEASUREMENT

The PCAF methodology accounts for emissions of the seven greenhouse gasses (GHGs) selected for measurement by the United Nations' Kyoto Protocol: carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), sulfur hexafluoride (SF₆) and nitrogen trifluoride (NF₃). Conversion factors exist that allow for the expression of the GHGs as CO₂ equivalents (CO₂e); VCLF used data provided by PCAF via their EXIOBASE v3 industry emissions factor database. Absolute emissions are expressed in the form of metric tons of CO₂ (tCO₂e).

DATA REQUIREMENTS & FORMULAE

In the absence of transactional-level, independently audited GHG emissions data for the 239 loans in VCLF's portfolio at year's end 2019, the data used to calculate the VCLF portfolio's emissions was gathered from two sources: (1) available transaction level data from the VCLF loan portfolio including outstanding loan balance and number of buildings/project, and (2) publicly-available data, including industry- and region-specific GHG emissions factors and attributions, gathered and provided by PCAF.

Formula for Business Loans Asset Class:

Emissions = emission intensity per revenue x asset turnover rate x loan balance

Formula for Residential Mortgages/Commercial Real Estate Asset Classes:

Emissions = (energy consumption/building + natural gas consumption/bldg) x # of bldgs

COVERAGE

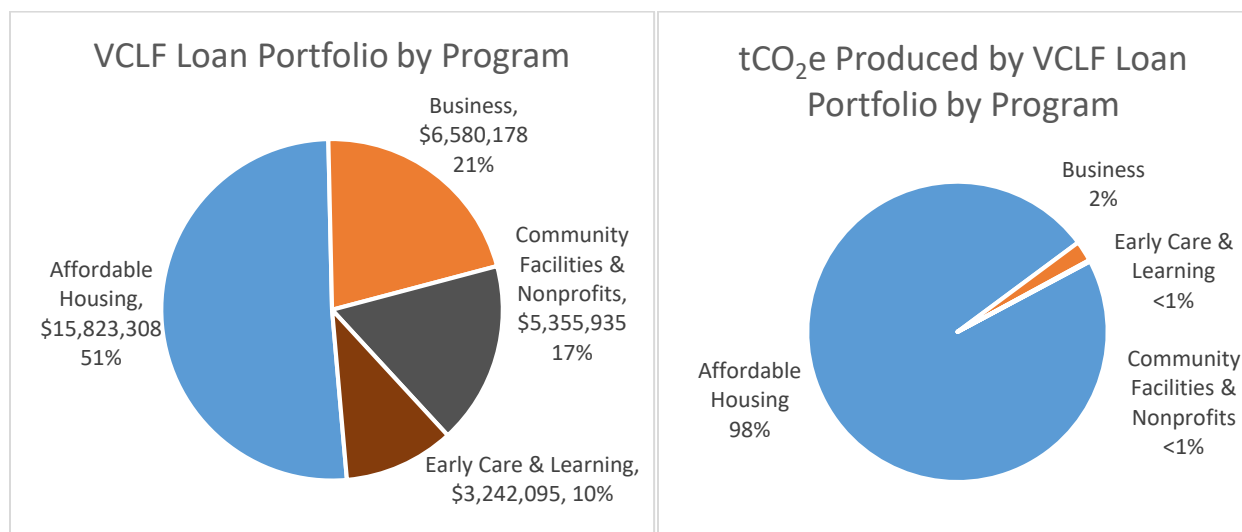
The relevant data required to perform a carbon analysis for each of VCLF's 239 outstanding loans on December 31st, 2019, was available. This analysis accounts for 100% of the measured emissions generated by VCLF's loans at that time.

Findings

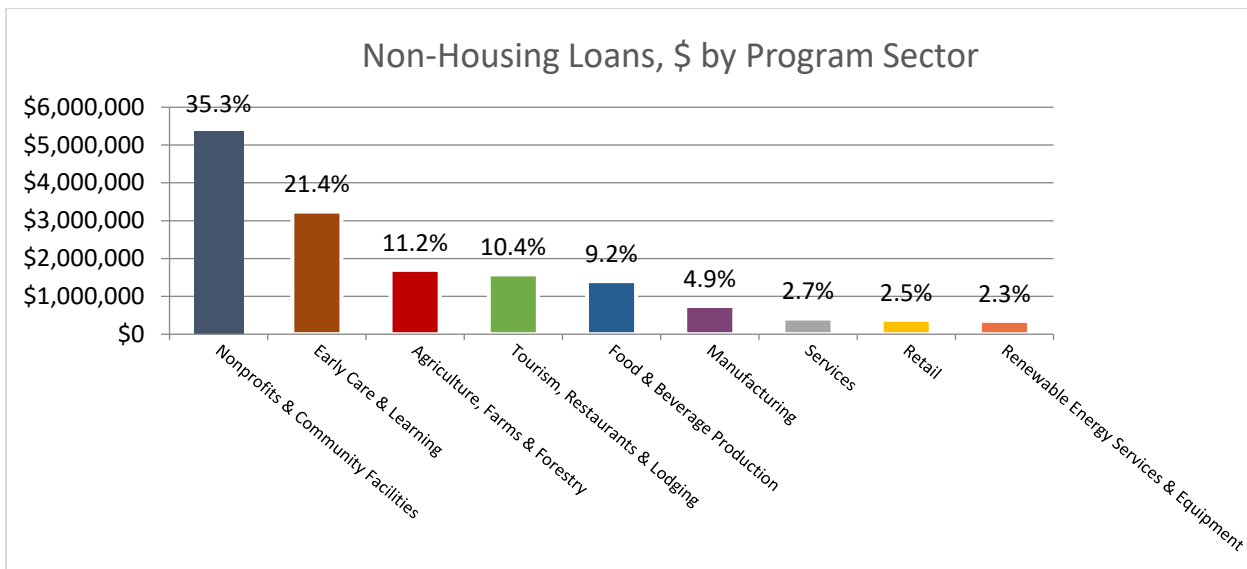
As of December 31st, 2019, the Vermont Community Loan Fund's outstanding portfolio of 239 loans, with \$31,001,516 outstanding, was responsible for the annual emissions of 1,124,811 tons of carbon dioxide.

Portfolio Sector	\$ Loaned	tCO ₂ e Produced	tCO ₂ e/\$1,000
Affordable Housing	\$15,823,308	1,098,101	69.398
Business	\$6,580,178	24,997	3.799
Community Facilities	\$5,355,935	1,090	0.204
Early Care & Learning	\$3,242,095	623	0.192
TOTAL	\$31,001,516	1,124,811	36.282

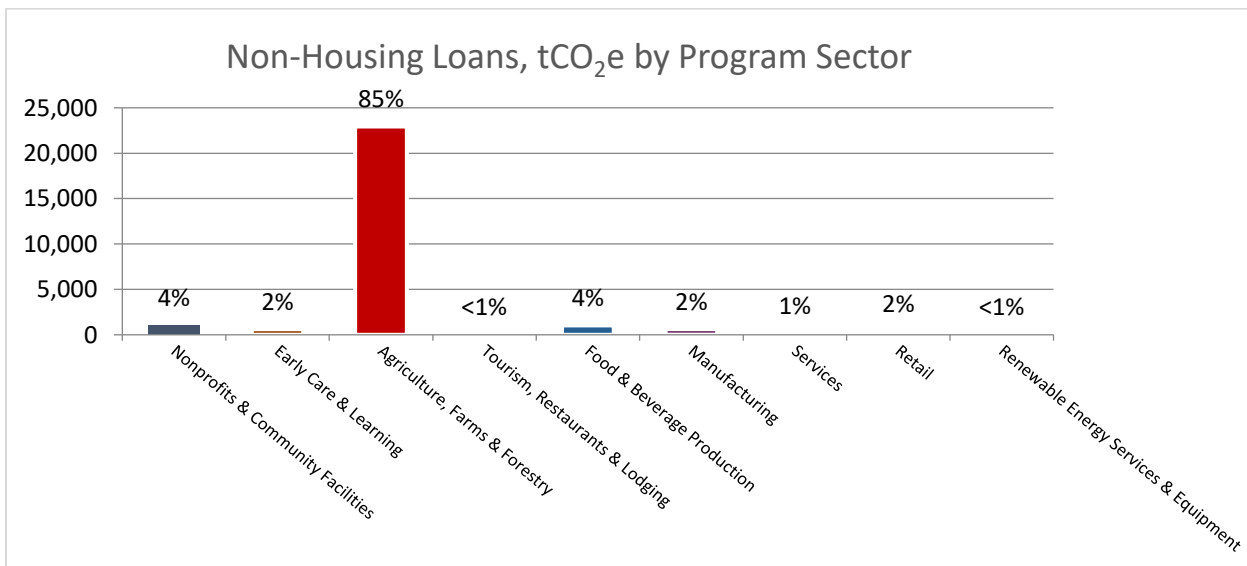
Viewed through the lens of dollars outstanding per program, Affordable Housing comprises just over half of the total capital outstanding (\$15,823,308, 51%); the other three programs comprise the balance (Business: \$6,580,178, 21% / Community Facilities & Nonprofits: \$5,355,935, 17% / Early Care & Learning, \$3,242,095, 10%).



However, when considering the amount of greenhouse gasses produced by the portfolio-at-large, the affordable housing sector of VCLF's portfolio accounts for almost all (98%) of the portfolio's total emissions. If we seek to improve our carbon impact, we need to continue to analyze and make adjustments to our lending standards for affordable housing.



Small business loans comprise almost half of VCLF's non-housing portfolio (43%), with nonprofits & community facilities (36%) and early care & learning (20%) making up the balance. However, the carbon impacts of these sectors is not nearly so evenly apportioned: agriculturally-related loans, which make up just 11% of non-housing loans by dollars outstanding, are responsible for 85% of the non-housing portfolio's greenhouse gas emissions output. If we seek to improve the carbon impact of the Loan Fund's non-housing work, we need to continue to analyze and make adjustments to our standards for agriculture lending.



Reflections

1. Negative carbon impacts produced by our borrowers were concentrated in two areas: (1) larger-scale (>4 units) affordable housing projects and (2) agriculturally-related businesses. Negative impacts for this segment of our affordable housing portfolio eclipsed any other area, with 98% of our overall portfolio's emissions resulting from this aspect of our work. **Material changes to VCLF's overall carbon emissions will need to focus on mitigation strategies around our financing for larger-scale affordable housing projects and, to a lesser degree, our financing for farming, food production and forestry enterprises.**
2. The PCAF carbon accounting methodology is newly launched, and still developing. The international PCAF Core Group began work on the methodology in 2015. PCAF North America launched the first version tailored to our region in 2019. In 2020, PCAF released The Global GHG Accounting and Reporting Standard for the Financial Industry, a further refinement to the broader methodology that includes significant updates and, in some cases, changes to calculations and data requirements for some of the asset classes represented by VCLF's work. **As the PCAF carbon accounting methodology is further refined, we'll need to update our own internal processes and analyses.**
3. Data quality will play the most significant role in our understanding and analysis of our loan portfolio. Much of the data we used for this analysis was proxy/attributed data specific to our region (North America). As a result, the Data Quality Scores for each of the portfolio segments we analyzed were on the lower end of the quality spectrum: "4"s, on a scale of 1-5, with 1 being verifiable real numbers and 5 being estimates. Wherever it's possible to make them, **improvements in our data quality will lead to greater accuracy in our analysis, understanding, and impact mitigation.**
4. This analysis of our 2019 year-end portfolio focuses on generated emissions/negative impacts resulting from our work. There is an asset class ("Energy Finance" in the 2019 North American methodology used for this analysis, "Project Finance" in the 2020 Standard) that incorporates positive impacts/reductions in GHG impact due to our financing of renewable energy projects. **Refining our analyses to include the Project Finance asset class could help us track the positive carbon impacts of our work,** including avoided emissions (the reduction in emissions for renewable energy projects compared to what would have been emitted in the absence of the project), removed/sequestered emissions and, possibly, lifetime emissions for projects in our renewables portfolio.
5. PCAF's carbon accounting methodology was applied only to the VCLF loan portfolio, and did not include any upstream or downstream. **VCLF's organizational carbon impacts (energy use at our offices/facilities, staff travel, etc.) are not accounted for here, and should be included in future analyses.**