GREENHOUSE GAS ANALYSIS FOR SELF-HELP OPERATIONS, COMMERCIAL REAL ESTATE AND LOAN PORTFOLIO

CALENDAR YEAR 2020

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www.self-help.org/green

www.self-helpfcu.org/green

Introduction

Self-Help's environmental commitment is built around our areas of expertise:

- We do not finance fossil fuel companies, infrastructure or delivery.

- We lend to companies that have a positive environmental impact. In addition to our social mission criteria, we seek motivated borrowers and provide technical assistance to advance energy efficiency and clean energy. Our loans of over $175M in utility scale solar lead to the production of more than 348,000 megawatt hours of clean energy per year.

- We engage in environmental policy where we have unique expertise and insights, such as presented in our February 2021 report, *The Climate Imperative and Community Finance.*[1]

- Our residential real estate developments have been solidly, consistently green for over a decade. We certify to the third-party *SystemVision* standard, which provides a comfort and energy guarantee for all new homes that we build directly. We were among the first in North Carolina to use the *SystemVision for Existing Homes Program Standard* for residential renovations.

- In commercial real estate development, Self-Help benchmarks energy use, prioritizes energy efficiency investments and applies green guidelines for major renovation and new construction.

Building on these principles, we analyzed the greenhouse gas emissions (GHG) associated with our **business activities, commercial real estate operations** and **commercial loan portfolio**. The first two categories describe GHG associated with activities in which Self-Help is the main actor: staff coming to work, turning on the lights, providing member services and traveling between locations. GHG are also associated with commercial buildings owned by Self-Help, in which our tenants use lights, heating, cooling and other electric loads. In the lingo of GHG accounting, these together describe Self-Help's *operational footprint*.

[1] Melissa Malkin-Weber, David Beck, Brian Schneiderman and Philip E. Otienoburu, *The Climate Imperative and Community Finance*, February 2021, https://www.self-help.org/green.

The GHG emissions associated with our commercial loan portfolio are outside of Self-Help's direct control, so they are calculated and reported separately from our operational footprint. The methodology for calculating loan portfolios (described below) is more specialized than the methodology used for operational footprint. We built new queries for organizational databases and learned to use specialized outside information sources. We collaborated with two other Community Development Financial Institutions (CDFIs) to apply the complex portfolio carbon accounting methodology to our different data sets and portfolio types, using the methods of the Partnership for Carbon Accounting Financials (PCAF).[2] Together, we created a process document to help other CDFIs understand the PCAF methodology; this document will be housed at Opportunity Finance Network and become the basis for lending emission technical assistance.

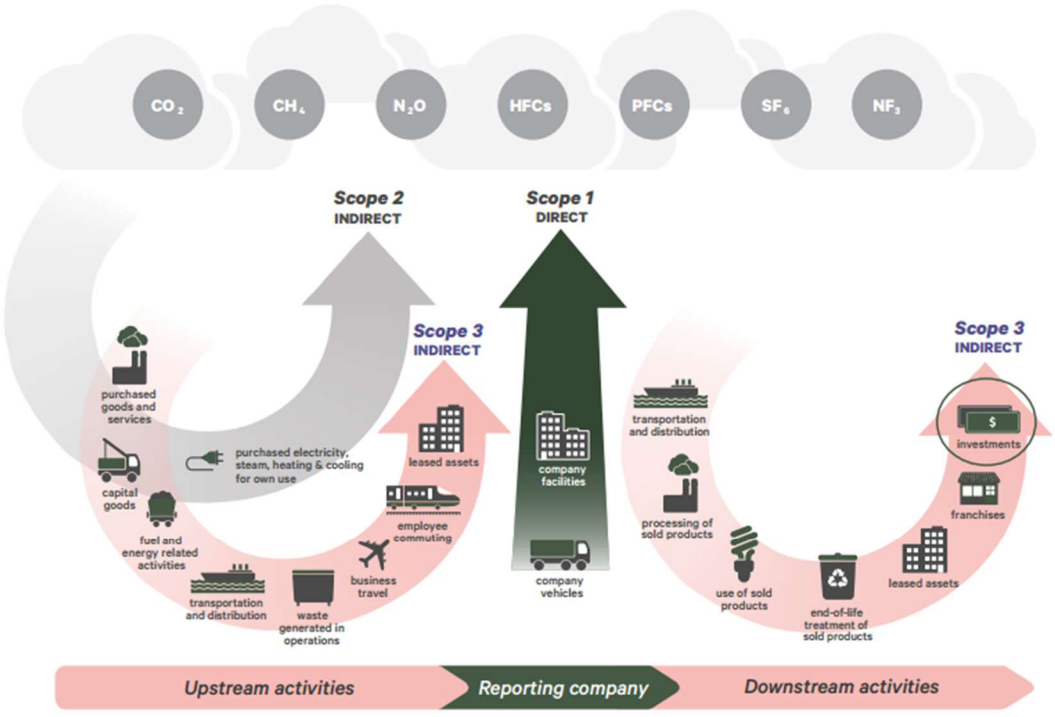
In the course of analyzing our GHG footprints, we opened dialogue with internal stakeholders about how to use this information to drive change. We aspire to set ambitious goals for Self-Help. The GHG analyses of our operations and our lending portfolio are critical to establishing a solid baseline for setting carbon goals, as well as being able to assess progress toward them. In parallel, we continue to make progress with the environmental sustainability efforts that align environmental impact with social justice impact. We share green impact statistics on our websites at www.self-help.org/green and http://www.self-helpfcu.org/green

I. Carbon Accounting Background

Greenhouse gas (GHG) emissions are classified into "scopes," based on the level of control we have over the activity responsible for the emissions (Figure 1). These scopes follow the *Greenhouse Gas Protocol*, which serves as the basis for greenhouse gas accounting.[3] GHG emissions are expressed in units of carbon dioxide equivalents, or CO2e. Our analysis follows the *GHG Protocol* methodology published by World Resources Institute.[4]

[2] The Global GHG Accounting and Reporting Standard for the Financial Industry, First Edition, PCAF, November 18, 2020, https://carbonaccountingfinancials.com/.
[3] The Greenhouse Gas Protocol, World Resources Institute (WRI), 2004, ghg-protocol-revised.pdf (ghgprotocol.org).
[4] Ibid.

Figure 1. Diagram of Scopes 1, 2 and 3 Emissions



Source: (WRI and WBCSD, 2011)

Scope 1 refers to direct emissions from the company's buildings and vehicles. The company has direct control over these; examples include natural gas burned in company furnaces to provide heat and emissions from company vehicle fleets.
Scope 2 emissions are indirect emissions from energy used by Self-Help but generated outside of its buildings, i.e., the electricity we purchase from utilities.
Scope 3 emissions are those occurring indirectly as a result of Self-Help's operations; these emissions are not, however, controlled or owned by Self-Help. The key is that they occur because of the activities of the company. It's common to include disclosures regarding emissions related to employee commuting and business travel in Scope 3.

In GHG accounting lingo, the phrase "operational footprint" is used to describe the sum of Scopes 1–3 GHG emissions for an organization.

Scope 3—Investments Category. A special subset of Scope 3 indirect emissions for financial institutions refers to the GHG emissions associated with their investment portfolios. Portfolio emissions are reported separately and not included in the "operational footprint" because the organization does not have direct control over them.

We analyzed Self-Help's investments—our commercial loan portfolio—using the methodology developed by the Partnership for Carbon Accounting for Financials (PCAF)[5]. Self-Help was part of the Partnership for Carbon Accounting Financials (PCAF) North America Working Group that shaped the standards for financial institutions to disclose the GHG emissions of their investment portfolios. To date, 156 financial institutions representing $50 trillion in assets have committed to assessing and disclosing the GHG emissions of their loans and investments.

II. Analysis Boundaries

a. "Operational Footprints": Credit Union and Commercial Real Estate

The operational analyses address greenhouse gas (GHG) emissions associated with Self-Help's activities over which we have direct control. These comprise two categories:

- Credit Union branches (SHCU), central support teams composed of back-office type functions, business air travel, company vehicles shared by all teams and staff commuting;
- Commercial Real Estate (CRE) buildings owned and operated by Self-Help that are leased to commercial and nonprofit tenants. Included in this category are those buildings for which Self-Help (rather than the tenant) is responsible for paying the utility bills. Industry norms for reporting GHG in the CRE sector are still evolving, particularly with regard to how owners handle the GHG associated with tenant electric use.[6] In this analysis, we tallied electric emissions for those buildings for which Self-Help is responsible for the electric and gas meters and excluded emissions associated with gas and electric meters for which the tenants have control. Also excluded are multi-family buildings for which third-party managers handle common-area utilities and tenants pay their own utilities. Data availability partially drove this decision.

We analyzed operations of the credit union and central support teams separately from CRE because the energy-intensity of large commercial office and mixed-use buildings is quite different from that of small consumer credit union branches.

We will benchmark our footprint against national averages in CRE and financial services sectors once these data become available in the future. When we look for comparison points, we will take into account the building characteristics of Self-Help's Commercial Real Estate Portfolio,

[5] The Global GHG Accounting and Reporting Standard for the Financial Industry, First Edition, PCAF, November 18, 2020, https://carbonaccountingfinancials.com/.
[6] See, for instance, *Whose Carbon Is It?* Kyna Huysmans, GRESB, https://gresb.com/nl-en/whose-carbon-is-it/.

which contains a high percentage of historic preservation projects and vintage buildings that have been revived to meet community needs.

Our analysis examined Self-Help locations in North Carolina, South Carolina and Florida. We will include all our locations in future iterations and are in the process of putting data collection in place to make this possible.

GHG emissions from 2020 reflect low building occupancy, as many staff worked from home during the pandemic. We did not attempt to capture GHG associated with remote work by staff during stay-at-home orders. When we began the analysis process, we were optimistic that staff would be returning to the office and work-at-home would be a data blip in our GHG trends over time. Since then, the new variants of Covid have disrupted the transition back to the office, and work schedules are adjusting. In future analyses, we will need to account for a reality in which some staff work hybrid schedules from home and office.

b. Portfolio GHG Footprint Analysis Boundaries

The Portfolio GHG Footprint Analysis contains calculations based on data from Self-Help's commercial lending portfolio, consisting of 628 commercial loans, that include categories of business loans, affordable housing, commercial real estate and project finance. These loans represent a total investment of $597,780,301 at origination. The commercial loans we addressed represent only a subset (24%) of the value of Self-Help's total loan portfolio, but they provided us with important experience navigating the PCAF process. Future iterations of the analysis will include the home mortgage loans that comprise 70% of the outstanding balance of Self-Help's portfolio.

In addition to reporting on GHG emissions from borrowers, we also report on the positive impact of the clean energy that our portfolio of solar loans generates. The GHG emissions these solar projects avoided totaled 173,167 metric tons of CO2e in 2020.[7] The magnitude of that positive impact can be compared to avoiding the pollution produced by the electricity typically required to power 21,000 houses for a year.[8]

III. Results

[7] The avoided emissions calculation follows the PCAF methodology; we report on the amount of avoided emissions pro-rated to the amount of Self-Help's loan in the project cost. Thus we do not take credit for the entire quantity of clean energy generated by the solar farms.

[8] The "translation" of GHG pollution to power pollution was estimated using EPA's Greenhouse Gas Equivalencies Calculator: https://www.epa.gov/energy/greenhouse-gas-equivalencies-calculator.

a. Results from Activities for Which Self-Help Has Direct Control

Greenhouse Gas (GHG) Lingo

Scope 1: Direct emissions from natural gas burned in furnaces in a company's buildings and direct emissions from driving company vehicles.

Scope 2: Emissions that electric utility providers create when generating electricity used in an organization's buildings.

Scope 3: Emissions that result from company activities outside direct company control, such as commuting or business air travel.

To perform the calculations for the operational greenhouse gas (GHG) emissions analysis, we used the Simplified GHG Emissions Calculator (SGEC) tool from the US Environmental Protection Agency.[9] The tool provides an efficient way to input data and calculate associated GHG emissions.

i. SHCU and Central Support

Emissions associated with branches, central support functions, business air travel, company cars and staff commuting consisted of 1,126 metric tons of CO2e. Purchased electricity drives these totals.

ii. Commercial Real Estate

GHG emissions associated with CRE totaled 3,272 metric tons of CO2e. The majority of the emissions were driven by electricity purchases. The CRE Team operates buildings totaling over 1 million sq. ft. of leased space, most of which is occupied by tenant organizations, such as small businesses and nonprofits. Thus, it is no surprise that their emissions for this business line are larger than those associated with SHCU and Central Support. The branch and central support teams carry 89,000 and 134,000 sq. ft. of office space, respectively.

Table 1 summarizes the results for SHCU and CRE analysis.

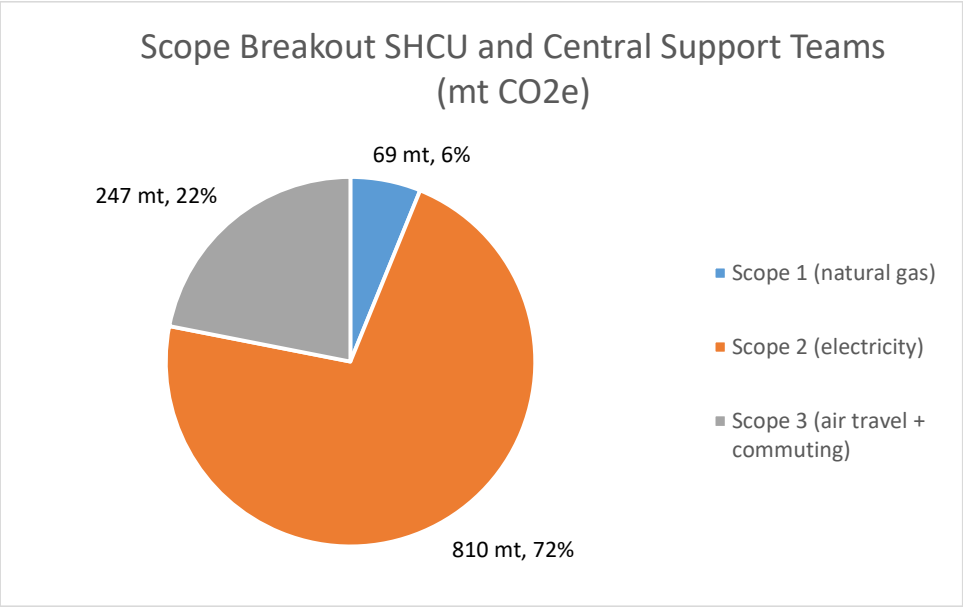
Table 1. Operational GHG Associated with Business Line

Line of Business	**2020 Operational Emissions: CO2e (mt)**
SHCU, central support, business air travel, company vehicles and staff commuting	1,126
Commercial Real Estate-Operated Buildings	3,272

[9] EPA Simplified GHG Emissions Calculator, EPA, August 2020, https://www.epa.gov/climateleadership/simplified-ghg-emissions-calculator.

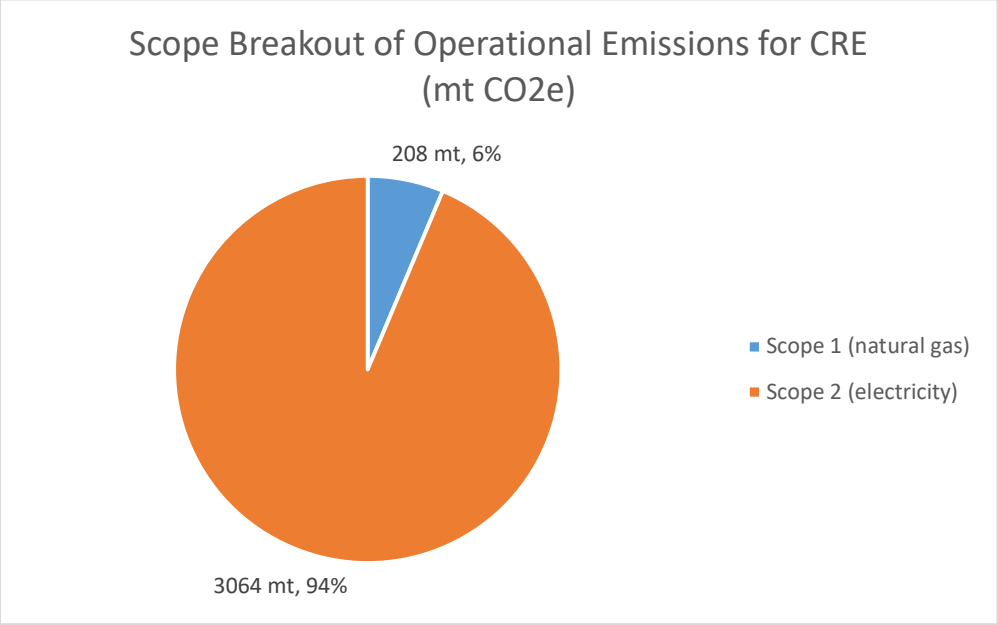
The pie chart in Figure 2 shows the breakdown of emissions by scope for SHCU, central operations, business travel and commuting.

Figure 2. SHCU Operational Emissions Scope Breakout



The pie chart in Figure 3 shows how GHG associated with CRE are divided between Scope 1 and Scope 2. We did not calculate indirect Scope 3 emissions for CRE buildings. Business air travel and commuting for staff members on the CRE team are included in the totals with other SHCU and central support staff.

Figure 3. Scope Breakout for CRE GHG



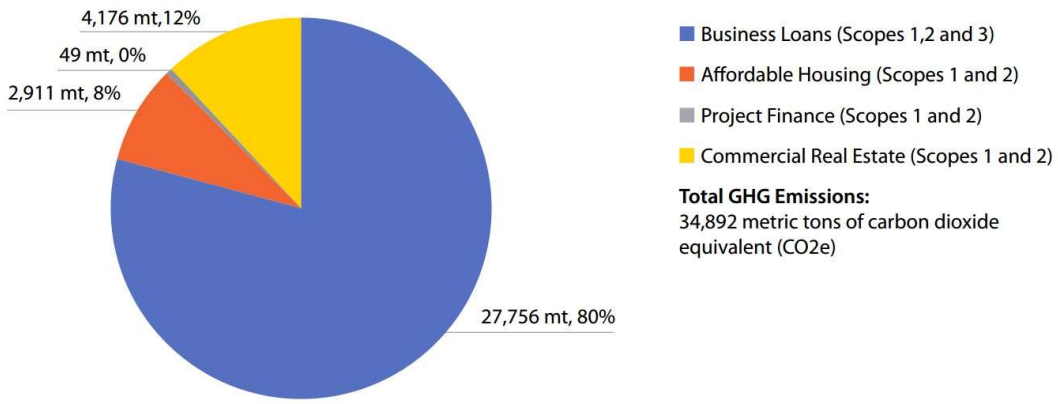
b. Portfolio Footprint Results

iii. GHG Associated with Commercial Loans

The GHG emissions attributable to Self-Help's commercial loan portfolio in 2020 were 34,892 metric tons of CO2e as shown in Figure 4.[10] In GHG accounting lingo, the GHG emissions associated with Self-Help's loan portfolio are categorized as Scope 3 indirect emissions from the perspective of the lender. They are under the direct control of our borrowers, not under the direct control of Self-Help. However, when the borrowers report their own GHG footprints, they will report those same emissions from their own perspective of direct or indirect control. The PCAF methodology and database reports on Scope 1, 2 and 3 emissions with respect to commercial business loans, as well as on Scopes 1 and 2 for all other categories.

This level of GHG emissions reflects the fossil-fuel realities of electric grid as well as the efficiency or inefficiency of a given borrower. The grid powers all sectors of the economy, including the businesses to which Self-Help lends, e.g., child care, restaurants, nonprofit facilities and grocery stores. The portfolio GHG footprint of lenders who fund fossil fuel projects are many orders of magnitude larger than those of lenders like Self-Help that do not finance fossil fuel exploration, extraction or infrastructure.

Figure 4. Estimated 2020 GHG Emissions, Commercial Loan Portfolio (in metric tons [mt])



[10] This graph represents Scope 3 emissions only for the category of business loans (not other categories). This is an artifact of the data available in the current version of the database for the PCAF methodology.

iv. Avoided Emissions Associated with Commercial Loans

In 2020, Self-Help's commercial loans to solar energy projects put 348,419 megawatt hours (MWh) of clean electricity on the grid, displacing electricity that would have been otherwise produced by electric utilities. This electricity would have relied on coal and natural gas for its production. The share of this clean energy attributable to Self-Help's loans is equivalent to displacing fossil fuel electricity that would have produced 173,167 metric tons of CO2e.[11] This idea of clean energy replacing fossil fuels is referred to as "avoided emissions."

Table 2. Comparison of Operational Emissions (CRE, SHCU, and Central Support) vs. Avoided Emissions from Financed Clean Energy

	Scope 1 Boilers/furnaces company cars	**Scope 2** Electricity	**Scope 3** Indirect: Commuting and business travel	**Avoided Emissions** Fossil fuel power displaced by solar investments
Emissions (Metric Tons CO2e)	**277**	**3,873**	**249**	**173,167**

It is tempting to imagine we would deduct avoided emissions from our operational emissions (Table 2). However, that would violate carbon accounting practices, including those of the Greenhouse Gas Protocol, which prohibits double counting.[12] The double counting would come about because renewable attributes of a clean energy installation are represented by renewable energy credits (RECs), which are registered with a formal REC registry as they are generated. These RECs are marketable instruments. The project owners have already contracted to sell these RECs to other buyers as part of their project capital stack. Nevertheless, we include avoided emissions in this summary because financing clean energy remains a substantial component of Self-Help's positive impact as we help build the transition to a clean energy economy.

c. Totals

The overall totals of these four analyses are summarized in Table 3, showing GHG emissions and avoided emissions across the organization and portfolio. The categories of SHCU Operations and CRE Buildings Held and Operated together constitute emissions within Self-Help's operational control. The categories of Loan Portfolio and Avoided Emissions constitute emissions for which Self-Help has only indirect influence as a lender.

[11] The avoided emissions calculation follows the PCAF methodology; we report on the amount of avoided emissions pro-rated to the amount of Self-Help's loan in the project cost. Thus we do not take credit for the entire quantity of clean energy generated by the solar farms.

[12] *The Greenhouse Gas Protocol,* World Business Council for Sustainable Development and World Resources Institute, March 2004, ghg-protocol-revised.pdf (ghgprotocol.org).

Table 3. Summary of GHG Under Self-Help's Direct and Indirect Control

		Scope 1 (Direct): Boilers/furnaces company cars *mt CO2e*	**Scope 2 (Direct): Electricity** *mt CO2e*	**Scope 3 (Indirect): Commuting, business travel, commercial loans** *mt CO2e*	**Total**
Self-Help Operational Control	**SHCU Operations**	69	810	247	1,126
	CRE Buildings Held and Operated by Self-Help	208	3064	*Not included in analysis*	3,272
Portfolio Borrowers' Operational Control (PCAF Analysis)	**Commercial Loan Portfolio**	N/A	N/A	34,892*	34,892*
	Avoided Emissions	N/A	N/A	173,167*	173,167*

*Portfolio emissions and avoided emissions are a special subset of the lender's indirect Scope 3 emissions.

IV. Discussion and Future Evolution

Eventually we will be able to benchmark portfolio emissions against those of other credit unions, real estate developers and lenders. Currently, however, data disclosures are not yet available for such comparisons. For example, the portfolio GHG calculations contained in this analysis rely on national averages, rather than site-specific emissions from borrowers' buildings or projects. It would be premature to attempt to benchmark loans against other lenders or even to set targets for our own portfolio. When borrowers report site-specific emissions, or once we have access to national averages that reflect whether a given building meets energy efficiency standards, we will be able to begin benchmarking greenhouse gas (GHG) per dollar invested in various sectors.

Meanwhile, we will continue pursuing opportunities to keep shrinking the footprint of our loans, operations and real estate investments. These GHG footprint reports provide us with robust baselines against which to measure progress. We also can keep increasing avoided emissions and collaborating with other nonprofit lenders and partners to drive change more broadly.

Self-Help investors, members and stakeholders have always held us accountable to create a positive environmental impact. Many invest with Self-Help because we do not invest in projects involving fossil fuel extraction or production and instead seek to invest in environmentally-positive opportunities. In the future, we know our supporters will desire to include GHG emissions in that accountability. Self-Help is committed to decreasing our own environmental footprint, while helping others do the same. We are also working hard to improve transparency—and hence accountability—for ourselves and other financial institutions.