



The Climate Imperative and Community Finance



Regulatory and Policy Tools to Drive a Just Response



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Ownership & Economic Opportunity for All

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Executive Summary

The need to fight climate change and expedite the transition to clean energy is urgent. It will require dedicated focus and resources over many years, but a number of existing federal programs can be updated in the short-term to make a significant impact. The federal government has a vital role to play in aligning financial incentives to fight climate change *and* reducing disparate impacts on low-wealth communities and communities of color that are more vulnerable to the economic and health impacts of environmental degradation.

In this paper, we offer recommendations for updating existing federal programs to achieve both of those goals. Our recommendations are based on 40 years of effective community development—building wealth and ownership among lower-income families and leading investments in neglected communities to create jobs and drive economic growth. Self-Help is one of the nation’s largest community development financial institutions (CDFIs). We are one of 1,100 certified CDFIs in the United States, part of a \$222 billion industry that provides fair and affordable financing, serving as a catalyst for investment where capital has been scarce.

Since 1980, Self-Help has provided more than \$9.3 billion in financing, with 70% of our lending in underserved areas and 82% to low-income borrowers. In recent years we have strengthened our focus on financing for environmental sustainability, especially to benefit lower-wealth communities. For more information about our operations and impact, see Appendix A.

Today, too many federal policies actually enable climate change, and financial incentives are often directly at odds with the investments needed to make a difference. A new administration provides new opportunities to enhance programs to shape strong incentives for positive environmental change and to accelerate investment in an inclusive clean-energy economy with widespread job creation. Our recommendations fall into three broad categories,¹ which we provide here with a quick reference to the specifics:

- I. Expand use of existing tax credit programs to expand clean energy, especially in lower-wealth communities.**
 - Add clean energy goals to the New Market Tax Credit (NMTC) program to incent scaled lending.
 - Restore the benefit of the Energy Investment Tax Credit (ITC) to its full 30% to maximize usage and spur jobs growth.
 - Make the ITC accessible to nonprofits and reduce the transaction costs to use it.
 - Clarify an IRS definition that now prevents nonprofits from adopting solar energy and extending its benefits in communities.

- II. Expand incentives in the banking and utility sectors for affordable loans that create more equal access to energy efficiency.**
 - Create a dedicated clean energy grant program as part of the CDFI Fund.
 - “Green” the Community Reinvestment Act (CRA) to scale up green lending in low- and moderate-income (LMI) communities.

¹ See Appendix B for a short list of the principles that guided our recommendations.

- Within the Department of Energy and green banks, replicate the success of the USDA’s Rural Energy for America Program (REAP) by creating an expanded service area.
- Create a national clean energy loan loss reserve.
- Shape products offered by government-sponsored enterprises (GSEs) to drive greater energy efficiency more equitably.
- Boost green lending among credit unions by increasing clean energy expertise at the National Credit Union Administration (NCUA).
- Create incentives for greater transparency on utility costs to drive energy information into consumer decision-making.

III. Strengthen targeted federal agriculture and rural development programs to fight climate change.

- Improve agriculture-related energy efficiency and reduce its environmental degradation.
- Increase the budget for REAP grants and make the grants more accessible.
- Incent rural electric cooperatives and non-rural utilities to expand and extend clean energy through tariffed on-bill financing.

Throughout this paper, we recommend building stronger incentives in existing competitive federal funding programs by incorporating sustainability goals into the application and decision-making process. Funders can award points in their competitive scoring rubrics for projects that advance clean energy access (including efficiency), resilience and decarbonization, with a particular focus on low-income communities. We recommend that scoring be adjusted in this way for New Market Tax Credits, Low-Income Housing Tax Credits (LIHTC), USDA Rural Energy for America Program grants, and the Community Reinvestment Act. Undoubtedly other federal programs beyond the scope of this paper could also adopt this logic.

Introduction

Climate change presents a systemic, existential risk to human life, not to mention investment portfolios around the world, with its impact already apparent in the markets where Self-Help operates. Losses arising from climate-change related events, such as the wildfires in California, tornadoes in the Midwest, hurricanes on the Eastern Seaboard, and extreme heat in cities,² will result in terrible loss of life, cost billions of dollars in investments and impact livelihoods across America. It is estimated that by the year 2100, about \$43 trillion in managed assets will be at risk due to climate change.³ Effects such as the disruption of power and transportation as well as reduced worker productivity due to higher morbidity rates will create significant or catastrophic impacts on business.

The global economy must transition away from fossil fuels if we are to contain global warming to the recommended 1.5-degree Celsius level or less, relative to pre-industrial levels.^{4,5} At higher levels, conditions become catastrophic for societies around the world, especially the most vulnerable countries, island nations and coastal cities, and inevitably the most vulnerable and poorest communities in the U.S.

To avert the worst impacts of climate change, we must orient to a 100% clean energy economy. That goal is audacious, but feasible.⁶ The massive infrastructure needed to support 100% clean energy can be designed to build broad-based employment and shared prosperity. The investment required to reach the clean energy transition exceeds USD \$1.6 trillion annually for the next 30 years for power production system transformation alone.⁷ Policies must be adopted that incent and regulate those investments so that benefits flow to underserved communities in an equitable way. Market-based approaches such as carbon pricing can play a supporting role, but must be married with policy and regulation that ensure pollution is not further concentrated in vulnerable communities.⁸

Policy interventions are available immediately that can get all levels of the financial system pushing in the right direction. This paper recommends a number of measures federal agencies can take in the short term that will align existing regulations and programs to incent clean energy and climate-aligned projects. The recommendations in this paper will facilitate investments not just by Self-Help, but also by the other 1,100 Community Development Financial Institutions (CDFIs) nationally, an industry that manages \$222 billion in capital,⁹ and by conventional lenders as well. We explore regulatory levers which we believe could be applied and adopted by Executive Branch agencies without the need for Congressional action.

Potential Projects and Existing Barriers

While investments are needed across the economic spectrum to achieve the 1.5-degree Celsius target, we purposefully narrow our focus in this paper mostly to interventions that would directly benefit low-wealth communities, consistent with the mission of CDFIs. The interventions that we propose will help address

² CDC, “Climate Change and Extreme Heat Events.”

³ Economist Intelligence Unit, “The Cost of Inaction: Recognizing the Value at Risk from Climate Change.”

⁴ Rogelj et al., “Energy System Transformations for Limiting End-of-Century Warming to below 1.5 °C.”

⁵ IPCC, “An IPCC Special Report on the Impacts of Global Warming of 1.5 C above Pre-Industrial Levels and Related Global Greenhouse Gas Emission Pathways, in the Context of Strengthening the Global Response to the Threat of Climate Change, Sustainable Development, and Efforts to Eradicate Poverty.”

⁶ Podesta et al., “A 100 Percent Clean Future.”

⁷ Buchner et al., “Global Landscape of Climate Finance 2019.”

⁸ The proposed revenue-neutral 2019 Energy Innovation and Carbon Dividend Act can reduce carbon emissions as much as 33% in 10 years, potentially offering a stepping stone to deeper reductions. Nystrom and Luckow, “The Economic, Climate, Fiscal, Power, and Demographic Impact of a National Fee-and-Dividend Carbon Tax.”

⁹ OFN, “Opportunity Finance Network.”

existing barriers that hinder project developers in their ability to create a financially viable project that can be underwritten by lenders and investors. By clearing such barriers, we expect that more projects will be catalyzed and lending practices will innovate to meet these mission-critical projects. We know that when regulatory barriers are addressed and incentives aligned, innovation flows into the market, both technological innovation and financing innovation.

Examples of such projects include solar, storage and microgrid initiatives located in low-wealth communities, especially those developed by small or underrepresented developers. Such projects are difficult for financiers to underwrite due to a constellation of factors, including weak balance sheets, weak corporate guarantees and lack of tax credit equity in the capital stack. Without tax credit equity, many developers simply cannot compete.

Community solar projects offer a promising way to allow low-wealth people to access solar electricity on a subscription basis, taking advantage of the price stability of this resource. However, community solar projects that allow low-income people to subscribe are much more difficult to underwrite compared to projects relying on revenue from market-rate subscribers who can pay a premium for green energy.

Another example is businesses that collect food waste in urban areas and convert it to electricity and biogas using the technology of anaerobic digestion. Urban areas are ideal sites because of the density of food waste sources. Initiatives in this area can serve restaurants, institutions and industrial sites. Resulting methane reductions have outsized reductions of greenhouse gases. Such projects offer great opportunities for collaboration with other community development organizations in jobs training. An example is the Green Era Project Urban Growers Collective – Chicago Prize project.¹⁰

A second specific example is the Community Foods Market in West Oakland—a full-service grocery store, health resource center and community hub that engages residents to lead healthier and more socially-connected lives. Self-Help’s \$1,985,000 loan to this market was made possible in part because capital was available through the CDFI Fund’s Healthy Foods Finance Initiative.

The Imperative to Focus on Low-Wealth Communities

We focus on financing projects that serve low-wealth communities for the following reasons:

Moral imperative: Low-wealth communities bear a disproportionate burden from the externalities of climate change, are the most vulnerable and have the least amount of adaptive capacity to deal with its impacts.^{11,12,13}

Economic imperative: Disinvested communities cannot reach their full potential, including economic output. Leaving talent behind also leaves behind their potential for productivity and innovation.¹⁴

Community resilience: Our ability as a society to bounce back from adverse events¹⁵ is greatly affected by the quality of our assets and infrastructure. For instance, dilapidated, energy-inefficient housing stock is problematic for the energy grid because it results in higher electric demand at peak times of day, which drives costs for all ratepayers. From that perspective, efficiency investments made in dilapidated housing are not simply a charitable action, but instead an investment in grid stability.

¹⁰ “Urban Growers Collective.”

¹¹ Moser et al., *Towards Pro-Poor Adaptation to Climate Change in the Urban Centres of Low- and Middle- Income Countries*.

¹² Farber, “The Challenge of Climate Change Adaptation.”

¹³ Leichenko and Silva, “Climate Change and Poverty.”

¹⁴ Bostic, “A Moral and Economic Imperative to End Racism.”

¹⁵ Leichenko and Silva, “Climate Change and Poverty.”

Our inaction or ambivalence towards effective climate-change mitigation regulation has greatly truncated our time to act, with climate change impacts that were expected over a longer time horizon already apparent today. These negative impacts will continue to increase in frequency and scale as global greenhouse gas concentrations rise.¹⁶ While our recommendations focus on Self-Help’s areas of expertise and aligned mission, we are confident that they broadly speak to the aspired vision of CDFIs that play a significant role in strengthening local communities in the era of climate change. We explore regulatory levers which we believe could be applied and adopted by Executive Branch agencies without the need for Congressional action.

¹⁶ Clapp et al., “Shades of Climate Risk. Categorizing Climate Risk for Investors.”

Regulatory Policy Recommendations

I. Expand use of existing tax credit programs to make clean energy more available, especially in lower-wealth communities.

A. Add clean energy goals to the New Market Tax Credit Program to incent scaled lending

Since its inception in 2000, the CDFI Fund's New Market Tax Credit (NMTC) program has catalyzed over \$105 billion in investment to over 6,300 businesses and projects in areas of deep economic distress, and it also created over one million jobs.¹⁷ We recommend using this successful program model to advance the benefits of clean energy, increasing the funds dedicated to NMTC allocations and dedicating a portion of the tax allocation to clean energy projects.

In addition to or as an alternative to dedicating specific funds to clean energy projects, NMTC applications could be scored to incent applicants who commit to fund clean energy and climate resilience projects. A relevant example is how the NMTC program currently incentes projects that benefit rural areas. Applicants are more likely to receive a larger award if their winning application includes at least 20% rural projects. Because NMTC is such a competitive program, applicants have often focused their attention on rural projects. As a result, NMTC subsidy is now finding its way into rural areas that previously were underserved by this program.

A second alternative mechanism would be to include clean energy investing as an "Innovative Investment" in the NMTC rubric. A variety of innovative investments are currently listed, including underserved states; non-real estate activities (equipment, working capital and inventory); and investing in Federal Indian Reservations. Clean energy should be defined to include renewable energy, energy efficiency, energy storage and microgrids. The definition should be developed in consultation with CDFI organizations who can help ensure that the definition is workable. A group like the CDFI Climate Crisis Working Group could provide valuable support in such an effort.

In the clean energy arena, manufacturing of clean energy equipment and labor-intensive energy efficiency projects are the most likely to meet the NMTC jobs requirements. However, the NMTC jobs requirements are often difficult to meet with clean energy generation projects, such as solar farms. These projects typically create a high number of construction jobs followed by a relatively low number of ongoing maintenance jobs over the course of project life. While clean energy projects on an ongoing basis have comparatively low numbers of FTEs compared to other types of businesses, they make a very strong contribution to local tax bases, which is particularly important in rural counties that have endured shrinking bases.¹⁸ Therefore, NMTC jobs requirements need alignment with the market reality of clean energy construction.

B. Restore the benefit of the Energy Investment Tax Credit to its full 30% to maximize usage and spur jobs growth.

Over the last decade, the federal Energy Investment Tax Credit (ITC) has helped drive average annual growth of over 50% of the United States solar industry and is now boosting the growth of energy storage coupled with solar. This 30% tax credit was extended in 2015 but lowered to 26% in 2020. The end-of-year Covid Aid package provided a two-year extension of the tax credit at 26%. The tax credit is scheduled to decline to 22% in 2023 and 10% in 2024. Congress should restore the investment tax credit to its original 30% level to align

¹⁷ New Markets Tax Credit Coalition, "The New Markets Tax Credit at Work in Communities Across America."

¹⁸ Brookshire et al., "Increased North Carolina County Tax Revenue from Solar Development - 2020 Update."

federal subsidy with a clean energy transition. The tax credit remains a crucial component of the capital stack for many mission-oriented clean energy projects.

C. Make the Energy Investment Tax Credit more accessible and reduce the transaction costs to use it.

To better reach underserved markets, we recommend making the ITC refundable and also making nonprofits eligible. The benefits of such a policy can be analogized by looking at the American Recovery and Reinvestment Act (ARRA)¹⁹ stimulus-era “grant in lieu of the tax credit” program, which allowed owners of renewable energy projects to monetize the tax credits through a federal grant rather than being forced to find an investor to purchase the future value of tax credits. During the 2008 recession, grants in lieu of tax credits catalyzed \$38.6 billion in total investments in clean energy.²⁰ Importantly, they dramatically reduced the transaction costs of monetizing the tax credits, therefore allowing small projects to proceed. However, the grant-in-lieu program did not address the barriers faced by nonprofits, and this component is critical to reach underserved markets.

D. Clarify an IRS definition that now prevents nonprofits from adopting solar energy and extending its benefits in communities.

Nonprofits are prohibited from using the federal solar ITC because they are not taxpayers, therefore they are unable to affordably build solar arrays to supply their own needs. As a workaround, they have sought to procure solar energy from independent solar developers. In situations where state law does not allow solar developers to sell power directly to users, developers have sought to lease a solar array to nonprofits. In that arrangement, the developer builds and owns the array, monetizing the tax credits. However, the IRS has deemed that the nonprofit’s lease interest is an ownership type interest, therefore making the entire ownership structure ineligible to use the ITC. The IRS should issue a clarifying regulation, ruling or guidance that specifically allows nonprofit lease interests. That would uncork projects nationally where developers and customers would like to do business, and CDFIs like Self-Help would be able to provide the financing if IRS rules made them allowable.

II. Expand incentives in the banking and utility sectors for affordable loans that create more equal access to energy efficiency.

A. Create a dedicated Clean Energy grant program as part of the CDFI Fund.

CDFIs use targeted government subsidies to fill lending gaps. Increasing CDFI funding to specifically target clean energy would drive innovative projects that promote sustainability. CDFI Fund grants generally have been considered together under the Fund’s Financial Assistance (FA) awards program. While the FA “umbrella” has spurred innovation and flexibility, the maturation of the CDFI field and the increase in CDFI Fund resources argues for creating a grant program dedicated to clean energy. The CDFI Fund already has dedicated grant program award “buckets” outside the traditional FA awards, such as the Healthy Foods Financing Initiative and Disability Funds Financial Assistance. Creating dedicated funding for clean energy lending would ensure that more CDFIs focus on financing clean energy, driving innovation and impact. For example, dedicated clean energy awards could be structured to help CDFI credit unions fund small solar and energy efficiency loans. Those, in turn, could become models for much broader lending uptake.

¹⁹ Rep. Obey, David R., American Recovery and Reinvestment Act of 2009.

²⁰ Mendelsohn and Harper, “1603 Treasury Grant Expiration. Industry Insight on Financing and Market Implications.”

Similarly, the CDFI Fund could create a dedicated funding stream for regenerative agriculture loans that could significantly increase CDFI lending activity in this area, and rural electric coops could be directly incented to help CDFIs fund clean energy practices on farms. Some of the funds recently allocated to CDFIs by the COVID-19 emergency stimulus funding package might be usefully earmarked for this use.

B. “Green” the CRA to scale up green lending in low- and moderate- income (LMI) communities.

The Community Reinvestment Act of 1977 (CRA), one in a series of landmark civil rights laws²¹ enacted in the ’70s, is a critical tool to help overcome the legacy of redlining.²² While we believe that the CRA has been largely beneficial to LMI communities, it has not significantly focused on addressing environmental justice. The reality is that LMI communities are disproportionately affected by environmental degradation and climate change impacts. Incorporating sustainability metrics for LMI communities into the CRA would drive new investments and loans to help mitigate disproportionate negative impacts and increase LMI community access to the benefits of clean energy.

Federal banking agencies with regulatory authority over the CRA have been working to modernize CRA regulations.²³ The OCC’s CRA proposal has been widely criticized for including evaluation measures defined so broadly that a bank’s standard business activities would allow a bank to meet CRA requirements. The OCC’s plan was so controversial that neither the FDIC nor the Federal Reserve signed on, and in September 2020, the Federal Reserve issued its own CRA proposal.²⁴ This ongoing CRA conversation should also emphasize how to help “green the CRA” – by integrating sustainability benchmarks into its qualifications as part of the mission to better serve LMI communities.²⁵ Attaching CRA credit to climate-positive projects that help to build community resilience and support LMI communities is a logical pathway toward increasing green investment in communities with the greatest needs.

1. Create a green finance mandate for CRA.

There is growing evidence of the outsized impact of natural disasters and complex emergencies in LMI census tracts.²⁶ For instance, studies have shown that historically marginalized communities typically lack the adaptive capacity to deal with rising global temperatures due to a lack of natural spaces and neighborhood tree canopies that would help to mitigate the heat island effect. Systematically cultivated through the legacy of redlining, the social stratification of our neighborhoods has left the most vulnerable members of our community at the mercy of rapidly changing environmental conditions, with little recourse to ensure resilience.²⁷

Accordingly, we recommend that regulators incorporate metrics to evaluate whether investments also support risk mitigation, build resiliency or help a community adapt to climate change.²⁸ In order to incentivize

²¹ 15 U.S.C. § 1691 et seq Equal Credit Opportunity Act; 42 U.S.C Ch. 45: Fair Housing Act; 12 U.S.C Ch. 29: Home Mortgage Disclosure Act.

²² Mitchell and Franco, “HOLC ‘Redlining’ Maps: The Persistent Structure of Segregation and Economic Inequality.”

²³ The Office of the Comptroller of the Currency (OCC), Federal Deposit Insurance Corporation (FDIC), and Board of Governors of the Federal Reserve System (Federal Reserve) share CRA regulatory authority. The OCC regulates national banks and federal savings associations, the Federal Reserve regulates state-chartered banks that are members of the Federal Reserve System, and the FDIC regulates insured state banks that are not members of the Federal Reserve System.

²⁴ Advance Notice of Proposed Rulemaking, 85 Fed. Reg. 66410 (Oct. 19, 2020).

²⁵ Zonta and Willingham, “A CRA To Meet the Challenge of Climate Change.”

²⁶ Keenan, Jesse M. and Mattiuzzi, Elizabeth, “Climate Adaptation Investment and the Community Reinvestment Act.”

²⁷ Wilson, “Urban Heat Management and the Legacy of Redlining.”

²⁸ Zonta and Willingham, “A CRA To Meet the Challenge of Climate Change.”

financial institutions, regulators should award extra points (based on a defined rubric) to projects that meet green criteria. A mandate for the financial sector to commit the resources needed to achieve the necessary climate transition could add scope and urgency to this imperative.

Giving credit for sustainability-focused investments will encourage a range of projects that address risk mitigation, resilience and adaptation to climate change consequences. Such projects could include public transit, clean energy job training programs, community solar projects, energy efficiency home improvements, sustainable food systems, green municipal bonds and others. It will encourage and fuel partnerships with CDFIs and drive the creation of innovative financial products. For instance, Bank of America granted \$55 million to 12 CDFIs to develop unique energy efficiency finance products.²⁹ The CDFIs made over 700 loans and provided valuable research to better understand opportunities and challenges for lending in LMI communities.³⁰

2. Update the CRA's geographic targets to include assessment of income, race and environmental criteria.

To effectively address environmental justice and disparate impacts of climate change, we echo recommendations from experts who call for examiners to review not just traditional CRA criteria, but also take into account mapping and data modeling tools that provide transparency into the environmental risk that a given location bears.³¹

C. Within the Department of Energy and green banks, replicate the success of the USDA's Rural Energy for America Program (REAP) by creating an expanded service area.

The USDA REAP loan guarantee program is credited for driving transformative investment to rural areas for clean energy projects. Since 2016, it has issued \$1.2 billion in loan guarantees, catalyzing \$3.7 billion in project investment, and adding 7.3 million megawatt hours of clean energy to the American electric grid annually.³² We recommend broadening the reach of this program by making a parallel loan guarantee available in all underserved areas, not just rural areas. Any new program should adopt the existing lessons learned from the REAP program in order to maximize efficiency and lender uptake.

Deployment of this recommendation could take place at the Department of Energy, given its existing experience with loan guarantees. Loan guarantees also could be deployed through state and regional green banks—entities designed to drive greater capital into clean energy projects by addressing and alleviating financing barriers in their markets. To date, \$1.5 billion dollars—largely public and philanthropic—invested by these mission-driven entities have leveraged over \$3.8 billion in private co-investment.³³ If enacted, legislation expected in Congress to create a national independent nonprofit finance entity would greatly amplify these efforts.³⁴

²⁹ Bank of America, “Bank of America Announces Recipients of \$55 Million Energy Efficiency Finance Program.”

³⁰ Barrett and Stickle, “Lending for Energy Efficiency Upgrades in Low- to Moderate-Income Communities: Bank of America's Energy Efficiency Finance Program.”

³¹ Zonta and Willingham, “A CRA To Meet the Challenge of Climate Change.”

³² USDA Rural Development, Office of Business & Cooperative Programs, In discussion with the author, Melissa Malkin-Weber.

³³ American Green Bank Consortium, “2020 Annual Industry Report : Green Banks in the United States.”

³⁴ Previously introduced in 2019 by National Climate Bank Act by Senators Van Hollen and Markey and Rep. Debbie Dingell.

To achieve the greatest wealth-building benefit from the program, the guarantee levels should be staggered to provide the largest incentive to community projects that currently face market barriers. From our perspective as mission lenders, a staggered guarantee would allow us to lend to projects located in and directed towards underserved communities and organizations, such as:

- Projects developed by nascent or small developers. These developers have the least access to low-cost capital and institutional tax credit investors. Some programs, such as Illinois Solar for All,³⁵ incent projects owned by community groups, but these community groups often lack the balance sheet to be able to source financing.
- Small-sized projects (below 2.5 megawatts) that serve nonprofits, community-scale distributed generation and even micro grids.
- Projects that meet goals of sourcing from Minority and Women-Owned Business Enterprise (MWBE) contractors.

D. Variation: Create a National Clean Energy Loan Loss Reserve.

An alternate path to expanding credit enhancement for clean energy projects would be to create a national-level loan loss reserve for lenders. The logic is similar to other federal loan guarantees: provide a credit backstop to incent lenders to expand their risk appetite. A loss reserve facility could be structured on a pool basis, thus providing additional flexibility to the agency offering it.

E. Shape products offered by government-sponsored entities (GSEs) in home mortgage markets to more equitably increase energy efficiency.

Fannie Mae sees significant growth potential in its Green Financing impact via its HomeStyle Energy Mortgage product, which is still in its early years, especially in expanding access to LMI homeowners. Fannie's HomeStyle Energy Loan can be used for energy efficiency upgrades and to refinance existing clean energy debt, including Property Assessed Clean Energy (PACE) loans. HomeStyle Energy Loans also can be used for disaster resiliency improvements—such as wind-resistant roofs and windows—which can be critically important for LMI homeowners. Fannie's HomeStyle Renovation Loan is for purchase mortgages, allowing new homeowners to incorporate the cost of energy efficiency upgrades as part of these mortgages.³⁶ To date, these products are proving their value serving mainly middle- and higher-income borrowers. A natural next step is for Fannie and its lending partners to prioritize expanding the uptake of these products by low-wealth homeowners.

One obstacle is confusion among borrowers and lenders created by the array of energy efficiency options. The lack of clear “best choices” challenges homeowners trying to settle on an energy-saving solution for their situation and challenges lenders who prefer a simple, easily explainable product. Local and state variables also can add more decision points and sometimes bureaucratic red tape. The unfortunate result of borrower/lender confusion adds friction and reduces utilization of mortgage products because the product's benefits get lost in the confusion. The good news is that providing greater clarity on product impact for borrowers could increase clean energy product uptake, particularly for LMI borrowers. One area of opportunity is for GSEs to work with community groups, CDFIs and other lenders to build expertise around these loan products and complementary local and state opportunities, and then use that knowledge to help LMI borrowers maximize their energy efficiency opportunities.

³⁵ Elevate Energy, “Illinois Solar for All.”

³⁶ In addition to the HomeStyle Energy Loans, Fannie also offers Green Bonds for both single-family and multi-family projects to support new energy-efficient construction. In total, Fannie's clean energy lending volume is \$12 billion (which also includes multi-family products that launched much earlier).

We are enthusiastic about the opportunities for Fannie Mae’s products to help drive energy efficiency and renewable energy to lower-wealth homeowners. One place where this is already being done is in Portland, Oregon, where the City of Portland is making use of the HomeStyle Energy Mortgage, paired with a Home Energy Scorecard, to incent energy efficiency.³⁷ For existing homeowners, the “low-hanging fruit” is the ability to pay for energy efficiency upgrades with a standard 30-year refinance mortgage, significantly reducing the monthly cost.

We recommend expanding the use of Home Energy Scorecard, a Department of Energy methodology, to provide buyers greater transparency on their energy costs.³⁸ Currently the Home Energy Scorecard is used in the HomeStyle Energy Loan program in allowing lenders to “stretch” on debt-to-income ratios and finance efficiency measures. Expanding the use of this tool to be part of more mortgage closing packages would increase home energy cost transparency and help underscore the real dollar benefit and cost—and increased risk—of making or not making money-saving improvements. If GSEs required that home appraisals include energy bill reviews as part of their analysis, it would help place a clear value on adding energy efficiency upgrades at purchase and during refinances. It also would drive transparency and greater market awareness, which could spur significant investment by developers and homeowners.

Freddie Mac offers GreenCHOICE Mortgages that allow borrowers to finance energy-efficient improvements with any mortgage product, property type and financing terms (up to 30 years) to provide greater affordability for borrowers.

The Federal Home Loan Bank (FHLB) system provides another opportunity to grow GSE green mortgage lending, especially as the number of CDFI FHLB members continues to increase. For instance, FHLBs could provide favorable advance rates for mortgages with appraisal values reflecting energy efficiency improvements. This would reduce a borrower’s monthly bills and leave more funds available to pay the mortgage.

F. Boost green lending among credit unions by increasing clean energy expertise at the National Credit Union Administration (NCUA).

Credit unions by definition are member-owned, nonprofit financial institutions and can be important sources of capital to drive the massive investment needed for the clean energy transition. Credit unions have a track record of offering affordable consumer loan products for home solar, energy efficiency and electric vehicles. This financing benefits consumers and also the small business ecosystem of solar installers, insulation firms, HVAC contractors and home performance contractors.

In order to better align credit unions as an engine of the clean energy transition, we recommend that the National Credit Union Association undertake the following:

1. Designate a senior-level point person within the NCUA to focus its capacity to evaluate and serve the evolving consumer clean energy sector.

Uncertainty about loan risk and how NCUA rates such risk is a barrier to credit unions that might consider offering clean energy finance products. A priority action for an NCUA point person would be collecting performance data for consumer clean energy loans (both secured and unsecured) to form a more robust understanding of the true credit quality of this asset class. Currently, the ability of regulators and credit unions themselves to understand the risk profile of clean energy loans is hindered by the fact that clean energy loans

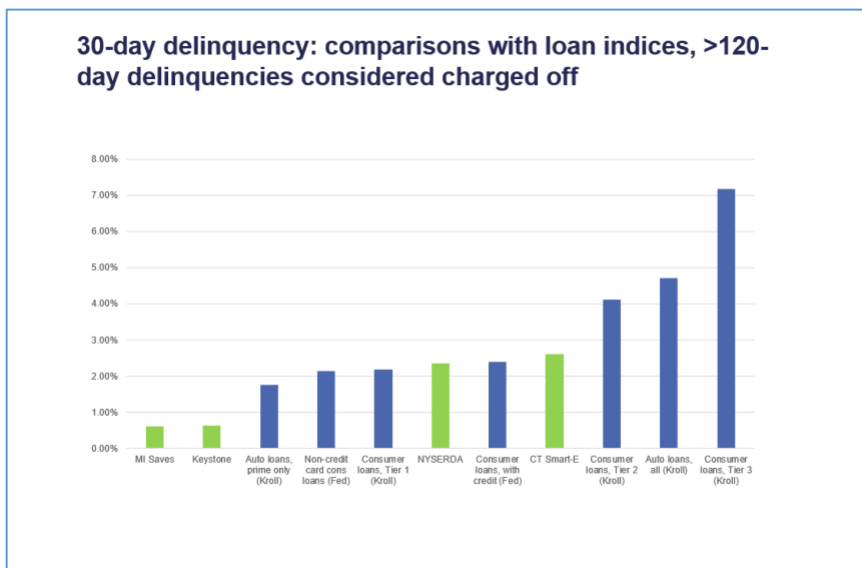
³⁷ City of Portland and Bureau of Planning and Sustainability, “City of Portland Home Energy Score.”

³⁸ Roy et al., “Learning the Score: Lessons from Developing and Deploying the Nation’s First Mandatory Home Energy Score Policies.”

are often lumped together with all other unsecured loans. Clearly distinguishing clean energy loans would allow for a much stronger risk assessment.

A 2018 report from the National Renewable Energy Laboratory gives a useful starting point, showing performance of solar loan portfolios from 22 community and regional financial institutions.³⁹ An additional data set will be available in the upcoming Lawrence Berkley National Labs research report (expected in 2021) examining performance of consumer energy efficiency loans, including those extended by credit unions under the Inclusive Prosperity Capital Smart-E program. (See Figure 1, which displays a graph from an upcoming publication analyzing consumer clean energy finance products.) A robust data set could support regulated credit unions in entering the clean energy market with loan product terms and conditions supported by solid data. NCUA might fold this data collection effort into other activities under the *Foundations for Evidence Based Policy Act* of 2018, under which federal agencies are required to develop evidence-building plans to identify and address questions relevant to agency policies, programs, regulations, management and operations.

Figure 1: Consumer Portfolio Performance⁴⁰



2. Issue guidance to clarify eligibility of clean energy projects under existing rules.

Credit unions could provide significant financing support to home solar and energy efficiency if related products were clearly within the purview of home improvement loans. NCUA regulations are silent on the question of whether the definition of “home improvements” extends to home solar and home energy. We would welcome NCUA guidance in the form of a Letter to Credit Unions in which it clarifies permissible energy-related projects in home improvement loans under 12 CFR section 701.21. Filling that gap would provide a meaningful “green light” to credit unions to proceed with home solar in the same way they proceed with other home improvements, consistent with their credit policies and risk management.

³⁹ Schwabe and Feldman, “Solar Lending Practices by Community and Regional Financial Institutions.”

⁴⁰ O’Neill, “In Electricity Markets & Policy (Unpublished Manuscript).”

3. Increase clean energy capacity among examiners.

NCUA should educate its examiners on consumer renewable energy as an asset class. Credit union examination teams should be able to refer to NCUA guidance or other documentation when they examine a credit union that offers consumer clean energy loans. This sends an important affirmative signal to credit unions that are considering how or whether to offer clean energy products to their members.

G. Incent transparency in utility data to drive energy information into decision-making.

A great number of commercial energy efficiency projects—including those that Self-Help has undertaken for our own buildings—rely on transparency of energy data to evaluate the business case. The data is used by building owners and contractors to analyze efficiency needs and is used by financiers in underwriting financing. Utility data is easily accessible when an organization or household is served by a utility that provides the data in a standardized format, such as that provided by the Green Button Initiative, a public-private partnership under the auspices of the National Institute of Standards and Technology (NIST). To date, over 50 utilities have signed on to make it simple for their customers to access their own data.⁴¹

However, where utility data is inaccessible, energy efficiency projects often fail to gain traction. In that case, it is difficult to estimate likely savings and evaluate the business case for energy projects. Where Green Button data is available to organizations, they are more easily able to subscribe to utility dashboard services that make building owners able to regularly track trends, overall costs, and validate savings from past efficiency investments. Federal agencies can thus have a meaningful, if indirect, impact on energy efficiency deployment. We therefore recommend that federal agencies providing funds to electric utilities, such as the USDA, provide extra points to utilities that opt into the Green Button Initiative.

For residential transactions, utility transparency can provide data that is deeply relevant to both buyers and their lenders. We recommended above that the GSEs move to more widely integrate a measure such as the DOE's Home Energy Score⁴² into their process.

III. Strengthen targeted federal agriculture and rural development programs to fight climate change.

A. Prioritize agriculture-related energy efficiency and reduce environmental degradation.

Reversing harmful agriculture practices is an opportunity to increase clean energy, drive rural economic growth and develop a healthier food system. The havoc being wreaked by Concentrated Animal Feeding Operations (CAFOs) and “Big Ag” commodity farms drives environmental catastrophes, farm worker abuse and unhealthy diets. USDA should immediately begin realigning its myriad taxpayer funding streams away from harmful industrial ag operations and incent environmentally friendly farm practices. For instance, increasing funds for the uptake of Regenerative Ag practices has great promise to help farms trap emissions and even become “carbon positive.” Solar farms can help with soil regeneration and carbon sequestration.^{43,44} Increasing capital availability for smaller farms and a more localized food system reduces transportation costs and related emissions while increasing healthy food access and strengthening local economies.⁴⁵

⁴¹ US Department of Energy, “Open Energy Data: Green Button.”

⁴² Department of Energy, “Home Energy Score.”

⁴³ “How Solar Farms Can Be Regenerative for Soil and Sequester More Carbon | Solar Builder.”

⁴⁴ Greene, “Farms That Harvest the Sun - Twice.”

⁴⁵ LeZaks, Paykin, and Silverstein, “Regenerative Agriculture and COVID-19 Capital Needs.”

USDA is doing some good work in this area through the Natural Resources Conservation Service (NRCS) and related programs. For example, CDFI California FarmLink provides bridge loans to farmers through NRCS's Environmental Quality Incentives Program (EQIP) and is piloting an incentive loan program for farmers working with the Resource Conservation District of Santa Cruz to develop conservation solutions.⁴⁶ FarmLink also has provided similar conservation bridge loans for farmers awarded contracts for conservation practices through the state of California's "Healthy Soils" program. These USDA conservation programs merit dramatically increased funding.⁴⁷

The Farm Credit Administration (FCA), which regulates the Farm Credit System (“Ag’s GSE”), should be pushing Farm Credit Associations to increase lending to support regenerative ag initiatives and other “green ag” practices. Further, Farm Credit Associations are increasingly active in the rural home mortgage market and should be making more energy efficiency-related loans. Farm Credit is little known but has cumulative annual income of \$5 billion. As a taxpayer-backed GSE, Farm Credit should be helping lead financing for energy efficiency and environmental projects, especially for small and traditionally underserved farmers.

In January 2021, the Center for American Progress released a report on climate-resilient agriculture and rural credit, advocating that FCA incorporate climate stress testing and scenario analyses into its oversight of farm credit lenders.⁴⁸ Climate analyses by FCA would help facilitate future disclosures of the emissions financed by the Farm Credit System pursuant to the Partnership for Carbon Accounting Financials standards, once their agricultural standards are prepared.⁴⁹ Related, Elizabeth Warren’s platform to increase equity for farmers of color, as part of her presidential campaign,⁵⁰ included a proposal to create a grant program. The proposal calls for creating grants amounting to 10% of Farm Credit’s roughly \$5 billion in annual profits. Based loosely on the Federal Home Loan Bank system’s successful Affordable Housing Program grants, such a Farm Credit System grant program would provide approximately \$500 million in annual grants to support a more equitable and sustainable agriculture system, which could include grant support for climate-related initiatives.

COVID 19 has made the obvious even clearer: Our agriculture and food systems need fundamental restructuring. Clean energy is a key part of the long overdue shift. USDA lending and subsidy programs should be steered to incenting equitable climate initiatives, positive and healthy food production, and away from the traditional subsidizing of Big Ag that contributes to adverse environmental outcomes.

B. Increase the budget for REAP grants and make the grants more accessible.

USDA’s REAP provides grants as well as loan guarantees. To maximize effectiveness, REAP grants could (and should) be made much more accessible by changing the application schedule to a quarterly or rolling cycle, instead of the current annual process, followed by an optional application window at the end of the federal fiscal year. More regular timing—and expanded funding—for the grants would enable developers to include that grant as a funding source in their capital stack. This should be paired with a change to level the playing field for those projects with the biggest community impact. We recommend that the loan application process provide extra points for projects that directly serve low-wealth people, communities or nonprofit organizations.

⁴⁶ California FarmLink, “Conservation Loans.”

⁴⁷ Gewin, “Why Aren’t USDA Conservation Programs Paying Farmers More to Improve Their Soil?”

⁴⁸ Willingham, “Promoting Climate-Resilient Agricultural and Rural Credit.”

⁴⁹ PCAF, *The Global GHG Accounting and Reporting Standard for the Financial Industry*.

⁵⁰ Elizabeth Warren 2020 Presidential Campaign, “Addressing Discrimination and Ensuring Equity for Farmers of Color.”

C. Incent rural electric cooperatives and non-rural utilities to expand and extend clean energy through tariffed on-bill financing.

The mechanism of tariffed on-bill financing allows a utility to make clean energy investments at a customer's building and recoup the cost of that investment through a surcharge on the electric rate assigned to the meter serving the building.^{51,52} This mechanism is cost-neutral for the occupant because the increased tariff is offset by reduced energy use in the building. Consumer protections such as a net savings assurance are also built into common program designs for tariffed on-bill investment. The success of this approach is well-tested for building energy efficiency upgrades, and is being considered for on-site solar, building electrification, transportation electrification, and microgrids for resilience.^{53,54,55} Tariffed on-bill programs are in place at 18 utilities in eight states, including Arkansas, California, Hawaii, Kansas, Kentucky, New Hampshire and North Carolina.⁵⁶ As an example of potential impact, the tariffed on-bill program at Roanoke Electric Membership Coop resulted in investment of over \$1.5 million, benefiting its members who are renters and homeowners alike.

The related financing mechanism of on-bill repayment is useful in marketing energy-efficiency investments to consumers. Under this arrangement, eligible homeowners take on a consumer loan and repay it through a convenient line-item charge on their utility bill. The utility provider then forwards the loan payment to the lender. Self-Help's purchase of a \$21 million consumer portfolio from CDFI Craft3 is an example of this model.⁵⁷ Overall, between tariffed on-bill and other versions, over 92 utilities in 37 states offer on-bill finance in some form.⁵⁸

To establish tariffed on-bill financing at a utility, industry participants estimate capital needs to be about \$5M over the course of two or three years. That level of capital can support investments in 700 houses annually, making site-specific energy efficiency and solar building improvements. A tariff on the utility meter is applied that recovers the cost of building investments while also providing savings to the ratepayer.

USDA provides crucial low-cost capital for these rural utility energy-efficiency programs through three programs: the Energy Efficiency and Conservation Loan Program (EECLP), the Rural Energy Savings Program (RESP) and the Rural Economic Development Loan and Grant (REDLG) Program. Together, they have extended over \$100 million in low-cost capital.

The effectiveness of tariffed on-bill financing encounters a significant bottleneck when the capital source requires the utility to invest only in improvements with cost-effective energy savings relative to the investment. It is logical to focus on measures that carry a strong ongoing energy savings compared to initial cost. However, this mandated ratio has led to a common program gap: Members who would otherwise be eligible to participate in on-bill financed improvements are excluded if their homes suffer from deficiencies, such as a leaky roof or broken windows, because the cost of the repairs exceeds the cost effectiveness test for energy measures.

⁵¹ McIlmoil, "Inclusive Energy Efficiency Financing for Members of the French Broad Electric Membership Corporation."

⁵² Barnuevo, "On-Bill Financing: Expanding Access to Energy Efficiency, Clean Energy Adoption, and Electrification for Everyone (Unpublished Manuscript)."

⁵³ Buri, "Applying the PAYS® System to On-Site Solar to Expand Access for All."

⁵⁴ Mast, Hummel, and Clinton, "Towards an Accessible Financing Solution: A Policy Roadmap with Program Implementation Considerations for Tariffed On-Bill in California."

⁵⁵ Clean Energy Works, "Tariffed On-Bill Finance to Accelerate Clean Transport."

⁵⁶ Hummel and Lachman, "What Is Inclusive Financing for Energy Efficiency, and Why Are Some of the Largest States in the Country Calling for It Now?"

⁵⁷ Thompson et al., "Selling an Energy Efficiency Loan Portfolio in Oregon."

⁵⁸ Cross, "On-Bill Financing for Rural Communities."

As the federal government seeks to reduce carbon from the residential sector and address disproportionate energy burdens, we recommend that utility tariffed on-bill investment be a frequent tool in the financing toolkits maintained by the Department of Energy and the Environmental Protection Agency.

As the federal government seeks to decarbonize the transportation sector, it should support tariffed utility on-bill investment for fleets, particularly school bus fleets. Enabling schools to convert to electric school buses provides significant co-benefits in terms of reduced air pollution from mobile sources and reduction in pollution that school children and staff are exposed to as buses idle. Schools are often designated as emergency shelter locations where on-site solar combined with the large batteries aboard EV school buses can form a microgrid to improve support for community resilience during storms, fires and floods.

Two immediate and specific recommendations are:

1. Extend the duration of USDA energy-efficiency funding to allow for health and safety repairs.

Repairs to the roof, windows and doors are a prerequisite to energy-efficiency upgrades. As described above, low-wealth people often reside in housing that is in need of vital repairs. Until those are addressed, a utility cannot offer to capitalize energy upgrades at that site.

Where USDA program capital can be used for 20 years, the financing period for some on-bill investments can be stretched out for a term adequate for the utility's investment to be recouped through the tariff. However, not all investments can be stretched for 15 or 20 years. That is because of consumer protection rules that cap capital investment timeframes at the estimated useful life of the upgrades. Longer terms introduce risk that a customer would be paying for upgrades that no longer work. For that reason, it is imperative for housing assistance programs to be adequately funded to help assure repairs can be funded or financed on terms that are acceptable to consumer protection advocates in the housing and financial services sectors.

2. Make available to municipal utilities the capital needed to operate tariffed on-bill finance programs.

As with our recommendation for energy guarantees, green banks and nonprofit clean energy loan funds could provide an effective partnership to extend capital to municipal utilities. Green banks could directly operate an on-bill finance program or they could act as an intermediary to lend directly to municipal utilities that make tariffed on-bill investments.

Conclusion

If adopted, these recommendations will help build community resilience through climate-change mitigation and advance benefits that align with CDFI missions, including:

- Facilitating the flow of capital to low-carbon emitting projects and businesses that mainly utilize energy derived from renewable sources—a critical component toward achieving decarbonization.⁵⁹
- Expanding clean energy access for low-wealth individuals⁶⁰ (starting with relatively accessible energy and water efficiency retrofits and upgrades).
- Enhancing climate resilience in low-wealth communities. We are particularly encouraged by the rapidly evolving body of knowledge in this area, and the practical tools currently available to evaluate community-level climate resilience.^{61,62}
- Reducing emissions across our food chain by supporting the conversion to low-carbon alternatives. Our food production system accounts for close to 26% of total anthropogenic greenhouse gas emissions, a staggering 13.7 gigatons of carbon-dioxide equivalents (GTCO₂ eq).⁶³

Finally, our recommendations would focus benefits on low-wealth individuals and communities, which are the most vulnerable to the high costs of energy and the negative impacts of climate change. Wealth, rather than income, is the salient metric as we increasingly understand the contours and inequities of the American wealth gap. See, for instance, *The Road to Zero Wealth – How the Racial Wealth Divide is Hollowing America’s Middle Class*.⁶⁴

⁵⁹ Rockström et al., “A Roadmap for Rapid Decarbonization.”

⁶⁰ Powers, “An Inclusive Energy Transition: Expanding Low-Income Access to Clean Energy Programs.”

⁶¹ Summers et al., “Development of a Climate Resilience Screening Index (CRSI): An Assessment of Resilience to Acute Meteorological Events and Selected Natural Hazards.”

⁶² Gardiner, Herring, and Fox, “The U.S. Climate Resilience Toolkit.”

⁶³ Poore and Nemecek, “Reducing Food’s Environmental Impacts through Producers and Consumers.”

⁶⁴ Institute for Policy Studies & Prosperity Now, “Road to Zero Wealth.”

Appendix A

The Center for Community Self-Help

Self-Help, headquartered in Durham, North Carolina, is one of the nation's largest community development financial institutions. For forty years, Self-Help has focused on creating asset-building opportunities for families of color, women, rural residents and low-income people and communities, primarily through financing safe, affordable home loans and small business loans. In total, Self-Help has provided more than \$9.3 billion in financing to more than 175,000 homebuyers, small businesses and nonprofit organizations and serves more than 167,000 mostly low-income families through more than 60 retail credit union branches in North Carolina, California, Florida, Illinois, South Carolina, Virginia, Wisconsin and Washington state.

Self-Help is a family of five nonprofit organizations organized under the Center for Community Self-Help. Since its founding in 1980, Self-Help has grown to include two credit unions, a loan fund and a research and policy affiliate. See more information at www.self-help.org/who-we-are/about-us/our-structure.

Self-Help's mission includes combating climate change and building a more sustainable and equitable future for all. Since 1989, we have invested \$357 million in projects that have created a positive environmental impact in the communities we serve. Most recently we extended paycheck protection program (PPP) financing of \$4.2 million to 31 environmental organizations, helping them maintain 363 jobs during the current pandemic. There's more about our work in financing that supports sustainability at www.self-help.org/what-we-do/we-lend/for-the-environment.

Appendix B

Guiding Principles

As much as possible, we focused on four guiding principles for recommendations we included in this paper. Recommendations need to be:

- 1) action that will create meaningful change;
- 2) action that will make changes inclusive and just (for instance, make financing available to enable low-wealth consumer to weatherize their homes);
- 3) action that mostly can be accomplished by regulation or administration, relatively quickly; and
- 4) action within areas of Self-Help's experience (thus, we make no recommendations related to the Federal Energy Regulatory Commission).

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