

# SUPPORTING ENERGY EFFICIENT MANUFACTURED HOMES WITH LOAN LOSS RESERVES:

## Program Implementation Options for State Energy Offices



*National Association of  
State Energy Officials*

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## Introduction

This publication outlines the steps necessary to design a loan loss reserve fund that supports affordable financing of energy-efficient manufactured housing. This may be of interest to State and Territory Energy Offices (henceforth known as “State Energy Offices”) interested in encouraging residents to purchase highly energy-efficient manufactured homes or to conduct energy efficiency measures on existing homes.<sup>1</sup> In the single-family residential market, several states use loan loss reserves to leverage private capital for residential energy efficiency project financing. Such programs are typically administered by the State Energy Office, state green bank, state housing finance agency, state community development agency, or any combination of these entities using state and/or federal funds.

Drawing on existing program examples, this guide offers insight into participant solicitation, contract terms and conditions, loan origination and services, project eligibility, fund agreements, and consumer education necessary to offer a successful loan loss reserve program to support the purchase of new and highly energy-efficient manufactured homes or finance efficiency measures in existing manufactured homes.

### Energy Efficiency and Affordability Challenges in the Manufactured Housing Sector

Manufactured homes are typically more affordable upfront, at the time of purchase, than site-built homes.<sup>2</sup> However, financing costs and less energy efficient construction standards can make them less affordable to own and operate over time.

Manufactured homeowners typically pay higher interest rates than site-built homeowners for the purchase of their homes. Because most state titling laws do not consider homes situated on leased land to be real property, buyers of manufactured homes typically must turn to unsecured personal property loans rather than conventional mortgages. Based on Home Mortgage Disclosure Act (HMDA) data, the average personal property loan, with higher interest rates, costs homebuyers 4.4 percent more than the average mortgage for manufactured homes.<sup>3</sup> Lack of buyer awareness of mortgage eligibility may also contribute to this disparity: even when buyers purchase the underlying land to their manufactured homes, they may not be aware of the state-specific real property titling process that would qualify them for a secured mortgage. As a result, many manufactured homeowners are denied or unaware of the most advantageous and affordable financing options for their home, thereby assuming higher interest rates and shorter loan term durations than secured loans and mortgages.

Operating costs, including monthly energy bills, also contribute to the overall cost of manufactured homeownership. According to the 2020 Residential Energy Consumption Survey, residents in manufactured homes reported 50 percent higher energy costs per square foot in homes with an average construction year of 1982 and nearly twice the rate of energy insecurity compared to residents of site-built homes.<sup>4</sup> Key facets of energy insecurity include reducing or forgoing food or medicine to pay energy costs, leaving a home at unhealthy temperature, receiving a utility disconnect or delivery stop notice, and being unable to use heating or air conditioning equipment.

As homes that are constructed in factory settings and transported to a secondary site for installation and occupancy, manufactured homes are subject to federal safety and energy standards set by the U.S. Department of Housing and Urban Development (HUD), which preempt state building codes. The first HUD code was established in 1976; as of 2024, the most recent revision to the HUD code occurred in 1994. As directed by the Energy Independence and Security Act of 2007, the U.S. Department of Energy (DOE) developed a federal energy standard for manufactured homes in 2022, currently under deliberation by HUD for incorporation into existing construction and safety standards for manufactured homes. Manufactured homes constructed prior to 1976 are very likely underperforming (in terms of energy efficiency and occupant comfort) relative to manufactured homes constructed to federal energy and safety standards ratified in 1976 and updated in subsequent years.

Some older manufactured houses may require extensive repair or efficiency improvements that make replacing the home the most cost-effective, or only, option. In such cases, the ideal course of action would be to replace the unit with a new manufactured home that adheres to the proposed DOE energy conservation standards.<sup>5</sup> Replacement manufactured homes could also be constructed to voluntary energy standards specified through the DOE Zero Energy Ready Homes program for manufactured homes or the latest version of the ENERGY STAR Manufactured New Homes National Program, which both certify homes that perform above HUD code energy requirements.<sup>67</sup>

Through state utility implementors, community development agencies, and housing finance authorities, some states have offered manufactured home replacement programs that have used grants or affordable fixed-rate financing to pay for home removal, disposal, site-preparation, purchase, delivery, installation, and even temporary relocation during the replacement process. Currently active and past statewide programs to replace or improve the efficiency of existing manufactured homes exist in California, Maine, Montana, New York, Oregon, Vermont, and Washington.<sup>8</sup>

Expanding these retrofit and replacement efforts to more states could offer important benefits. The Southeast region, specifically Alabama, Florida, Louisiana, North Carolina, South Carolina, and Texas, have more residents in manufactured homes than anywhere else in the country. Southeastern states also have some of the highest volume of manufactured housing shipments. These and other upfront costs underscore the importance of minimizing energy costs for residents over the lifetime of the home through optimal energy performance.<sup>9</sup>

The U.S. Department of Agriculture, Fannie Mae, Freddie Mac, and the Federal Housing Administration offer federal programs with financing and mortgage options for low and median-income homebuyers to purchase manufactured homes.<sup>10</sup> These programs, however, primarily offer mortgage loans and are therefore only eligible to those who purchase manufactured homes and their underlying land. Examples include the [Fannie Mae HomeReady Program](#) and the [Freddie Mac Home Possible Program](#), that offer low-income and very low-income homebuyers mortgages and other credit-flexible and attractive loan options for the purchase of 1-4 unit residential properties, including manufactured homes.<sup>11</sup> To encourage the purchase of manufactured housing that meet construction, architectural design, and energy efficiency standards, Fannie Mae offers the [MH Advantage Program](#) and Freddie Mac offers the [CHOICEHome Program](#) to offer affordable financing for manufactured homes that are deemed real property.<sup>12</sup>

Building on state and federal manufactured housing programs as a foundation, State Energy Offices are well-positioned to direct investments toward homebuyers interested in purchasing and/or retrofitting energy-efficient manufactured homes. While 100 percent grant-funded retrofit and replacement pilots and programs are often difficult to scale and can quickly exhaust funding streams, State Energy Offices and agency partners can consider offering financing programs that supplement federal and state funding with private capital and allocate loan repayments toward subsequent program years. State-led financing programs can help fill market gaps, for instance by creating loan products for manufactured homebuyers situated on leased land and/or by engaging community-based financial institutions. To this end, loan loss reserves present an opportunity to bolster the market for energy efficient manufactured housing.

## The Role of Loan Loss Reserves

Loan loss reserves are funds designated to cover lenders from losses if a borrower in a covered program defaults on a loan. Shielded from some or all default risk, financial institutions that have access to a loan loss reserve can offer loan products with lower interest rates, longer loan terms, and more flexible underwriting standards than would be possible under normal market conditions. With the support of a loan loss reserve, financial institutions can also finance housing types and home improvements that are not well represented in their standard portfolio. Reserve funding can be used to incentivize more favorable mortgage and personal property loans to finance new home purchases under a replacement program or to leverage more private capital investment to finance energy retrofit projects for existing manufactured homes.

Loan loss reserves take a “portfolio approach,” meaning the entity setting it up does so based on the entire portfolio of loans that will be supported. For example, a five percent loss reserve on \$20 million in loans costs the entity \$1 million. This creates a leverage ratio of 20:1, a representation of how much private capital can be protected from loss by the reserve. The entity overseeing the reserve may choose to establish a risk sharing formula: the reserve fund may, for example, cover 90 percent of qualified losses on the remaining loan balance, and require the lending institution to be willing to absorb the rest as a condition of participating in the loan loss reserve program. Because State Energy Offices typically have used loan loss reserves for single family residential energy efficiency upgrades on project sizes up to \$50,000, those interested in supporting financing for a manufactured home replacement would need to cover a much larger per loan balance, or set a risk sharing agreement that requires a greater assumption of risk on the part of partner lending institutions. A loan default would use up more of the reserve than a default on a smaller project loan, so large balances reduce the total number of loans that can be covered in the program. To compensate, a replacement loan loss reserve program might adjust the risk sharing so that the financial institution absorbs a higher percentage of the default loss than in a smaller-balance program.

## Loan Loss Reserve Program Implementation

Loan loss reserves have been successful in supporting energy efficiency improvements and repairs in the residential sector, often inclusive of manufactured homes. Their use can be expanded to finance the replacement of aged and poor-performing manufactured homes with new, energy efficient units. Compared to traditional loan loss reserve programs for energy efficiency projects on existing residential buildings, the loan amounts to support the

purchase of a new homes would be larger, requiring adjustments to loss coverage ratios and other loan agreement details. As a cross-cutting program, its administration may require multiple agency collaborators, including State Energy Offices, housing finance authorities, economic development agencies, mortgage agencies, and others.

Personal property loans for the purchase of a new manufactured home, especially when unsecured, charge interest premiums and require shorter loan durations to compensate for the lack of collateral. For homebuyers seeking to replace their existing homes with more energy efficient homes and relying on personal property loans for the new home purchase, these loan terms would likely prove prohibitive on top of existing unit removal and disposal costs. States may consider the use of loan loss reserves to finance the replacement of qualifying existing homes – likely those with particularly poor energy performance and insurmountable structural issues – while simultaneously targeting the program’s reach to homebuyers who must use personal property loans to purchase replacement homes, as they face more financing challenges than those who can access mortgage financing.

Compared to mortgage loans, however, personal property loans offer lower closing costs, and often allow same-day financing for customers. For homebuyers that are attracted to these benefits or are confined to personal property loans due to restrictions on titling their purchase of real property, states can engage personal property lenders through their loan loss reserve programs. With the support of a loan loss reserve, personal property lenders may offer loan products with more favorable interest rates and loan durations for manufactured home purchases, perhaps even comparable to those of a traditional mortgage. These credit enhancements may also mitigate enough perceived risk toward manufactured home financing and encourage some private lenders to offer loan product options to manufactured homebuyers for the first time, effectively broadening the currently concentrated market for manufactured home lending. Within a replacement program, states may offer complementing funding support - for instance, grants or zero-interest and forgivable loans to defray costs associated with removal of the existing unit, temporary relocation assistance for residents undergoing unit replacement, and incentives for homeowners to purchase replacement units that perform beyond federal energy code standards.

The guidance below outlines how State Energy Offices can stimulate investment in energy efficient manufactured housing with a loan loss reserve program, based on a review and analysis of existing statewide loan loss reserve programs in New York, Michigan, and Connecticut, all of which bolster clean energy and energy efficiency project financing across existing homes in the residential sector. These programs consider manufactured homes to be an eligible residential building type for project financing and impart key design principles for any state establishing a loan loss reserve. The New York program is administered by the New York State Energy Research and Development Authority (NYSERDA), the State Energy Office of New York; the program in Michigan is administered by Michigan Saves, a non-profit green bank; and the program in Connecticut is jointly administered by the state green bank and a contractor deploying the program model at scale. These variations in administration and implementation design highlight the potential for interagency collaboration and public-private partnerships. Sample program documents and resources from these three statewide loan loss reserve programs have been captured on the NASEO website, under a page titled “Existing State Program Models for Financing Energy Efficient Manufactured Homes”.<sup>13</sup>

Initial critical steps in developing a loan loss reserve program are to establish its goals and objectives and, especially when including manufactured homes, understand how to use

funding and financing most effectively to advance replacements and upgrades. State Energy Offices and partners should also develop key program parameters, such as the amount of reserve funding and the risk sharing arrangements to be offered to participating lenders. As noted above, for a replacement program, the lender's risk sharing ratios may need to differ from one that only covers efficiency improvement or solar loans. It is in this first stage, and throughout the program design and implementation process, that states should engage key stakeholders that have expertise and/or lived experience pertinent to the program. Community-based organizations, financial institutions, and housing partners all offer unique and in-depth understandings of the market as well as inroads to potential borrowers and homebuyers. State Energy Offices prioritizing meaningful stakeholder partnerships in their program and policy design may be interested in the NASEO publication, "Designing Equity-Focused Stakeholder Engagement to Inform State Energy Office Programs and Policies."<sup>14</sup>

### **The remainder of this section covers key program implementation elements:**

**Participant solicitation.** Formal relationships need to be established with the financial institutions that would have access to the loan loss reserves. State Energy Offices can issue a program solicitation for participating lenders, like the annual Program Opportunity Notices issued by the New York State Energy Research and Development Agency (NYSERDA) for their statewide loan loss reserve program for clean energy financing, as highlighted in the section below, titled "1. A program solicitation for lender participation."<sup>15</sup>

**Terms and conditions.** State Energy Offices can set requirements around loan amounts, loan terms, borrowing rates, underwriting criteria, loan servicing procedures, and secondary market practices that will be expected from the lenders, as highlighted in "2. A loan term sheet and underwriting criteria."

**Contracting support.** If State Energy Offices need support for loan origination and/or servicing, they can solicit contractor support, as highlighted in "3. Contracting support for loan origination and servicing (optional)."

**Project eligibility.** How covered funds can be used—the types of technologies, improvements, and replacements, if any— should be documented, as highlighted in "4. Eligible projects and expenditures for financing."

**Fund agreement.** State Energy Offices can then develop a fund agreement that details the contractual obligations between the loan loss reserve administrator and participating lender. The fund agreement from the Michigan Saves loan loss reserve includes details around the program timeline, loan default criteria for reserve funding payouts, the anticipated percentage contribution of the reserve fund toward any fully defaulted program loan, and more, as highlighted in the section below, titled "5. A loan loss reserve fund agreement".

**Education and engagement.** Lastly, State Energy Offices can provide customer education on the loan products available through the loan loss reserve program, as done through the Connecticut Green Bank for their Smart-E loan loss reserve program, as highlighted in the section below, titled "6. Education and engagement materials". The combination of these elements have supported the implementation of loan loss reserves across the country.

## 1. A program solicitation for lender participation

*Example:* [New York State Energy Research and Development Authority \(NYSERDA\) Loan Loss Reserve to Catalyze Clean Energy Financing in New York State Communities: 2022 Program Opportunity Notice](#)<sup>16</sup>

A State Energy Office must establish a process to identify and onboard the lenders that have access to the loan loss reserve. Financial institutions that may meet this eligibility criteria include:

- **Community development financial institutions (CDFIs)**  
CDFIs, which encompass regulated institutions like community development banks and credit unions, are mission-driven lenders focused on making investments in under-resourced and disadvantaged communities, often operating with more flexibility around customizing loan products to meet borrower needs. In some cases, CDFIs offer the lowest rates for unsecured loan programs and loan terms up to ten years or longer. Locally-based financing institutions can also have deep relationships in the community that streamline the customer education process.<sup>17</sup>
- **Manufactured home mortgage lenders and retailers**  
There are lenders that specialize in meeting the financing needs of manufactured homebuyers, including the manufactured home retailers, that offer financing to support retail sales.<sup>18</sup> Retailers interact with customers directly and are able to provide financing on the sales floor, with retail installment contracts as the most common method of financing.<sup>19</sup> They can offer smaller down payment requirements, fewer closing fees, and faster transaction times.<sup>20</sup>
- **Other financial institutions**  
The NYSERDA program opportunity notice defines financial institutions eligible to participate in the loan loss reserve program as “any entity licensed by the... State Department of Financial Services to perform lending services, or chartered or regulated by the federal government to perform lending services.” This provides broad eligibility covering most financial institutions, including any depository institution, like savings banks, savings and loan associations, and credit unions. To bolster local lender engagement and participation in manufactured housing financing and allow more lenders to leverage the support of a reserve fund, state programs can set interest rate ceilings and loan term minimums, as well as participant competencies around loan servicing and reporting, while maintaining flexibility about participant eligibility.

NYSERDA issues an annual solicitation for financial institutions to participate in the loan loss reserve. Non-financial entities can apply but face additional provisions. The 2022 Program Opportunity Notice requires that:

- Loaned funds will be used for eligible renewable energy and efficiency measures,
- Loans are issued with fixed interest rates,
- Interest rates do not exceed a certain threshold set by NYSERDA,
- Financing products will only be offered to customers above a minimum credit score threshold set by NYSERDA,
- At least 35 percent of the financing agreement’s portfolio must reach residential customers with a FICO score less than or equal to 680 or under 80 percent average median income (whichever is greater of the two), and
- Projects for borrowers with FICO scores of 580 or less include a home energy performance guarantee.



Lenders need to provide detailed descriptions of their loan products, descriptions of how the reserve funding would improve their loan product compared to conventional market offerings, and any collateral requirements. Applicants must also consent to disclose the intent for holding, selling, transferring, or otherwise using the proposed loan products. When using a loan loss reserve program for manufactured home replacements, additional criteria may need to be established such as lender capacity to originate and service home loans.

**2. A loan term sheet and underwriting criteria**

*Example:* [Sample Residential Program Term Sheet from the U.S. Department of Energy](#)<sup>21</sup>

State Energy Offices and participating lenders will need to come to an agreement on the terms and underwriting criteria associated with the loan products. They could be negotiated after the lenders are selected for participation or pre-determined by the State Energy Office.

Participating lenders typically offer products that result in a lower net present value cost to the borrower compared to market-rate terms. A snapshot of the recommended interest rates and terms for lenders in the NYSERDA, Michigan Saves, and Smart-E Connecticut Green Bank loan loss reserve (LLR) programs can be found below:

Loan Offer	Standard APR	Loan Terms
Credit Union Lender with NYSERDA LLR	The maximum interest rate for the program is the 10-year treasury yield + 750 basis points. <sup>22</sup>	15-25 years
Credit Union Lender with Michigan Saves LLR	The Federal Reserve prime rate for borrowers with credit scores 640 or higher; the Federal Reserve prime rate + 300 basis points for borrowers with credit scores under 640. <sup>23</sup>	15-25 years
Credit Union Lender with Connecticut Green Bank LLR	5.99% - 7.49% <sup>24</sup>	5-20 years

Ability-to-pay metrics are a typical component of underwriting criteria, particularly for home purchases. Programs should be designed with consideration toward a borrower’s credit score, available cash flow, loan repayment history, and/or a combination of these and other characteristics to accurately gauge borrower credibility. Robust underwriting criteria can protect consumers from assuming debt that they cannot repay and subsequent default or foreclosure repercussions on secured loans, as well as protect lenders from high default risks. However, existing loan loss reserve programs, including those from NYSERDA, Michigan Saves, and the Connecticut Green Bank, allow their unsecured residential energy efficiency loan to serve borrowers with lower credit scores through proportionately higher reserve fund recovery rates. Under the Michigan Saves program, lenders are encouraged to approve loans with credit scores less than 640 while complying to corresponding maximum loan amounts, terms, and interest rates determined by Michigan Saves. To reach low-income and lower credit score borrowers that typically face barriers to access financing, the NYSERDA program notably requires at least 35 percent of the financing portfolio distribution to service customers with FICO scores under 680. The Connecticut Green Bank Smart-E loan program allows loans to a 580 FICO score, extending the program to homeowners with lower credit scores than traditional and federal mortgage programs.

In exploring and establishing the terms of the loan loss reserve, State Energy Offices can prompt lender participants to include additional details about their capacity to review and approve borrower applications, their typical credit score range and income verification process for qualifying borrowers, allowances (or disallowances) for existing tax liens or unpaid collection accounts, and criteria for loan default relative to borrower qualifications. Program term sheets are one common method to solicit ideas from lenders on loan product marketing and customer engagement tactics to help the State Energy Office optimize the program's reach to diverse beneficiaries. U.S. Department of Energy (DOE) has developed a sample loan term sheet and underwriting criteria for such deliberations, as linked above.

### **3. Contracting support for loan origination and servicing (optional)**

*Example:* [Michigan Saves Request for Proposal for On-Bill Loan Origination and Servicing](#)<sup>25</sup>

State Energy Offices without in-house capacity for loan servicing can consider issuing a request for proposal (RFP) from entities experienced and licensed as loan originators and servicers. For instance, Michigan Saves and the City of Holland, Michigan issued an RFP to support the Holland Energy Fund's on-bill loan program for residential energy efficiency or renewable energy improvement projects. The RFP seeks a loan originator to receive, review, and process all applications for the on-bill loan program, issuing loan agreements between the borrower and the lender and responsible for transmitting information among the relevant entities, including the customer, contractors, program administrator, and lenders. The RFP also seeks a loan servicer to coordinate loan transferability if a property is sold, tracks and manages delinquencies, processes prepayments and completed loan payoffs, and summarizes loan activity. This RFP offers expectations that can be adapted for a State Energy Office solicitation for similar loan administration support.

### **4. Eligible projects and expenditures for financing**

*Example:* [NYSERDA Illustrative Guidelines for Eligible Technologies](#)<sup>26</sup>

The NYSERDA Loan Loss Reserve Program offers an illustrative, non-prescriptive, and non-exhaustive list of technologies that are eligible for financing through participating lenders in the loan loss reserve. The guidance allows lenders to finance projects beyond the scope of the prescribed list if the proposed project increases deployment of clean energy technology or reduces greenhouse gas emissions. The NYSERDA Loan Loss Reserve Program includes lighting and control systems, HVAC systems, installation of solar photovoltaic panels, heat pumps, plug load management systems, continuous commissioning, and more. State Energy Offices that cannot support the large balances of a loan loss reserve program covering whole-home purchases can consider smaller loan balances to help homebuyers navigate expenses associated with transporting and installing a new manufactured housing, covering siting and permitting; demolishing, recycling, and removing an existing unit; or even refinancing existing consumer debt.

### **5. A loan loss reserve fund agreement**

*Example:* [Michigan Saves Loan Loss Reserve: Draft Loan Loss Reserve Fund Agreement](#)

State Energy Offices can develop a contract to outline key responsibilities for participating lenders regarding interactions with borrowers, loan performance reporting, the deposit of funds (e.g., using an escrow account), the risk sharing formula, and the process to claim funds and recover losses from any loan defaults. Michigan Saves uses a fund agreement to document the contractual obligations of the lenders, which encompass a broad credit

union network in Michigan, and the program administrator. The Michigan Saves template agreement assigns sole responsibility to the credit union for underwriting decisions and ensuring legal compliance of their loan products, as well as servicing for each loan payment until paid in full. This includes a process to evaluate creditworthiness of applicants and collection procedures in the event of loan delinquency. The agreement tasks Michigan Saves with designating a cash reserve on their balance sheet for the reserve fund and responding to lender claims to cover eligible losses from the reserve fund. Michigan Saves lenders are entitled to reserve funding to recover either 75 or 85 percent of defaulted loan repayments depending on the borrower's credit score at the time of the application and retain responsibility for either 25 or 15 percent of delinquent loan losses. Through the Michigan Saves Residential Loan, borrowers can access loans of up to \$30,000, with term durations of 15 to 25 years and maximum interest rates of 7.0 percent if their credit scores exceed 640. Lenders are encouraged to approve loans for borrowers with credit scores lower than 640 and select a larger maximum loan amount, term, and interest rate as detailed in a written agreement with Michigan Saves. For both parties, the template details general terms and conditions, including program duration, allowances for discretionary amendments to the agreement, and liability limitations.

Some credit unions and financial institutions may originate and hold residential energy efficiency loans until maturity. Because loan balances are likely to be relatively high for manufactured home replacements relative to typical home improvements, however, lenders may look to refinance or sell the loans to the secondary market in order to access ongoing sources of capital. As a result, the fund agreement should consider detailing whether and how secondary market purchasers of refinanced debt can benefit from the risk coverage of the reserve funds or assume risks of the loans.<sup>27</sup>

## **6. Education and engagement materials**

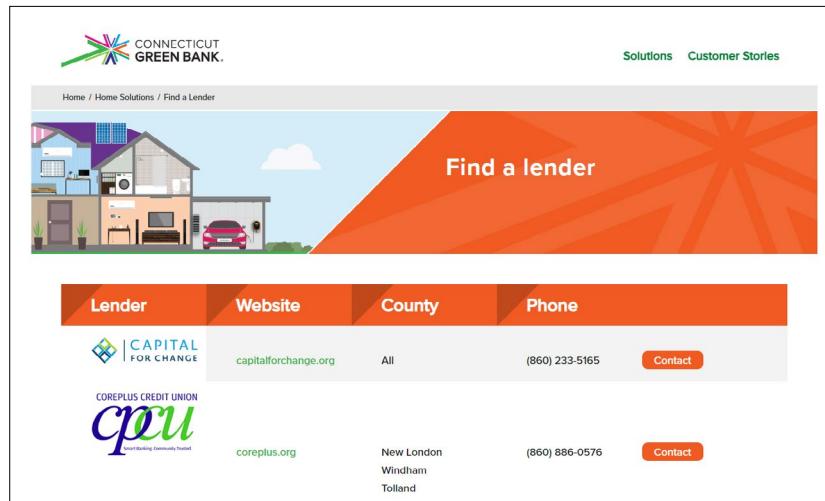
*Example:* [The Connecticut Green Bank Smart-E Loans Program Website](#)<sup>28</sup>

To increase awareness of the availability of loan loss reserve funds for lenders, retailers, and energy program providers, as well as the availability of low-interest loan products to borrowers, states may consider developing a user-friendly website and fact sheets accessible in multiple languages. This may include materials that lenders and retailers then provide at the point of sale. In Connecticut, the Smart-E platform offers a one-stop-shop service for homeowners through the Connecticut Green Bank that leverages a network of local lenders and vetted contractors to perform and finance the improvement projects. Homeowners looking to access financing with Smart-E loan rates or comparable loan terms are directed to the list of participating lenders, complete with contact information and counties serviced.<sup>29</sup>

**Figure 1. Connecticut Green Bank. “Find a Lender” Database.**

<https://www.ctgreenbank.com/home-solutions/find-a-lender/>.

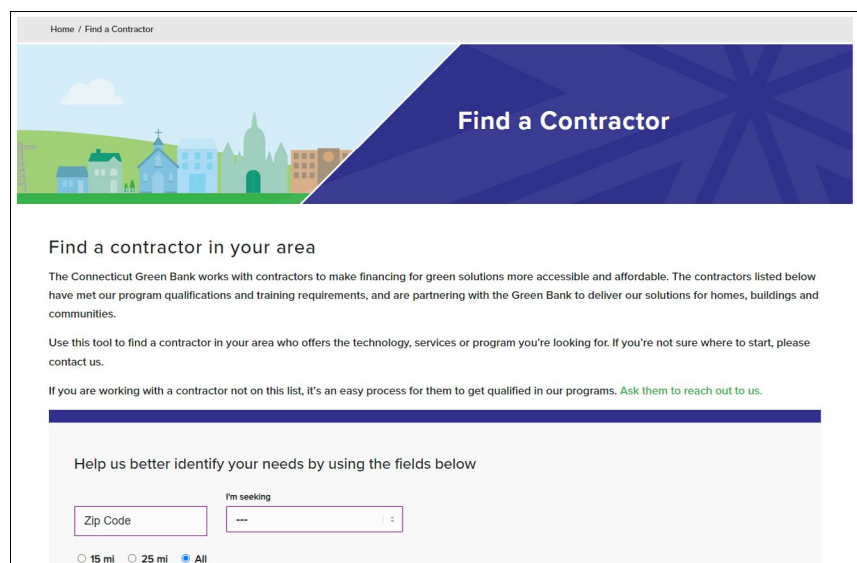
Borrowers are also able to find pre-qualified contractors using a database maintained by the Connecticut Green Bank.<sup>30</sup> These contractors have met program qualifications and training requirements and may have partnered with the Green Bank in the past to deliver energy improvement solutions.



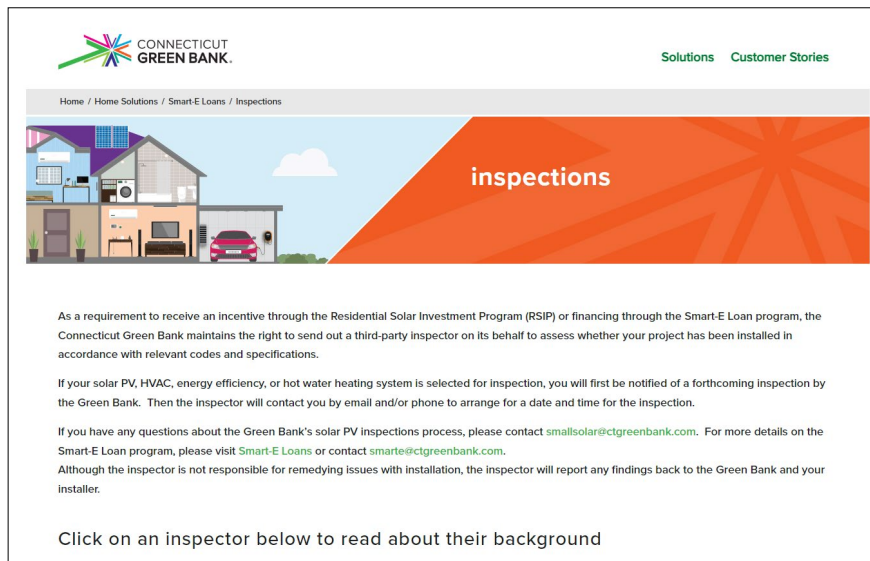
**Figure 2. Connecticut Green Bank. “Find a Contractor” Database.**

<https://www.ctgreenbank.com/find-a-contractor/>.

To guarantee financing access through the Smart-E Loan program, the Connecticut Green Bank deploys third-party inspectors to assess the quality of the completed project and its compliance with local codes and specifications. Inspectors can report any findings on the installation quality of solar PV, HVAC, energy efficiency, or hot water heating systems back to the Green Bank and installer, helping to maintain the integrity of the qualified contractor list.<sup>31</sup>



**Figure 3. Connecticut Green Bank. “Inspections” Qualified Third-Party Inspector List.**  
<https://www.ctgreenbank.com/home-solutions/smart-e-loans/inspections/>.



## Conclusion

A loan loss reserve fund can support energy efficiency in manufactured housing, a sector that has historically been underserved by energy efficiency funding, financing, and mortgage options. Several states offer loan loss reserve programs that increase the private capital available to finance PV residential energy upgrades for existing homes, supplementing the revolving loan funds and other fiscal support for residential building energy efficiency improvements that exist in over half of all states.<sup>32</sup> Taking elements from these programs, other State Energy Offices can construct the framework for a loan loss reserve that provides access to financing with better than market-rate terms for energy-efficient upgrades to existing manufactured homes as well as replacement of older homes with highly efficient ones. While loss reserve ratios, terms and conditions, and the eligible use of funds may differ among programs, the building blocks for these programs are a solicitation for lenders, term sheets and underwriting criteria, origination and services, eligibility guidelines, fund agreements, and educational materials. Addressing the fragmented financing market for energy-efficient manufactured housing is a meaningful way for State Energy Offices to preserve manufactured homes as a high quality, affordable, and accessible means to homeownership.

## References

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- 4 “2020 RECS Survey Data”, Residential Energy Consumption Survey (RECS), U.S. Energy Information Administration, accessed September 7, 2023, <http://www.eia.gov/consumption/residential/data/2020/>.
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