

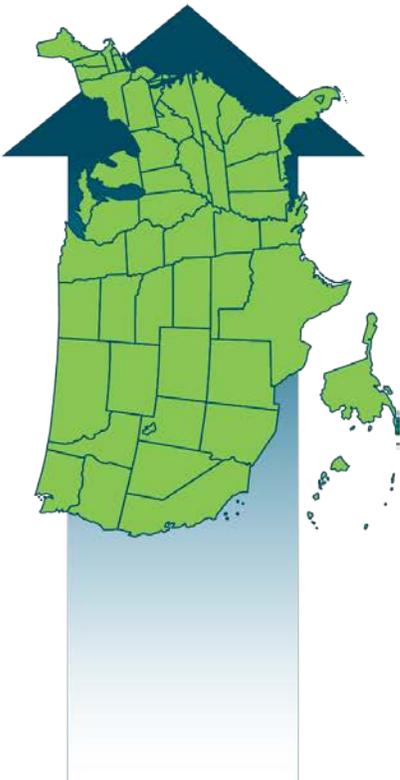
# SEE Action

STATE & LOCAL ENERGY EFFICIENCY ACTION NETWORK

## Credit Enhancement Overview Guide

Financing Solutions Working Group

January 2014



The State and Local Energy Efficiency Action Network is a state and local effort facilitated by the federal government that helps states, utilities, and other local stakeholders take energy efficiency to scale and achieve all cost-effective energy efficiency by 2020.

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*Credit Enhancement Overview Guide* was developed as a product of the State and Local Energy Efficiency Action Network (SEE Action), facilitated by the U.S. Department of Energy/U.S. Environmental Protection Agency. Content does not imply an endorsement by the individuals or organizations that are part of SEE Action working groups, or reflect the views, policies, or otherwise of the federal government.

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## List of Acronyms

CEFIA	Clean Energy Finance and Investment Authority
C-PACE	commercial property assessed clean energy
DOE	U.S. Department of Energy
DSRF	debt service reserve funds
LBNL	Lawrence Berkeley National Laboratory
LLR	loan loss reserve
SEE Action	State and Local Energy Efficiency Action Network
TVA	Tennessee Valley Authority
WHEEL	Warehouse for Energy Efficiency Loans



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## Introduction

This primer provides an overview of key considerations for state and local policymakers, utility energy efficiency program administrators, and program partners, such as financial institutions, on designing and implementing successful credit enhancement strategies for existing buildings in the residential and commercial sectors. It is intended to serve as an introductory resource that provides a foundational understanding of key issues related to the topic, and guides readers to existing resources to assist with more in-depth credit enhancement design and implementation.<sup>1</sup>

Broadly defined, credit enhancements are a class of tools that reduce lender or investor risk by delivering these capital providers with a level of protection against losses in the event of borrower default or delinquency. This guide describes these tools, the trade-offs among them, and what they can be reasonably expected to accomplish to advance energy efficiency goals. It is organized into the following sections:

1. **Why Offer Credit Enhancements?** An overview of the program objectives that may warrant deploying credit enhancements.
2. **Credit Enhancement Basics.** A description of common credit enhancement tools and their trade-offs.
3. **Additional Resources.** Many resources on designing and deploying credit enhancements have been developed in recent years that provide more detailed information beyond what is presented in this guide.

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<sup>1</sup>For those seeking a broader overview of energy efficiency financing program design considerations, SEE Action's *Energy Efficiency Financing Program Implementation Primer* is available at: [www1.eere.energy.gov/seeaction/pdfs/financing\\_primer.pdf](http://www1.eere.energy.gov/seeaction/pdfs/financing_primer.pdf).



## 1. Why Offer Credit Enhancements?

The market for energy efficiency—and energy efficiency financing products—is relatively immature. While financial institution interest in energy efficiency financing initiatives is strong, there is widespread uncertainty about the benefits of allocating resources to this emerging market. In this context, program administrators can deploy credit enhancements to support a range of objectives related to driving the sustainable delivery of attractive, accessible, privately funded financial products.<sup>2</sup> Depending on the administrator’s objectives, credit enhancements can be targeted at yielding specific benefits in one or more of these four categories:

1. **Deliver more attractive financing products than are currently available in the market.** Two key features of financial products are their interest rates and terms.<sup>3</sup> Program administrators typically seek to deliver financial products with low interest rates and long terms to customers—these features reduce the size of a customer’s periodic debt service payments,<sup>4</sup> and can better align customers’ energy savings with their obligation to pay for the cost of these improvements.

Generally, the greater the risk of customer non-payment (i.e., default) on a financial product, the higher its interest rate and the shorter its term.<sup>5</sup> By deploying credit enhancements that reduce lender or investor exposure to customer defaults, many program administrators have successfully negotiated lower interest rates and longer loan terms (relative to standard financial product offerings) from their financing partners.<sup>6</sup> These more attractive financial products may, in turn, help to drive customer adoption of energy efficiency improvements.

2. **Expand customer access to capital.** Some customers and customer classes (e.g., small businesses) struggle to meet the standard underwriting criteria (e.g., minimum credit score) necessary to gain access to financial products. A number of program administrators have used credit enhancements to entice their financing partners to relax traditional underwriting criteria (e.g., lower minimum credit score) or to use alternative underwriting criteria (e.g., utility bill repayment history), which enables more customers to qualify for credit.<sup>7</sup>
3. **Catalyze lender or investor participation in energy efficiency financing programs.** Simply turning the attention of financial institutions to energy efficiency markets by getting them involved, even if they are not delivering more attractive or accessible products from their standard offerings, may be valuable. The benefits and risks of participating in energy efficiency financing programs (including those featuring novel financing products such as property assessed clean energy [PACE]) remains uncertain to many lenders and investors as some programs have struggled with low project volume and there is not yet sufficient data for them to have confidence in outperformance of energy efficiency financing products. In this context, credit enhancements can be deployed to attract the participation of lenders and investors (with the potential to be withdrawn or reduced as the value of participating in these initiatives becomes apparent).

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<sup>2</sup> The motivations for policymakers and program administrators to offer energy efficiency financing programs are described in detail in SEE Action’s *Energy Efficiency Financing Program Implementation Primer*, available at: [www1.eere.energy.gov/seeaction/pdfs/financing\\_primer.pdf](http://www1.eere.energy.gov/seeaction/pdfs/financing_primer.pdf).

<sup>3</sup> The term is the maximum length of time over which the financial product is outstanding.

<sup>4</sup> Debt service refers to the regular interest and principal payments that customers are obligated to make on a financial product. These payments may be made on a monthly, quarterly, semi-annual, or annual basis depending on the financial product.

<sup>5</sup> Earning more interest helps lenders offset losses from customer defaults; short-term debt tends to be less risky because there is more certainty about a customer’s short-term financial well-being.

<sup>6</sup> In the event that energy efficiency financing outperforms financing for other types of customer investments, program administrators may be able to withdraw credit enhancements through time without sacrificing the financial product improvements these tools helped to achieve.

<sup>7</sup> Underwriting criteria exist for a reason—to ensure that customers given access to capital are well-positioned to repay it. While energy efficiency improvements deliver energy and associated cost savings to customers that may enhance their ability to repay borrowed funds, uncertainty remains about the impact these savings will have on energy efficiency loan repayment trends. Program administrators should balance the goal of broad customer access to capital with the need to ensure that those customers given access to financing are well-positioned to repay it.

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- 4. Deliver standard processes and protocols for lender interactions with program administrators, energy efficiency service providers, and customers.** Particularly for large energy efficiency financing programs offered across multiple jurisdictions or involving multiple financial institution partners, it is important that there are standard program participation processes and protocols that cover financial institution interactions with customers, energy efficiency service providers, and program administrators. This standardization reduces transaction costs, complexity, and risk for lenders and consumers, and is essential to enabling energy efficiency markets to scale. As energy efficiency programs strive toward greater consistency, credit enhancements offer an incentive for lender participation to buffer some of the costs that may result from market reorientation. For example, Clean Energy Works Oregon<sup>8</sup> administrators used credit enhancement to help convince financial institutions to sign loan service agreements, which dictated a range of loan underwriting, origination, servicing, and reporting protocols targeted at delivering a streamlined program to customers and contractors.

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<sup>8</sup> [www.cleanenergyworksoregon.org](http://www.cleanenergyworksoregon.org).

## 2. Credit Enhancement Basics

Depending on the target market and program design, a range of credit enhancement tools are available to program administrators. This section describes the following commonly used credit enhancements:

- Loan loss reserves (LLRs)
- Loan guarantees
- Debt service reserve funds (DSRFs)
- Subordinated capital.

A range of tools, including interest rate buy downs,<sup>9</sup> rebates,<sup>10</sup> and financial products with novel security (e.g., PACE)<sup>11</sup> may be effective in achieving some or all of the same benefits as credit enhancements. But, because they do not explicitly reduce investor exposure to customer defaults, they are beyond the scope of this guide.

**Table 1. Key Credit Enhancement Considerations**

Credit Enhancement Tool	Likelihood of Depletion Over Time	Strength of Protection to Lenders	Common Uses
LLR	High. <sup>12</sup> Defaults reduce LLR size.	Low. Lenders share in each loss, coverage capped at a percentage of loan pool.	Small loans, partnerships with individual lenders.
Loan Guarantee	N/A. Guarantees often do not have a maximum amount.	High. Lenders shielded from all exposure to losses.	Large pools of loans, very flexible.
DSRF	High. Defaults reduce DSRF size.	Medium. Lenders protected from cash flow uncertainty and 100% of individual losses, but coverage capped.	Large loans for which timing of payment receipt is essential.
Subordinated Capital	Low. Interest earned can offset defaults.	Medium. Lenders covered from all individual losses, but coverage capped.	Large pools of small loans or large loans.

### Loan Loss Reserve

An LLR sets aside a limited pool of funds from which financial institutions can recover a portion of their losses in the event of borrower defaults. LLRs are one of the most common credit enhancements due to their relative ease of implementation. LLRs include three major elements:

- 1) **The total LLR size.** The amount of capital that program administrators pledge to make available to lenders for loan default recoveries.

<sup>9</sup> Interest rate buy downs entail program administrators providing lenders or investors with an up-front payment when a financial product is originated to reduce the interest rate a customer pays. The payment is typically the present value of the difference between the interest rate the customer will pay and the “market” interest rate of the financial product over the expected life of the financial product. While interest rate buy downs can be effective tools for achieving some of the goals described in this guide, they do not reduce lender or investor exposure to customer defaults in the event that they occur.

<sup>10</sup> Rebates are typically paid directly to customers—they may serve as a credit enhancement for lenders by improving the economics of projects and, in doing so, enhancing a customer’s ability to repay debt. While they may reduce customer defaults, they do not reduce lender or investor exposure to customer defaults in the event that they occur.

<sup>11</sup> The enhanced security of PACE (senior tax lien on property) may both reduce the frequency of customer defaults and enhance the likelihood that financial institutions will recover their losses from borrowers should these defaults occur. However, unlike the credit enhancements discussed in this guide, they are not an explicit promise to lenders that in the event of customer defaults they will be shielded from losses.

<sup>12</sup> The risk and speed of depletion depends heavily on the default rate and interest earned on LLR fund balances in the interim—LLR funds typically sit in escrow accounts and earn minimal interest.

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- 2) **The loan pool coverage ratio.** The maximum percentage of a pool of loans that can be recovered from the LLR (for example, a 10% LLR allows a lender to recover up to 10% of the size of its pool of program loans—up to the total LLR size—in the event of defaults). The lower the loan pool coverage ratio, the higher the leverage of program administrator monies (a 10%, \$1 million LLR can support \$10 million in lending and leverage LLR monies 10 to 1 while a 5% LLR can support \$20 million in lending and leverage LLR monies 20 to 1).
  - 3) **The loss-share ratio.** The percentage of a lender’s loss on each customer default that they can recover from the LLR. For example, a 90% loss-share ratio enables a lender or investor to recover 90% of the value of the loss from each loan default from the LLR (up to the loan pool coverage ratio). The lender must absorb the remaining 10%. Loss-share ratios are designed to ensure that lenders are incentivized to lend responsibly.

There is no “right” loan pool coverage ratio or loss-share ratio. These credit enhancement elements are typically negotiated between program administrators and financial institutions and are a function of the target market, financial institution risk tolerance, and program administrator goals.

#### EXAMPLE: MICHIGAN SAVES SINGLE FAMILY LOAN LOSS RESERVE

The statewide Michigan Saves program used \$3 million of Recovery Act grant monies to set up a 5% LLR with an 80% loss-share ratio for its multiple credit union lending partners. To access the credit enhancement, credit unions must offer 10-year, unsecured loans up to \$12,500 with an interest rate not to exceed 7%. Standard underwriting criteria are used (minimum 680 credit score, maximum 50% debt-to-income ratio), although lenders are permitted to offer loans to applicants with credit scores down to 640 (the loss-share ratio drops to 70% for these loans to ensure the lender is motivated to lend responsibly). The program also introduced the concept of a centralized loan application intake process to give customers and contractors a single place—and consistent process—for accessing the program. Few Michigan credit unions had previously used any kind of centralized intake, preferring in the past to conduct all intake on their own. Offering a credit enhancement to these entities was essential to getting them on board with this new program structure.

### Loan Guarantee

A loan guarantee enables lenders to recover all potential losses in the event of borrower default (loan guarantees can be thought of as a variant of LLRs with a loan pool coverage ratio and a loss-share ratio of 100%). Program administrators can limit the total amount of loans they will guarantee or can offer an unlimited guarantee for any loans. While LLR monies are typically placed in an escrow account at the start of a program, loan guarantees do not typically require an up-front allocation of program administrator capital because they are supported by the full faith and credit of the guaranteeing entity. This robust credit enhancement may make guarantees impractical for some program administrators as they often require legislative approval to setup.

#### EXAMPLE: TENNESSEE VALLEY AUTHORITY SINGLE FAMILY ON-BILL FINANCING GUARANTEE

Since 1997, the Tennessee Valley Authority (TVA) has worked with Regions Bank to offer an on-bill heat pump financing program to customers of its member utilities. Over this period, the bank has funded more than \$500 million of residential energy efficiency improvements. Regions Bank earns an interest rate of approximately 2% above the U.S. Treasury 5-year note (Regions Bank currently earns approximately 3.5% interest). This rate is so low because TVA guarantees the loans—if customers do not repay Regions Bank, TVA steps in to ensure the lender is made whole. The default rate on the loan pool has been around 3% for most of the program’s life—TVA charges customers ~6% interest; the 3% premium over what Regions Bank earns has been sufficient to cover program administration costs and make payments to Regions Bank when customers default.



## Debt Service Reserve Fund

A DSRF sets aside a limited pool of funds from which lenders or investors can recover overdue debt service payments on a financial product. Like LLRs, DSRFs typically include a total size and a coverage ratio, but they do not include a loss-share ratio. In the event that overdue debt service payments lead to a customer default, the lender or investor can keep funds it has received from the DSRF to offset the loss. In the event that a borrower makes overdue debt service payments, the lender or investor must return funds drawn down from the DSRF to the fund. DSRF's are most commonly used to support large loans, where a delay of customer payment for a couple days could severely impact a lender or investor.

### EXAMPLE: CALIFORNIA MULTIFAMILY ON-BILL FINANCING DEBT SERVICE RESERVE FUND

In California, a 5% DSRF of approximately \$3 million has been approved for an on-bill pilot targeting affordable multifamily housing. The DSRF is intended to support financial institutions by bridging short-term timing gaps due to either late utility bill payments from building owners or delayed remittance of these payments from the utilities to the lender.

## Subordinated Capital

Program administrators invest subordinated capital in a loan or pool of loans alongside privately funded senior capital. In the event of customer defaults, the subordinated capital absorbs all losses. The senior capital does not experience any losses until all of the subordinated capital has been exhausted. By absorbing all losses until it is exhausted, subordinated capital takes on the majority of customer default risk and acts as a credit enhancement for senior capital. One benefit of subordinated capital is that, unlike LLR funds which typically sit in an escrow account earning little to no interest, subordinated capital is invested in loans or a pool of loans and typically earns interest. Structured appropriately, subordinated capital can earn sufficient interest to offset losses on customer defaults, making it available for reinvestment in the future (an LLR, on the other hand, should be expected to be exhausted through time as customer defaults accumulate).

### EXAMPLE: WAREHOUSE FOR ENERGY EFFICIENCY LOANS SUBORDINATED CAPITAL SINGLE FAMILY LOAN PROGRAM

Launched in 2013 in Pennsylvania and Kentucky, the Warehouse for Energy Efficiency Loans (WHEEL) is an unsecured residential loan program through which program sponsors contribute subordinated capital to fund approximately 20% of issued loans. This subordinated capital earns the same approximately 6% return as senior capital, but absorbs all losses from customer defaults. If successful, securities backed by WHEEL loan pools will earn an "investment grade" rating from credit agencies and attract institutional investors, a holy grail of sorts due to the large amount of capital these investors can potentially deliver to energy efficiency financing markets. If customer defaults are in line with past trends, WHEEL administrators anticipate that the interest earnings on the subordinated capital stake will be sufficient to offset customer defaults and enable program sponsor capital to support additional loans in the future.

## EXAMPLE: ENERGIZE CONNECTICUT COMMERCIAL PACE SUBORDINATED CAPITAL PROGRAM FOR COMMERCIAL, INDUSTRIAL, MULTIFAMILY, AND INSTITUTIONAL CUSTOMERS

Launched in early 2013 by the Clean Energy Finance and Investment Authority (CEFIA), Commercial PACE (C-PACE) used a \$40 million pool of capital from ratepayers to deliver construction and term financing for energy efficiency and renewable energy projects in the commercial, industrial, multifamily, and institutional sectors. Financing is secured by a benefit assessment placed onto the property that is senior to the existing mortgage. This senior assessment enables CEFIA to deliver low-interest (maximum interest is 6%) and long-term (maximum term is 20 years) financing to participants. CEFIA recently sold approximately 80% of the value of its PACE assessments to a senior private capital investor, while retaining approximately 20% in a subordinated position. Like WHEEL, this subordinated capital earns the same return as the senior capital, but absorbs all losses from participant defaults. This initial transaction is ultimately expected to yield at least a 9 to 1 leverage ratio of private to public capital and the proceeds of the sale will be used to underwrite additional assessments, which, in turn, will be resold to investors.

## GETTING STARTED: FIVE KEY STEPS

Credit enhancement can come in many forms and achieve a range of policy and program objectives. There are five key steps to assessing which credit enhancement strategy is most appropriate for any specific program and implementing that strategy:

- 1) Identify the market you want to serve.

*Example: Single family households.*

- 2) Engage stakeholders (e.g., contractors, financial institutions) and identify specific barriers or opportunities in that market (e.g., credit access, high interest rates) that your financing program and credit enhancement strategy will target.

*Example: High interest rates on unsecured loans lead customers to invest in lower-cost, less-efficient heating and cooling equipment.*

- 3) Within this context, set primary and secondary goals for credit enhancement.

*Example: Primary goal—reduced interest rates; secondary goal—less restrictive underwriting criteria.*

- 4) Engage potential financial institution partners to structure credit enhancement and credit enhancement concessions.

*Example: Outreach to credit unions and finance companies. Consideration of LLR versus subordinated capital. Negotiation over credit-enhanced financial product rates, terms, and underwriting.*

- 5) Set measurable objectives.

*Example: Increased customer adoption of high-efficiency heating and cooling equipment. Reduced customer loan application declines. Reduced financial product interest rates.*

### 3. Additional Resources

There are many energy efficiency financing program design and implementation resources available that include credit enhancement information. Table 1 highlights several U.S. Department of Energy (DOE), SEE Action, and Lawrence Berkeley National Laboratory (LBNL) resources and provides brief descriptions of each to get you started.

**Table 1. Additional Energy Efficiency Financing Program Design and Implementation Resources**

Resource	Description
DOE State & Local Solution Center – Financing Solutions Credit Enhancement Page ( <a href="http://www1.eere.energy.gov/wip/solutioncenter/creditenhancement.html">www1.eere.energy.gov/wip/solutioncenter/creditenhancement.html</a> )	This website provides a brief overview of credit enhancements and a link to a webcast on structuring loan loss reserves.
DOE Better Buildings Neighborhood Program Credit Enhancement Page ( <a href="http://www1.eere.energy.gov/buildings/betterbuildings/neighborhoods/financing_step4a.html">www1.eere.energy.gov/buildings/betterbuildings/neighborhoods/financing_step4a.html</a> )	This website provides an overview of credit enhancements and includes links to sample credit enhancement agreements and case studies selected from more than 40 competitively selected state and local governments participating in the Better Buildings Neighborhood Program.
SEE Action Financing Solutions Working Group Work Plan, <i>Using Financing to Scale up Energy Efficiency</i> ( <a href="http://www1.eere.energy.gov/seeaction/pdfs/financing_workplan_recommendations.pdf">www1.eere.energy.gov/seeaction/pdfs/financing_workplan_recommendations.pdf</a> )	This workplan provides an overview of the SEE Action Financing Solutions Working Group’s analysis of challenges and opportunities to increasing the deployment of private capital to support energy efficiency investment.
LBNL Report, <i>Getting the Biggest Bang for the Buck: Exploring the Rationales and Design Options for Energy Efficiency Financing Programs</i> ( <a href="http://emp.lbl.gov/sites/all/files/rationales-and-design-options-for-ee-financing_0.pdf">http://emp.lbl.gov/sites/all/files/rationales-and-design-options-for-ee-financing_0.pdf</a> )	This report articulates key policy and program design questions—and options for answering them—regarding the role of financing for which we need better answers to inform decision making about the best use of taxpayer and utility billpayer funds.



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