Options for Raising Capital (and Leveraging Public Funds) for Residential Energy Loan Programs

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UNC Environmental Finance Center

As of January 2011, the USDOE supported Database of State Incentives for Renewables and Efficiency (DSIRE)\(^2\) includes information on 224 energy efficiency loan programs across the country. These programs use a wide range of subsidization and leveraging techniques designed to increase the pool of available capital and/or reduce the cost of capital to borrowers. This document outlines capital leveraging models and examples from across the country in which public funds were used to influence energy loan program capital.

The document focuses on programs designed to reach borrowers that possess a base level of credit worthiness and does not look at programs specifically designed to reach consumers with limited credit worthiness. Developing energy loan programs to reach credit-impaired borrowers poses a unique set of challenges and risk mitigation obstacles that typically require significantly more public funds.

The summary table at the end of this document lists different models along with implementation examples. Most of the examples have been in place for several years; however, some programs were only recently rolled out and provide limited historical information to analyze.

To put the impact of public funds on capital into perspective, it is helpful to analyze a widely available and well-established energy efficiency loan program that is relatively free of public fund influence. The Fannie Mae Energy Loan Program, supported by three lenders and marketed primarily by contractors, provides consumers with capital for small-scale energy investments at rates of between 14 to 16 percent for periods of 8 to 9 years. The capital behind the Fannie Mae Energy Loan Program comes directly from Fannie Mae with an expectation/requirement of return on their capital in the range of 12 to 13 percent. This rate

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2 http://www.dsireusa.org/
covers the cost of capital and the transaction costs of Fannie Mae making that capital available. It does not cover servicing or other lender costs.

**Options for Lowering Cost of Capital**

Several energy finance programs, including the **Pilot Residential Energy Loan Program** in Connecticut, have been designed to inject public funds into existing loan programs such as the Fannie Mae program in a way that lowers the effective capital cost to consumers. This interest rate buy down typically occurs by paying investors an upfront lump sum equal to the present value of forgone interest payment reductions over the life of the loans. This approach has been used in Connecticut and elsewhere to take advantage of an established contractor network, marketing, origination, and servicing infrastructure. Another benefit of this approach is that it can be rolled out relatively quickly, an important consideration for communities under strict timelines to expend ARRA funds. The major disadvantage of this approach is that it may require a significant public subsidy to reduce interest rates, and the funds allocated for this approach are fully “consumed” and not available for future rounds of capital support. The amount of funds expended for interest rate buy down depends on the loan term, the unsubsidized interest rate, and the target subsidized interest rate to borrowers. During the first phase of the Connecticut program, approximately $1.2 million in public funds (rate payer benefit funds) were consumed to generate $2.7 million in project financing in the form of consumer loans at 0 percent and 2.99 percent.3

The high cost of capital behind the Fannie Mae program and several other national loan programs (e.g. Wells Fargo, GE Capital) has led many program designers to look for alternative sources of capital. One place to look for lower-cost alternatives is in the country’s capital markets, loosely defined as the complex finance system linking diverse investors to borrowers through the bond market. Lamont Financial Services Corporation (Lamont), working on behalf of the Connecticut Fund for the Environment (CFE), has drafted a leveraging proposal founded on tapping into the taxable bond market4. Lamont estimates that public funds could be used to provide an initial capital pool that, once lent out, would generate a stream of P&I payments that could be used to securitize a taxable bond issuance. Proceeds from the bond issuance could then be used to fund additional loans. Lamont estimates that the consumer loan payments further supported by a funded reserve pool could access capital at rates in the range of 400 basis points (4%) greater than the treasury rate. Adding bond issuance costs and considering current treasury rates, this would generate capital at a 9 to 10 percent rate available for consumers. This rate, while significantly less than the un-enhanced Fannie Mae rate for capital, does not include servicing and other program management costs and is still higher than what many program managers believe is necessary to spur consumer uptake. Lamont’s proposal also includes an interest rate buy down within their model that would lower the consumer rate to 5.99 percent. Lamont estimates that these mechanisms will lead to $28 million in project funding over a period of 5 years, with $9.6 million of public funds invested in the first year. Unlike in the model where public funds are used solely for an interest rate buy down, some of the initial public funds in

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4 Information based on Draft Memo sent to CFE from Lamont Financial on September 21, 2010 and a phone conversation between the authors and Chris Valentino of Lamont Financial on January 14, 2011.
Lamont’s model stay in the system through time; however, since the cost of capital is still significantly higher than the rate offered to consumers, the public funds eventually will be consumed fully, and additional public subsidization will be required to continue the program.

The Lamont model is based on using public funds to leverage taxable bond capital. Several communities across the country are considering similar models that would tap into tax subsidy bonds in the form of Qualified Energy Conservation Bonds (QECBs). Under the QECB program, bond proceeds can be used to fund community energy programs including loan programs to residents and businesses. Based on recent pricing, some QECBs have reduced the bond issuer’s borrowing costs by at least 3.5 percent. The QECB interest payments that issuers pay to investors (bondholders) are considered taxable; however, issuers are paid a significant stream of direct subsidy payments over the life of the bonds that offset their higher interest payments and result in effective capital costs that are even lower than traditional tax exempt private activity bond issues. Theoretically, the cost of capital for QECBs could be lower than the taxable rate Lamont estimates, possibly as low as 2 to 3 percent, not including issuance costs. Simply deciding to apply a QECB designation for an eligible bond issue will not magically create low cost capital. The underlying security of the bond is essential to assuring that there will be a market for its purchase.

Only a few local or state governments have used or are close to using QECBs for energy loan programs, and the access and use of these funds fall under IRS regulations, allocations, and caps. In October 2010, Boulder County, Colorado issued two taxable special assessment bonds designated as QECBs in the amounts of $115,000 and $1.4 million for their commercial PACE program.

The Keystone Help Loan Program in Pennsylvania takes another approach, accessing capital from the Pennsylvania State Treasury (PAST) with a rate of return of approximately 5.6 percent, which does not include the servicing and program management costs applied by the program’s lender (an additional approximate 4 percent). This rate of return on the capital depends on a loan loss reserve pool equal to 5 percent of the loan portfolio. PAST intends to limit the total amount of capital it provides for this loan pool and plans on moving to a system where the capital for these loans comes from the secondary market (investors purchasing the aggregated loan pool managed by a new independent aggregation facility). Based on communication with PAST officials, the cost of this capital pool will end up being higher than 5.6 percent when their new model is implemented -- probably closer to 7 to 8 percent. After servicing and management costs are added, the rate will climb to 10 to 12 percent. Keystone Help relies on interest rate buy down subsidies to provide much lower rates to borrowers (see table).

Other programs, such as Michigan Saves Energy Loan Program, have turned to regional banks and/or credit unions for their underlying capital. The Michigan Saves program and other similar announced and pending programs have capital rates in the range of 5 to 8 percent, which includes some servicing and program management costs. In Michigan, six credit unions are currently marketing loans directly to their members. Credit unions are receiving interest rates up to 75 percent. See [http://www.michigansaves.org/Portals/0/Lenders/Participating%20Lenders%20and%20Service%20Areas.pdf](http://www.michigansaves.org/Portals/0/Lenders/Participating%20Lenders%20and%20Service%20Areas.pdf). The program anticipates adding more credit unions to serve the rest of the state within the next month.
percent for their capital – this covers their rate of return on capital as well as some servicing and administration. Contractors pay a one-time fee of 1.99 percent of the loan amount to the program that will cover quality assurance, and that cost is likely passed on to loan recipients as well. The administration of this program is done by the non-profit group Michigan Saves and is heavily subsidized by public funds from a variety of sources. As a result, it is difficult to determine the actual leveraging ratios for this type of program accurately. The Michigan Saves program enhances each energy loan made by a participating credit union through a 20:1 loan loss reserve pool, but this does not include administration services covered by other sources of revenue and grants.

The main difference between Michigan Saves and some of the other loan loss reserve models being rolled out in areas like Washington State is the number of credit unions participating. By comparison, a single credit union was selected to lead the program in Washington State through a competitive process and has committed to lending capital to consumers at rates between 4.74 to 6.24 percent for terms ranging from several years to more than ten years. What is particularly impressive about these rates is that they include servicing charges. The loans will be backed by public funds held in a loan loss reserve portfolio equal to 5 percent of the overall loan portfolio, leading to a 20:1 leveraging ratio. The capital rates for these loan loss reserve model programs are clearly much lower than many of the other sources of capital available for energy loans. These low rates may be explained in part by the lower expected rate of return that some credit unions have for their capital in comparison to private banks or capital market investors. The lower cost of servicing is likely tied to the institution’s ability to add the servicing and originating into its current loan infrastructure—essentially, they have staff already servicing and originating loans and may not need to hire additional staff. Credit unions also likely view these attractive loan terms as a way of providing services to their existing members and as a way of attracting new members.

Rate payer funds are another common source of capital that can be used directly for loans or used for leveraging. In some cases, revenues from utility surcharges are transferred to special funds designed to promote public policy goals such as energy efficiency and renewable energy. Once these surcharges are transferred into to the special public benefit funds, they are often viewed as “public funds,” though utility regulators still monitor their use to insure that the benefits of the funds are accrued to the utility customers that generated them. These funds do not normally carry an expectation of a return on capital and are often used to leverage private capital or as a source of direct grants. For example, NYSERDA’s home energy program has tapped into these types of funds to support energy upgrades in 33,000 homes since 2001. NYSERDA partners with local banks and credit unions to finance energy loans, uses funds from the rate payer fund to offer 4 percent interest rate buy-downs. This strategy often brings interest rates down below 5 percent, but, as with the pilot program in Connecticut, these funds are fully consumed at the time the loans are made and do not provide on-going credit enhancement.

Other utilities simply allocate some of their available cash flow to serve as capital for loans. In this case, the utility commonly expects a return on these funds. The energy loan program with the likely highest volume in all of North America, the Manitoba Hydro Power Smart

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Residential Loan Program, is funded in this manner using rate payer capital. Since 2001, Manitoba Hydro has issued more than $200 million in energy loans to approximately 51,000 residences. All of the capital comes directly from the public utility.

Some utilities design their programs to rely less on utility capital and more on their ability to aggregate loans, collect payment, and/or cut off service for non-payment. The Tennessee Valley Authority’s (TVA) Energy Right Heat Pump Loan program is a partnership between their power distributors and Regions Bank (TVA is a power producer, not a power distributor). TVA guarantees the outstanding loans. Regions Bank provides capital for the loans at a rate under a formula based on several factors and the treasury rate (now running at approximately 8 percent). This rate generates the rate of return the bank demands to cover their administration costs, their cost of capital, and a fee/premium that they pay to TVA which is turn is used by TVA to fund the guarantee pool. TVA’s power distributors serve as the collection agent for these loans.

A similar concept to using rate payer capital is the use of Regional Greenhouse Gas Initiative (RGGI) auction proceeds, which are available to Connecticut. Ten northeast and Mid-Atlantic states including Connecticut sell emission allowances through auctions and invest the proceeds in customer benefits including energy efficiency and renewable energy programs. NYSERDA’s Green Jobs / Green New York Financing program has approximately $51 million available for energy loans from RGGI auctions. This new program was launched in November 2010 and right now is structured as a revolving loan fund, with the RGGI auction proceeds loaned directly to customers. NYSERDA is considering using some of the funds for credit enhancements and rebates as well.

General Strategies for Reducing Capital Costs

There are some general strategies and approaches that programs have used to reduce their cost of capital that are independent of the actual capital raising mechanism. For example, having a competitive RFP process for financial institutions is typically more likely to generate better terms than if the bank were selected outright. Bids that came in through competitive RFP processes in Michigan and Washington, for example, varied widely in terms of interest rates to customers and administrative costs to programs, allowing the program to select the offers of the best lender(s). Also, programs often continue to negotiate with the “winners” of the lender RFP before signing a final lender agreement, which could lead to improved terms and/or lower costs of capital.

The scale of programs can have a major influence on the capital savings that reach consumers. Some costs of raising capital are relatively fixed regardless of how much capital is generated. For example, the ability to spread bond issuance costs over larger capital pools (at least $5 to $10 million) leads to lower capital rates filtering down to consumers than for smaller issuances. Program sponsors should also consider how many different approaches are used to raise capital for similar programs in close proximity to each other.Employing similar and more consistent approaches especially if they allow for larger capital raising initiatives may reduce administrative costs and lead to more streamlined marketing.

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7 See http://www.rggi.org/home
Another way that programs have lowered their program costs is through centralized marketing and program administration. This is true for both the Michigan Saves and Pennsylvania Keystone Help programs, which have been able to reduce the cost of each loan through economies of scale. Some programs, as noted above, not only centralize their marketing and program administration but also subsidize these activities with grants and other public funds. In particular, Michigan Saves and Boulder County are able to offer lower interest rates to consumers by covering their administrative costs through other funds. This strategy may make the loan program more attractive to potential borrowers from the outset, but may lack sufficient revenues to cover long term administrative costs.
### Examples of Energy Program Loan Capital

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<th>Capital Model</th>
<th>Examples Information</th>
<th>Program Information</th>
<th>Amount of EE/RE investments made (through Date)</th>
<th>Credit Enhancement</th>
<th>Amount of Public Funds or subsidies Allocated</th>
<th>Cost of Capital</th>
<th>Current Capacity of Program</th>
<th>Interest Rate to Consumers</th>
<th>Leveraging</th>
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<tr>
<td><strong>Fannie Mae with Interest Rate Buy Down</strong></td>
<td>CT Residential Loan Pilot (6/1/2010)</td>
<td>Fannie Mae Program has been active since 1995. CT Program runs through 6/30/2011</td>
<td>Through July 2010, $2.7 M in loans</td>
<td>Interest rate buy down</td>
<td>$1.1 M</td>
<td>12 to 13% for access to Fannie Mae capital with an additional 2 to 4% added for servicing and program management</td>
<td>Limited by amount of interest rate buy down funds available</td>
<td>0 to 2.99%. Terms vary</td>
<td>2.45:1</td>
</tr>
<tr>
<td><strong>Rate Payer Capital</strong></td>
<td>Power Smart Residential Loan, Manitoba, Canada (March 2001) <a href="http://www.swenergy.org/publications/documents/Recent_Innovations_in_Financing_for_Clean_Energy.pdf">Program Website</a></td>
<td>Manitoba Hydro, a government-run energy utility, operates the largest loan program in North America. The utility serves 500,000 customers</td>
<td>Through October 2009, more than $200 M and 51,000 loans&lt;sup&gt;8&lt;/sup&gt;</td>
<td>Utility has tied up capital that could have been used for investments that may have generated higher returns</td>
<td>No public funds linked to capital terms. Incentives from the Canadian Public Utilities Board to run program</td>
<td>6.5% includes servicing costs and return paid to utility</td>
<td>Based on capital allocated for program from utility</td>
<td>Annual interest rate of 4.9% (recently reduced from 6.5%). Term of loan is up to five years</td>
<td>NA</td>
</tr>
<tr>
<td><strong>Credit Union Capital</strong></td>
<td>Michigan Saves, Michigan (2010)</td>
<td>Program is operated by a nonprofit and has six credit union lending partners</td>
<td>Through December 31, 2010, 84 loans totaling $545,000</td>
<td>Publicly funded loan loss reserve fund using DOE and Public Service Funds</td>
<td>$3.4 M committed to LLR pool</td>
<td>6 to 8%, which includes servicing costs (Additional 1.99% of loan is charged to contractor)</td>
<td>$68 M based on current commitment; defaults will reduce the capacity in the future</td>
<td>Up to 7%</td>
<td>20:1, though the ratio does not reflect subsidized program admin</td>
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</tbody>
</table>

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<table>
<thead>
<tr>
<th>Capital Model</th>
<th>Examples (Start Date)</th>
<th>Program Information</th>
<th>Amount of EE/RE investments made (through Date)</th>
<th>Credit Enhancement</th>
<th>Amount of Public Funds or subsidies Allocated</th>
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<td>Regional Bank Capital</td>
<td>TVA Energy Right HVAC Loan Program</td>
<td>Program uses lender fees (premiums) to fund a guarantee pool to cover defaults</td>
<td>Exact number not available—millions of loans made through January 2011</td>
<td>Borrower funded guarantee pool administered by TVA</td>
<td>Majority of credit enhancement pool funded by lender premium</td>
<td>Approximately 8% covers return to lender as well as funds lender pays to TVA to support guarantee pool</td>
<td>No set limit.</td>
<td>6 to 8%</td>
<td>NA</td>
</tr>
<tr>
<td>State Capital Intended linked to Secondary Market Capital</td>
<td>Keystone HELP, Pennsylvania (2006) <a href="http://www.statehelp.com">Program Website</a></td>
<td>Keystone HELP is a state-wide financing program. AFC First administers the program with capital funds from the PA State Treasurer (PAST)</td>
<td>Through August 2010, 6,000 residential loans totaling $37 M</td>
<td>Loan loss reserve and interest rate buy downs</td>
<td>$3M⁹</td>
<td>5.6% covers rate of return for PAST capital. Approximately 4% goes to program mgmt. and servicing</td>
<td>PAST has limits on how much capital they are willing to provide. Efforts are underway to sell portfolio on secondary market to generate recycled capital</td>
<td>2.99-8.99 %</td>
<td>20:1, though the ratio does not take into account sizable interest buy down</td>
</tr>
<tr>
<td>Regional Greenhouse Gas Initiative (RGGI) Funding</td>
<td>Green Jobs, Green New York NYSERDA, New York (2009, Loan Program Launched Nov. 2010) <a href="http://www.greennewyork.com">Program Website</a></td>
<td>Program takes advantage of Regional Greenhouse Gas Initiative (RGGI) auction proceeds</td>
<td>Through December 2010, program has closed 9 loans, with 48 more loans approved and awaiting closure</td>
<td>$112 million allocated for entire program ($39.2 M for residential and $15.7 M for multi-family)</td>
<td>Currently no leverage, as RGGI auction proceeds being used for a revolving loan fund.</td>
<td>NA</td>
<td>Limited by RGGI funds available</td>
<td>3.49 – 3.99% Borrowers can be lent $3,000 - $13,000 at fixed rate loan terms of 5, 10 or 15 years</td>
<td>NA for now, though RGGI auction proceeds may be used for LLR in the future</td>
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