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Using Qualified Energy Conservation Bonds (QECBs) to Fund a Residential Energy Efficiency Loan Program: Case Study on Saint Louis County, MO

Qualified Energy Conservation Bonds (QECBs) are federally-subsidized debt instruments that enable state, tribal, and local government issuers to borrow money to fund a range of qualified energy conservation projects. QECBs offer issuers very attractive borrowing rates and long terms, and can fund low-interest energy efficiency loans for home and commercial property owners. Saint Louis County, MO recently issued over $10 million of QECBs to finance the Saint Louis County SAVES residential energy efficiency loan program. The county's experience negotiating QECB regulations and restrictions can inform future issuers.

QECB Background

A Qualified Energy Conservation Bond (QECB) is a debt instrument that enables qualified state, tribal and local government issuers to borrow money to fund qualified energy conservation projects.[1] First established by the Energy Improvement and Extension Act of 2008, QECB issuance capacity was expanded from $800 million to $3.2 billion by the American Recovery and Reinvestment Act of 2009. The Department of Energy estimates that between 10 and 15 percent of this issuance capacity has been used. A QECB is among the lowest-cost public financing tools because the U.S. Department of Treasury subsidizes the issuer's borrowing costs. Issuers may choose between structuring QECBs as

[1] For a full list of eligible projects, visit http://www1.eere.energy.gov/wip/solutioncenter/financialproducts/QECB.html

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tax credit bonds (bond investors receive federal tax credits in lieu of—or in addition to—interest payments) or as direct subsidy bonds (bond issuers receive cash rebates from the Treasury to subsidize their interest payments). Both tax credit and direct payment bonds subsidize borrowing costs, but most QECBs are being issued as direct subsidy bonds due to lack of investor appetite for tax credit bonds.

QECB Applications: Green Communities Programs

The Federal legislation that established QECBs listed several 'qualified' uses of bond proceeds including energy upgrades to public buildings, mass transit projects, and green community programs.

The term 'green community program' is undefined in Federal statute, but the controlling legislative history in the Conference Report to the American Recovery and Reinvestment Act provides clear guidance that loan programs for energy upgrades on private buildings do qualify as green community programs. The Conference Report includes the following statement regarding Congressional intent about the broad intended scope of this term:

> *Also, the provision clarifies that capital expenditures to implement green community programs includes grants, loans, and other repayment mechanisms to implement such programs. For example, this expansion will enable States to issue these tax credit bonds* ***to finance retrofits of existing private buildings through loans and/or grants to individual homeowners or businesses****, or through other repayment mechanisms.…Retrofits can include heating, cooling, lighting, water-saving, storm water-reducing, or other efficiency measures.* [2]

QECB regulations stipulate that a maximum of 30 percent of QECB allocations may be used for private business activity or private loan purposes.[3] However, by designating an energy efficiency loan program as a green community program, issuers establish its public purpose, which eliminates the 30 percent restriction, and allows them to channel up to 100 percent of bond proceeds to financing programs for upgrading the energy performance of privately owned homes and businesses.

Financing Loan Programs with QECBs: Opportunities and Limits

Typical QECB issuance terms have been below 2 percent interest (net of the QECB subsidy) over approximately 15 year terms.[4] These extremely attractive terms enable QECB-funded energy efficiency financing programs to offer loans to home and business owners at low rates. With the costs of issuing bonds and administering a loan program factored in, loan program participants are likely to face borrowing costs of 3 to 7 percent—significantly lower than the 10+ percent rates typically

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[2] Emphasis added. February 12, 2009 Congressional Record – HOUSE H1473

[3] No more than 30 percent of a state government's QECB allocation may be used for private activity projects (bonds issued by or on behalf of a public entity to finance projects for a private user). It is important to note that this 70/30 limit applies to a state's *entire* bond issuance capacity—not any single issuance. For example, the State of California has allocated some portions of its QECB capacity to fully private projects and others to fully public projects to ensure that across its entire allocation the 70/30 guideline is met.

[4] As of June 17, 2011, the maximum QECB maturity was 16 years and the maximum interest rate subsidy was 3.49 percent (70 percent of the Qualified Tax Credit Rate). For updated maximum maturity and interest rate subsidy levels, visit: https://www.treasurydirect.gov/GA-SL/SLGS/selectQTCDate.htm So far, most issuers have borrowed money at a net interest rate of less than 2 percent. However, interest rates will vary based on current market conditions and the perceived investor risk associated with the QECB issuer and the underlying bond structure.

charged by national lenders for unsecured energy improvement loans.[5] While data on the sensitivity of customer demand to loan interest rates is generally lacking, many contractors and programs use the availability of low interest rate loans to bolster their sales pitches—suggesting that low interest rates can be an important driver of energy efficiency upgrades.

While QECBs may be used to deliver low-interest loans, one of their limits is that they do not provide programs with a sustainable financing source. Federal tax regulations restrict the interest rate premium that programs may charge to borrowers when re-loaning QECB proceeds. This means that programs must set interest rates at a level just high enough to cover QECB principal and interest payments and program costs.[6] In practice, these regulations will prevent most issuers from establishing a revolving loan fund in which loan repayments are used to provide energy improvement loans to new participants. In this context, QECBs can be understood as a tool for launching energy efficiency financing products with extremely attractive interest rates while additional funds—public or private—are sought to enable program continuity once QECB proceeds have been lent out.

Case Study: Saint Louis County, MO

Launched in May 2011, Saint Louis County Sustainable and Verifiable Energy Savings (SAVES) is a $10.4 million residential energy upgrade loan program (see Table 1 for a summary of loan terms and underwriting standards).

Table 1. *Saint Louis County SAVES Energy Improvement Loan Terms & Underwriting Standards*

Saint Louis County SAVES Residential Loan Terms & Underwriting Standards	
Loan Amounts	$2,500-$15,000
Loan Terms	Up to 10 years
Interest Rate	3.50%
Eligible Borrowers	Owner-occupied single-family homes
Eligible Measures	Energy saving improvements*
Minimum FICO Score	660
Maximum Debt-to-Income Ratio (DTI)	45 percent

*Renewable energy systems are permitted on a case-by-case basis if an energy assessment shows that a home is energy efficient.

Anne Klein, Saint Louis County's Director of Energy Sustainability championed the county's $10 million QECB issuance. As the first QECB issuer to fund a residential financing program, the county's experience designing its loan program to meet both QECB regulations and the needs of homeowners and contractors provides valuable lessons for other local, state and tribal governments considering this option (see Table 2 for a summary of Saint Louis County's QECB issuance terms).

[5] The popular Fannie Mae Energy Loan has an interest rate of 14-16 percent.
[6] For more information on interest rate arbitrage restrictions visit the Key Lessons Learned section below.

Klein saw an opportunity to leverage the county's limited Energy Efficiency and Conservation Block Grant (EECBG) to support a QECB issuance that would lead to far more investment in energy improvements than a traditional rebate program otherwise would—the county leveraged $592,000 of EECBG funds to create its QECB-funded loan pool, which is expected to deliver financing for approximately 1,400 home energy upgrades in the next several years,[7] over 5 times more improvements than a rebate program would have produced.[8]

Table 2. *Saint Louis County's QECB Issuance Terms*

Saint Louis County's QECB Terms[9]	
Issuance Size	$10,305,000[10]
Issuance Date	May 18, 2011
Bond Security	County annual appropriation pledge with internal designation of loan proceeds as source of repayment obligation[11]
Bond Rating	AA+/Aa2[12]
Effective QECB Interest Rate	0.7%[13]
Maturity Schedule	Serial bonds[14] with final maturity of 15 years and bonds maturing annually starting in 2013

Key Lessons Learned

- ***Federal Interest Rate Arbitrage Restrictions[15]***

[7] These EECBG funds will be used to buy down customer interest rates and to cover the county's program administration costs

[8] A $592,000 rebate program could reasonably be expected to incentivize approximately 240 upgrades, leading to a total investment in energy improvements of under $2 million (assuming a $2,500 per upgrade rebate and a total upgrade cost of $7,500).

[9] The bond official statement is available here: http://emma.msrb.org/EP532316-EP415542-EP812989.pdf

[10] A $150,000 non-QECB taxable bond was also issued to the QECB purchaser. The unsubsidized taxable bond was structured as a short-term 1.25 percent, 2013 maturity borrowing to minimize the County's costs. Taxable bonds may be used to fund items that do not qualify for QECB financing or to meet Federal interest rate restrictions (more information on Saint Louis County's use of proceeds can be found in subsequent sections).

[11] The County pledged to the bondholders to request annual appropriations from the County Council sufficient to pay the principal and interest on the bonds. This structure is common in many states where general obligation issuances require voter approval.

[12] The County has a AAA general obligation bond rating, but the rating on the bonds is lower because the county pledged its annual appropriation, rather than general obligation, to repayment security.

[13] The effective interest rate is the average rate that the county will pay *net* of the Federal interest rate subsidy and EECBG grant for capitalized interest over the 15 year life of the bond issuance.

[14] Serial bonds mature in installments over the life of an issuance.

[15] A special thank you to Jeff White at Columbia Capital Management, Saint Louis County's financial advisor, and Mark Spykerman at Gilmore & Bell, Saint Louis County's bond counsel, for their assistance with this section.

Federal regulations restrict the returns a QECB issuer can earn on loans in pooled loan programs[16]—a common feature in tax exempt and cash subsidy bonds.[17] There are two options for complying with these regulations:

1. Offer loans funded with QECB proceeds at an interest rate no higher than the bond yield + 1.5 percent, adjusted for issuance costs and a reasonable expectation of loan defaults.
2. Offer loans funded with QECB proceeds at an interest rate no higher than bond yield + .125 percent, adjusted for issuance costs, a reasonable expectation of loan defaults, **and program administration costs.**

The first option was not feasible for Saint Louis County because its program administration costs, alone, are higher than 1.5 percent. Instead, the county selected the second option, allowing it to incorporate these higher costs into loan interest rates. Whichever option that issuers choose, Anne Klein suggested they take a conservative approach to loan default expectations.[18] Using a conservative anticipated default rate helped to overcome the biggest barrier the program faced, which was the County Council's concerns about a QECB issuance's risks to its investment grade bond rating, by building in a margin for error.

- ***Loan Origination Fees***
  Loan origination fees are common in the lending community. These fees *are* subject to the Federal interest rate restrictions described above. Saint Louis County's program includes a 3 percent loan origination fee charged by its third-party administrator (that may be included in the total loan to avoid borrowers having to pay these costs out-of-pocket at the time of project execution). The county was advised by its bond counsel that QECB proceeds could not be used to fund this loan origination fee. Accordingly, the county structured its program so that loan origination fees could be paid from other sources, including interest earnings on loans made through the program, the proceeds of the separate $150,000 unsubsidized series of bonds and Recovery Act grant monies deposited in the loan pool by the county. Federal tax regulations do not permit the County to earn interest on the portion of the loan principal used to pay these origination fees.[19]

- ***High Issuance Costs***
  Federal regulations stipulate that a maximum of 2 percent of QECB proceeds can be used to pay for bond issuance costs, including underwriting fees. However, Saint Louis County's issuance costs were higher—approximately 2.4 percent. High issuance costs (as a percentage of bond issuance size) are not uncommon for QECB issuers as many QECB allocations to local governments have been small and issuance costs are disproportionately higher for small bond transactions. This is an important consideration for potential issuers—the high transaction costs, in terms of both time and money, of QECB issuances for loan programs may make this option impractical for local governments with bond allocations significantly below $10

[16] Pooled loans are programs in which an eligible entity issues bonds and then relends bond proceeds to other borrowers.
[17] These restrictions are in place to prevent interest rate arbitrage situations in which an issuer earns excess returns on subsequent loans.
[18] Saint Louis County assumed a 6 percent default rate. While non-payment rates on energy efficiency loans in several prominent programs have been low (<3 percent), these rates are expected to rise as the loan portfolios mature; thus, it is not yet clear whether defaults will exceed 6 percent for these existing portfolios.
[19] In other words, if homeowners opt for no up-front fees, the County will earn interest on just $97 of every $100 that it loans.

million. To comply with the 2 percent limit, Saint Louis County covered these additional costs with part of its $150,000 unsubsidized taxable bond.

- ***Historical Preservation Compliance***
  Older homes tend to be less efficient than newer homes, and a significant percentage of the Saint Louis County housing stock was built before 1966.[20] A significant proportion of the Saint Louis County housing stock is older homes, and the County ran into a potential roadblock on the issue of complying with historic preservation regulations. The county had already received sign-off on exemptions to historic preservation review from its State Historic Preservation Office (SHPO) under an existing Program Agreement between the state of Missouri and the Department of Energy (DOE).[21] However, because QECBs are not administered by DOE, there were questions about whether this existing agreement could be used to grant exemptions. Ultimately, the Advisory Council on Historic Preservation, an independent Federal agency, found that QECB-funded projects are not subject to the National Historic Preservation Act and that Saint Louis County could proceed as planned. Because the program is using EECBG funds, it must still comply with the state's DOE/SHPO Program Agreement—meaning that homeowners with properties older than 45 years must wait up to 30 days for SHPO approval before proceeding with specific external energy improvements including roofs, windows and doors. While Anne Klein suggested that, in retrospect, she might have reconsidered using EECBG funds given this issue, she is not overly concerned about the impact of historical preservation compliance because the measures that require this review are among the worst payback improvements from an energy-savings standpoint. The bigger point, she added is to, "Know the pools of money you are using and understand the strings attached."

- ***10 Percent of QECB Proceeds Should Be Spent within 6 Months***
  QECBs are intended to have a stimulative impact on the economy. In fact, injecting $10 million into job creation was a significant motivation for the County's decision to proceed with its issuance. Federal tax regulations stipulate that the issuer must reasonably expect at least 10 percent of bond proceeds to be spent within 6 months of issuance. This can be a challenge for energy efficiency loan programs tasked with fundamentally creating a market—training contractors, educating homeowners and facilitating the streamlined delivery of energy improvements and financing. To gain a reasonable expectation that it could commit at least $1 million of improvement loans by November 2011, Saint Louis County SAVES commissioned a market study to identify likely participants and examined the uptake patterns from other residential efficiency financing programs across the country. The program also waived the normally-mandatory energy assessment until this first $1 million of capital is committed.[22] In addition, Saint Louis County aggressively courted contractors, running 8 training sessions before the program launched—and its hard work is paying off. Just 2 weeks after launch, the program has already approved over 65 applicants for financing.

[20] Under the Missouri State Historic Preservation Office's Program Agreement with DOE, houses under 45 years of age are automatically exempted from SHPO compliance.
[21] Most State Historic Preservation Offices have a similar agreement in place with DOE for State Energy Program and Energy Efficiency and Conservation Block Grant funded initiatives.
[22] The program still strongly encourages homeowners to invest in energy assessments.

Next Steps

Saint Louis County SAVES expects to finance approximately 1,400 energy upgrades with its QECB issuance. Once these loans have been made, the County will evaluate long-term financing options. With its Recovery Act funds spent, the county lacks significant budget for credit enhancements or program administration costs, but hopes that this initial funding round will help to demonstrate the energy efficiency value proposition to potential future financial partners. Asked about whether she would recommend the use of QECBs for residential loans based on her pioneering experience, Anne Klein responded, "I would definitely recommend it. It was a learning experience, but it is such cheap money for the county and its citizens."

Additional QECB Resources

A range of resources including webinars, frequently asked questions and DOE guidance for the use of ARRA funds to support QECBs can be found at the following websites:

Department of Energy Solutions Center QECB Page:
http://www1.eere.energy.gov/wip/solutioncenter/financialproducts/qecb.html

Energy Programs Consortium Policy Brief with Updated Issuances:
http://www.naseo.org/resources/financing/qecb/EPC_Memo.pdf