LOW INTEREST FINANCING
FOR CLEAN ENERGY PROJECTS

A WORKING GUIDEBOOK ON QUALIFIED ENERGY
CONSERVATION BONDS FOR STATE AND LOCAL
GOVERNMENTS

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Applied Solutions is a 501c3 nonprofit organization founded by local elected officials in 2008. Applied Solutions works with local governments to design and implement projects to advance a clean economy, save money, increase efficiency, and prompts local economic development including job creation. Applied Solutions provides subject matter expertise on clean energy, efficiency, infrastructure; technical tools; and a peer network of local government technical staff to cities and counties committed to the advancement of a clean economy.

For additional information and assistance on QECBs as a financing option for clean energy projects for states and local governments, please contact Jim Barrett, Chief Economist at jim.barrett@appliedsolutions.org.

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Introduction

Qualified Energy Conservation Bonds (QECBs) were created by the federal government to help state and local governments access low-interest financing for certain types of clean energy projects. The American Recovery and Reinvestment Act of 2009 (ARRA) set aside $3.2 billion for the program. State and local governments have access to these funds according to a formula based on the size of the population under their jurisdiction. To date, about 80% of the ARRA funds remain unused, despite the very low borrowing costs that the program enables.1 Applied Solutions created this Guidebook to help local governments learn more about the program and to help them decide if and how they can take advantage of it.

If you would like to learn more about QECBs or to talk through how your community might create a program that takes advantage of QECBs, please contact Applied Solutions, and our experts will be more than happy to help you in the process.2

Overview

Qualified Energy Conservation Bonds (QECBs) are federal subsidies to state and local communities aimed at spurring investment in certain clean energy technologies and strategies. Under the program a state or local government issues taxable bonds to be used for approved purposes (discussed below). The interest rate paid by the issuer to bond buyers will be whatever the market determines. Issuing governments claim the subsidy from the federal government and receive a payment that will partially offset the interest payments being made to bond holders. The amount of subsidy is determined by a formula laid out in statute and depends on a number of factors. Net interest costs for QECBs, after factoring in the federal subsidy, have been below 1% for some projects. There are several factors which make issuing QECBs complicated and perhaps difficult, but low net interest rates can make them a compelling tool for local governments looking to launch clean energy projects.

Who is Eligible

Under the Recovery Act (ARRA), $3.2 billion in federal money was allocated to the QECB program. That money is allocated to states according to its share of the national population. Each state is required in turn to sub-allocate its allocation to each “large local government” in the state according to its share of the state population. To qualify as a “large local government” a city or county must have a population of more than 100,000 according to the Census Bureau as of July 1, 2007. To the extent that a state has residents who live in local jurisdictions of less than 100,000, the QECB allocations that would have gone to those governments remains with the state to be used at the discretion of the executive branch. For most states, about one third of the total state QECB allocation falls into this category. As a rule of thumb, the QECB formula

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2 Disclosure: This document is intended to provide basic information about QECBs and is not intended as actionable tax advice.
results in allocations of roughly $10 per capita, so that a county or city with a population of exactly 100,000 (the smallest sized government to receive an allocation) would be able to issue just over $1,000,000 worth of QECBs. Local governments are allowed to return their QECB allocations to the state if they so choose, but the state cannot compel local governments to do so.

Why the IRS is Involved and Why it Matters

The QECB program was originally designed as a tax credit program under which bond holders would receive below market rate interest on the bonds and would then apply to the IRS for a tax credit to make up some or all of the difference. Due in large part to low usage rates, the program was amended to allow local governments the option to issue bonds on a cash payment basis. Under this option, the local government issues a taxable municipal bond at market rates and receives the subsidy payment from the Treasury. The vast majority of QECBs being issued are issued using this cash payment option.

This means that the IRS must administer the program and must also be the ultimate judge of whether or not an issuer is using the bonds in a way that meets the definition of “Qualified.” This requires that the IRS interpret the statute, which is unclear in places (more below). To date, the IRS has not issued much by way of guidance or clarification of the statute. Further, the principal enforcement mechanism available to the IRS is to audit programs funded by QECBs, which it can do anytime during the life (or “tenor”) of the bond plus three years. Essentially, QECB funded programs can only be fully deemed as “qualified” if the IRS audits the program and retroactively finds it to be so.

How Much is the Subsidy

The exact amount of the subsidy varies over time depending on overall interest rate levels. It is calculated as 70% of the “Qualified Tax Credit Bond Rate” as determined by the Treasury and published online on Treasury Direct at: https://www.treasurydirect.gov/GA-SL/SLGS/selectQTCDate.htm, or the interest rate the bonds are issued at, whichever is lower. At the time this was written, the subsidy was 3.24%. A municipality issuing a QECB bond today with a term of 20 years that carried an interest rate of 5% would face a net borrowing cost of 1.76%.

Guidelines for Eligible Projects

The statute authorizing QECBs lays out the purposes for which they may be used. With one notable exception (the Green Community Program designation discussed below), it requires that no more than 30% of an issuer’s allocation be used for private activity bonds. In describing the types of programs that can be funded, some are clear and obvious. Renewable energy programs, demonstration projects, and mass transit are all clearly identified as qualifying uses. Energy efficiency improvements in municipal buildings are also specifically identified as a qualifying use. Such projects must achieve a 20% reduction in energy use, and guidance issued by the IRS
in June 2012 gives some details on how that is to be measured and applied to municipal building projects.  

**Exceptions for Green Community Programs**

In outlining eligibility for QECB issuance, the statute creates broad exceptions for so-called “Green Community Programs.” The 30% private activity limitation does not apply to projects that implement green community programs. This gives considerable flexibility to issuers to use the bonds for a wide range of programs under this clause. However, the term “green community program” is not defined in the statute or anywhere else in law, and bond counsels for local governments have been understandably reluctant to appeal to this clause because of the legal uncertainty could put projects at risk and because a QECB issuance can only be definitively “Qualified” after the fact by surviving an audit.

One piece of guidance that some local governments have relied on to issue QECBs for Green Community Programs comes from the non-binding Conference Report that was issued by Congress when QECBs were authorized. In it, Congress uses retrofitting of privately owned buildings for energy efficiency as one example of what a green community program might be, but does not limit them to this.4

Fortunately, the IRS June 2012 guidance offers more clarity on what it considers as a qualifying Green Community Program. To qualify as a Green Community Program, the project must either involve property that is available for general public use or fund a loan or grant program that is broadly available to the general public.

Under the first option, a project undertaken on municipally owned property clearly seems to qualify, but other types of projects would also appear to qualify, even if they take place on private property. The guidance specifically cites as an example infrastructure improvements that increase connectivity between community assets and mass transit facilities or otherwise enhance accessibility to them.

Under the second option, the program does not necessarily affect the entire geography of the municipality or be available to every resident or business in the municipality, but for those areas or classes of beneficiary that the project targets, it must be made broadly available within those areas or classes. For example, a home retrofit loan program may be targeted to a particular neighborhood and may only be available to homeowners that meet certain lending standards and still qualify.

**Getting Clarification on Current QECB Rules**

For several months, Applied Solutions has been working with other stakeholders in the field to get clarification from the Treasury Department and the IRS on several issues in the QECB statute. At our request, the White House convened a meeting in February 2012 with leaders from

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3 This guidance is available at http://www.irs.gov/pub/irs-drop/n-12-44.pdf

Treasury, the White House Council on Environmental Quality and other key Agencies to discuss the need for clarification. We requested specific clarification on the issue of Green Community Programs, the 20% energy savings requirement for municipal buildings, the ability of smaller local governments to pool their allocations together to reduce administrative costs, and others. As mentioned above, the IRS issued guidance in June 2012 that addressed some of these issues. Following that guidance Applied Solutions hosted a series of webinars to answer questions from our members on the implications of the guidance and on the QECB program more generally. The questions and answers from those webinars are included at the end of this guidebook.

**What’s Next for Local Governments and QECBs**

The low utilization rates of QECBs is likely due to a combination of factors, including the fact that QEBCs were not well publicized, the lack of a deadline for using allocations, and the uncertainties mentioned above. Through our dialogue with Federal officials, we and other stakeholders have outlined potential remedies to the challenges outlined here and our hope is they will take these into consideration as the move towards issuing much needed clarification. Applied Solutions has initiated a catalogue local clean energy projects including those utilizing QECBs for financing that is available for download on our website.

Applied Solutions is available as a nonprofit to support local governments decide on the most effective design and application of clean energy projects that qualify for QECB funds.
**Frequently Asked Questions about QECBs**

**What are QECBs?**

QECBs are municipal and state-issued bonds that are eligible for federal subsidies. The amount of the subsidy is determined by a formula, but it is typically sufficient to reduce the net interest rate by more than half. Some examples of projects funded by QECBs are included at the end of this Guidebook.

**Are QECBs Grants?**

No. QECBs are not free money, but they provide access to very cheap money. Because they are bonds, the issuing government still has to repay bondholders both principal and interest, but because of the federal subsidy, the interest costs are very low. Instead of typical state and municipal bond interest costs of 4-6%, QECBs typically carry interest rates closer to 1% and sometimes below.

**What if my Local Government is too Small to Receive an Allocation?**

If your local government has a population of less than 100,000, then it did not get a QECB allocation. However, in almost all states, the allocation formula leaves a significant allocation in the control of the state. Typically, this amounts to about a third of the state’s total allocation, which can be a substantial amount. Smaller local governments can work with their Governor’s office to find ways to deploy some or all of the state’s QECB allocation in their municipalities.

**Is there a Deadline for Using QECBs?**

No. There is no date by which unused QECB allocations will expire. However, given the current state of the federal budget, there is a risk that Congress will cancel the program and repurpose any unused funds.

**Can States Require Local Governments to Give their QECB Allocations to the State?**

No. States are required to sub-allocate QECBs to local governments according to a formula, and the law does not give them any discretion over which local governments receive and allocation or how much. However, local governments are permitted to return some or all of their allocation to the state if they so choose. This has happened in several instances and has likely helped lower the cost of issuing the bonds by allowing a state to pool multiple small allocations into a single larger issuance.
What Types of Projects are “Qualified”?

There is some uncertainty about how broadly to interpret some of the definitions in the statute, as mentioned above. However, the law identifies certain types of projects, for example:

- Reducing energy use in publicly owned buildings by at least 20%
- Rural development including producing energy from renewable sources
- Mass transit
- Demonstration projects to promote the commercialization of various specified technologies

As mentioned above, QECBs may be used for a much wider and less prescriptive set of projects, but the law is vague on how any given program can ensure that it is “Qualified.” IRS guidance on “Green Community Programs” has clarified many of these issues.

What Types of Projects are being Financed with QECBs?

Because of some of the uncertainty in the regulations, most QECB projects tend to fall into one of two categories: Municipal building energy efficiency projects and renewable energy projects. A smaller number of projects are using QECBs to finance energy retrofits in homes and other privately owned buildings.

Both Municipal building projects and renewable energy projects are explicitly identified as a qualified use of QECB funds, and tend to be relatively straightforward to undertake compared to many of the other potential uses, at least from an administrative standpoint. This likely explains their relatively wider use.

Residential energy retrofit projects are not mentioned in the regulations themselves, but were referenced specifically as an example of Green Communities Programs in the non-binding Conference Report and in the June 2012 IRS guidance. These programs will typically use QECBs to capitalize a fund that makes loans to local homeowners through a local bank, with the loan repayments being used to repay QECB bondholders and to cover program expenses. The Appendix has some examples of QECB projects underway.

Can QECBs be Used for Private Activities?

Yes, with some limitations. The statute declares that no more than 30% of a state or local government’s issuance can be used for private activity bonds. However, this limitation does not apply to QECBs used to implement a Green Community Program.

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5 This is a partial listing. For the complete list, see 26 USC § 54D, available at http://www.law.cornell.edu/uscode/text/26/54D and elsewhere.
Can QECBs be Used to Cover Issuance Costs?

Yes, but with limitations. No more than 2% of the revenues from the sale of QECBs can be used for issuance costs, including underwriting costs.

Can Jurisdictions Pool Their Allocations into a Single Larger Bond Issue?

Maybe. There doesn’t appear to be anything in the authorizing regulations that would prohibit two or more local governments with smaller allocations joining together to do a single bond issuance to save on administrative costs etc. However, it doesn’t appear to have been done anywhere yet. The real is probably less of whether the QECB regulations allow it and more of whether separate municipalities can successfully issue a joint municipal bond. QECB’s are like ordinary municipal bonds in most ways and are governed by most of the same regulations and market conditions as other municipal bonds.
Questions and Answers from Applied Solutions QECB Webinars

Following the IRS guidance issued in 2012, Applied Solutions hosted a series of webinars with Chief Economist Jim Barrett to answer questions from our members about the implications of the guidance and the QECB program more broadly. Below is an edited transcript of the question and answer sessions from those webinars.

What does a state government have to do to formally make the formula-based allocations to the local governments? Our governor is not interested in taking action (e.g. Executive Order) to get the counties their allocations. She vetoed legislation that would have done so. What is a local government's recourse in such situations? Do we even need state action to access our allocation?

Each state was given an allocation of QECBs according to its population. The governors are directed to sub-allocate each state’s allocations to local governments according to a population formula laid out in the federal statute. While it is not up to the governors’ discretion, it doesn’t happen automatically and each governor to take positive action to do the sub-allocation. If a governor doesn’t do it, he or she is technically out of compliance with the law, and as such the governor’s office might be successfully sued for doing this, though that seems like a more drastic step than most would be willing to take. It seems more likely is that a governor who refuses to make the sub-allocation (as opposed to one who simply hasn’t gotten around to it) would like to do something with the allocations other than hand them out, and there is probably some political compromises that have to be made. On the other hand a governor may refuse to do it for reasons of political ideology, in which case there may be little one can do to force the sub-allocations short of suing.

While $3 billion (give or take) of QECBs is not insignificant, has anyone designed a tool that could use them (in some fashion) to leverage additional private capital into efficiency upgrades? If not, what's the potential to do so?

Most of the leveraging that I have seen has been with other federal subsidies, such as EECBGs (Energy Efficiency and Conservation Block Grants). There doesn’t seem to be anything barring a local government from combining QECBs with other private capital and making a public-private partnership out of it. As long as a project meets the definition of “qualified” under the program, and as long as the bond revenues are used for qualifying purposes, leveraging QECBs with private capital should be acceptable. There are some requirements on what you are allowed to do with QECB revenues, for example you can use up to 2% of your issuance to cover issuance costs but no more than that, so you have to abide by certain rules like that. But the IRS doesn’t appear to have ever contemplated disallowing leveraging private money with this.
Would the installation of a PV system at a public building be an acceptable use?

That sounds to me like the exact type of project these were designed to support. Solar PV on a municipally owned building would qualify under several definitions of “qualified,” so I think you would be in the clear.

What are the minimum and maximum dollar amounts for the bond and what have the interest rates been?

The dollar amounts available for QECB’s are defined by federal statues for each local government according to a population formula. In order for a municipality to have any QECB allocation at all has to be what is called a “large local government” which is defined as having 100,000 residents or more. The allocation to each large local government is roughly $10 per capita. So, if a city has exactly 100,000 people living in it, you have roughly one million dollars of QECB that can be issued. As far as a minimum or a maximum, there is none other than the population formula. If the population is smaller than that, states have a lot of QECB money at their discretion as well that they can apply to projects in the state.

The way that the interest rates work is that the municipality issues a taxable municipal bond. There is a federal website (https://www.treasurydirect.gov/GA-SL/SLGS/selectQTCDate.htm) where you can go to find out what the subsidy rate is. That published rate must be reduced by 30% for the cash equivalent option (as opposed to the tax credit option), which is how almost all QECB projects are being done. Recently, the net subsidy was about 3.2%. So, if the taxable municipal bond is being issued at 5%, then the net interest cost would be 1.8%. So it depends largely on the credit rating of the municipality issuing the bond. We have seen a lot of municipalities putting up bonds getting less than 1% net interest costs. But, the subsidy rate changes regularly with market forces so you have to go to the website and get the most recent information.

Can a municipality use its QECB allocation to issue bonds that would be combined with private financing through a PPA for solar PV installation, as with the "Morris Model" that has been used in New Jersey?

I’m not familiar with the “Morris Model” specifically, but you can combine QECBs with private funding in a public private partnership, as long as it fits the definition of a qualified project under the federal statute and the guidelines that we recently got. You can get pretty creative, as you can with any sort of municipal bonding once you put projects out there.

Didn't NYSERDA sweep most of the QECB allocations in New York State for the Green Jobs-Green NY program?

NYSERDA, the New York State Energy Research and Development Authority, put together a large program called Green Jobs-Green New York that combined several different pots of QECB
money from municipalities around the state as well as the state’s QECB allocation. The QECB regulation states that any city or county that doesn’t want to use its QECB allocation can give it back to the state, and then the state can use it however it sees fit. However, the state cannot demand that that happen, and the state cannot take QECB allocations back without a city or county’s consent. This can happen if local governments find issuance costs too high or other reasons. The NYSERDA program is using all of the state’s allocation of just over $20 million and about $5 million of QECB allocations reverted back to the state from local governments. For context, the entire QECB allocation to local governments plus the state of New York was just over $200 million.

**Our biggest issue with issuance is financing 1) internal/Public Works costs and 2) the gap in the cost of issuance (allows use of 2% but we estimate 5%) - how have other cities dealt with these?**

That can be an issue for smaller sized issuances. The cost of putting the bond out there can be more trouble than it is worth. Under the regulations you are allowed to finance up to 2% of the issuing cost, and the extent that you go above that, those costs need to come out of a different pot of money. What a lot of other places have been doing, one, is you see them bundling QECB programs with other federal incentives like EECBG block grant or other ARRA monies that went out in 2009 and 2010. It also may be possible in some cases to pool your allocation. Some of the allocations reside with the state, to the extent that a state has areas that have less than 100,000 people living in them, those locations do not get allocations, but instead those allocations remain with the governor’s office. It may be possible to create a project that combines state and local allocations into one issuance to reduce the relative size of the issuance cost to get it under 2%. In other places we have seen mixed issuances of QECB and other municipal bonds for a single project which can also reduce relative issuance costs. It may also be possible to pool allocations from multiple local governments into a single issuance, but that seems fairly complicated, and I don’t know if it has been done yet with QECBs.

**I know there was a recent reissuance of returned QECBs, are there set dates to do future reissuances (CA)?**

If the question is about the federal government allocating more money to the program, the question is correct, the original QECB program started in 2008, and a substantial portion of the QECBs available in the program now (2.4 of 3.2 billion) was added as a part of the American Recovery and Reinvestment Act. There are no plans at the moment that I’m aware of for additional allocations to be made. It seems unlikely in the current fiscal climate that more would be added, but that is just my opinion as a private citizen.

If the question is about QECBs that were unused, and then returned to the state, and then pushed back out by the state, I am not familiar with that. It is certainly likely that cities and counties that chose not to use their QECB allocations gave them back to the state, but I have not heard specifically about a case where states have pushed the money back out to other counties or cities, rather than using the allocations themselves. If some cities or counties in California hadn’t used their allocation for QECBs and sent them back to Sacramento, Sacramento could do basically
whatever it wanted with the allocations at that point, including push them out to other cities and counties around the state that might want to use them.

*If you want to apply QECBs to LED streetlights - 1) assuming there's a 20% savings, could you use your full allocation; 2) assuming there's not a 20% savings, could you have it only as a "green communities program"? (I saw the guidance had this as an example)*

Yes, you could use QECB for a street-lighting program. I would not expect them to fall under the definition of a municipal building, but certainly qualify under the Green Communities Program, and that is actually one of the other examples given in the IRS guidance. In that case you do not have to meet the 20% energy reduction requirement, although LED lighting likely would. It is fairly explicit that it a streetlight project would qualify under the guidance we got for Green Communities Programs.

*Are debt service reserve funds typically required for QECBs issuances? I understand EECBG funds can be used for this fund if needed.*

Not by federal statute. If one is needed, EECBG money and other ARRA funds may be used to fund them. Some QECB issuances have used EECBG money effectively this way as a credit enhancement.

*Where can we get these calculations (population formula results by city)?*

The federal government has not done a great job maintaining this type of information, though in their defense it’s a little beyond their purview. Federal statute identified the allocations to individual states and set out the formula by which states had to sub-allocate the money to local governments, but it is up to the states to figure out which local governments the allocations should go to and to make the formal sub-allocation. The governor’s office in most states has released this data in a somewhat public way, but it can take some digging to find. We have gathered a fair bit of this information over the course of our work, and might be able to help with questions about specific municipalities. Please contact jim.barrett@appledsolutions.org for more information.

*Do the allocations expire?*

Currently, they do not. There is no sunset date in the QECB legislation. So unless Congress takes some proactive step to cancel or rescind the program, there is no expiration. I have not heard of any movement in Congress along these lines, but that is no guarantee that there isn’t any.
Can the bonds be issued by a city agency (the public utilities commission for example)?

In general, the answer to that is yes. From the standpoint of the federal legislation on QECBs, there is no bar to agency issuances or even a distinction. The question is relevant at the local level, e.g. does the agency in question have bonding authority, is there a bond cap etc. If the agency has bonding authority, then they can issue QECBs. You probably would have to run the political traps in your city or town to make sure the town is not in the process of issuing bonds that it wants to qualify for QECBs, and of course you should always check with your bond council on issues like this, but in principal there is nothing barring that, and we have seen that in California and a couple of other states.
Appendix: Examples of State and Local Clean Energy Projects Financed through Qualified Energy Conservation Bonds (QECBs)

Salts Palace Convention Center, Salt Lake County, Utah

The Salt Palace Convention Center is a county-owned facility that recently undertook a program to install solar panels to provide significant portion of the building’s electricity needs. The total project cost is $6.6 million, $1.9 of which came in the form of a QECB issuance with a 2.25% interest rate.

Farms to Fuel Program, Sonoma County Water Agency, California

The Sonoma County Water Agency set a target to reduce its carbon footprint to zero by 2015. As part of that effort they are converting chicken litter from local poultry farms into biogas to meet 25-33% of the Agency’s power needs. The entire project cost is over $32 million, part of which may be financed by QECBs.

St. Louis County SAVES, Missouri

St. Louis County SAVES finances residential energy efficiency upgrades through low interest loans. The county combined $10.3 million in QECB funding with $500,000 in federal grants to set up a program to lend money to homeowners for approved home energy measures. The County issued QECBs to capitalize the loan fund at a net interest rate of 0.7%. Qualified homeowners can borrow up to $15,000 for up to 10 years at 3.5%, the proceeds of which are used to repay the bonds, program administration fees, and other costs.

Kansas State University Energy Efficiency Upgrades, Kansas

In 2010, the Kansas Development Finance Authority issued over $17 million in QECBs from the state’s allocation to be used for energy efficiency upgrades at Kansas State. The project hired an outside energy services company to perform energy audits on campus, make recommendations, and perform upgrades. The upgrades range from installing energy efficient light bulbs to drilling water wells on campus to reduce the need to pump water in from more distant locations. The bonds were issued with tenors ranging from 2 to 18 years with gross interest rates from 1.8% to 6.2%.

Allegheny County Guaranteed Energy Savings Agreement, Pennsylvania

Allegheny County, Pennsylvania combined QECBs and federal block grant money to make upgrades at a nursing facility and a jail. The $15 million project will upgrade boilers, chillers, water pumping stations, and other equipment at the facilities. In the first year, the program guarantees energy savings of over $2 million while the county will pay about $550,000 generating positive cash flow of over $1.5 million in year one.
If you have used QECBs to help finance a local clean energy project, we’d like to hear from you to learn more and to highlight your project on our site.

For additional information please or to tell us about your project, contact Applied Solutions at (202) 465-7156 or email Jim Barrett at jim.barrett@appliedsolutions.org.