



The Parker Ranch installation in Hawaii

**Taking Advantage of Qualified Energy
Conservation Bonds (QECBs)**

September 22, 2010

DOE's Technical Assistance Program (TAP) supports the Energy Efficiency and Conservation Block Grant Program (EECBG) and the State Energy Program (SEP) by providing state, local, and tribal officials the tools and resources needed to implement successful and sustainable clean energy programs.



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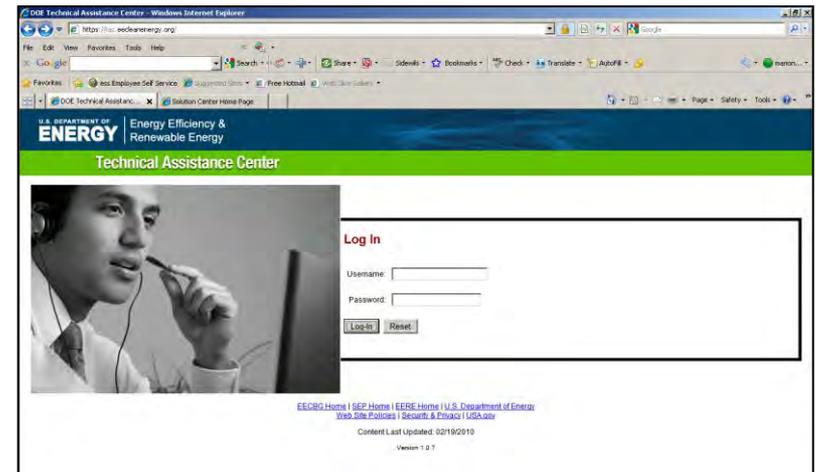
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- **QECB Overview**
 - Mark Zimring, Lawrence Berkeley National Laboratory
- **The QECB View From the Market**
 - Michael Karlosky & Wayne Seaton, Wells Fargo Securities
- **Case Study: The State of New York**
 - Jeff Pitkin, NYSERDA
- **Case Study: The State of Colorado**
 - Brett Johnson, Governors Energy Office, State of Colorado
- **Q&A**
 - Brandon Belford, Department of Energy

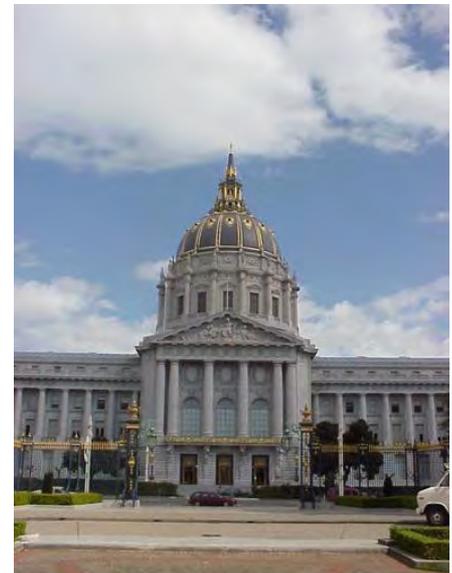
- **Mark Zimring** is a Senior Research Associate at Lawrence Berkeley National Laboratory (LBNL). His work focuses on the financing and deployment of energy efficiency and renewable energy. He is a member of the Department of Energy's Financial Technical Assistance Team, providing assistance to cities and states deploying stimulus funds. Mark's current research also includes methods for increasing the demand for home energy upgrades. Prior to joining LBNL, Mark spent 8 years working in Deutsche Bank's Integrated Credit Trading Unit.

- **Qualified Energy Conservation Bonds (QECBs) are debt instruments:** State, local and tribal governments can issue QECBs to fund “qualified energy conservation projects”.
- **QECBs reduce the issuer’s borrowing costs:** QECBs are subsidized by the U.S. Treasury—The QECB issuer pays the investor a taxable coupon and then receives a rebate from the U.S. Treasury—Currently, this rebate is 3.50%
- *The information in this presentation is for informational purposes only and does not represent formal guidance or approval from the U.S. Department of Treasury*



- *The Energy Improvement and Extension Act of 2008*: Authorized the issuance of Qualified Energy Conservation Bonds (QECCBs)- initial limit \$800 million
- *The American Recovery and Reinvestment Act of 2009*: Expanded the allowable bond volume to \$3.2 billion
- **H.R. 2847 (2010)**:

Introduced an option to recoup part of the interest issuers pay on QECCBs through a direct subsidy (like that for Build America Bonds) from the Department of Treasury rather than a tax credit



- The U.S. Treasury allocated \$3.2 billion of QECCB issuance capacity to State Treasurers based on population
- Each State was required to allocate issuance capacity to municipalities with populations >100,000 based on the municipality's percentage of total state population
 - Example: If a municipality has 150,000 residents and the state has 1.5 million residents, the State must allocate 10% of its QECCB issuance capacity to the municipality
 - If the municipality does not intend to issue QECCBs, it may reallocate its issuance capacity back to the State
- Processes for notifying State authorities of intention to issue QECCBs (and deadlines for doing so) vary

- **Interest Rates**

- U.S. Treasury pays QECCB issuer the lesser of
 - The taxable rate of the bonds
 - 70% of the Qualified Tax Credit Rate (QTCR) as of the Bond Sale date—currently 5.00%
 - The QTCR is set daily by the U.S. Treasury and can be found here:
 - » <https://www.treasurydirect.gov/GA-SL/SLGS/selectQTCDDate.htm>
- Example: Net Interest Cost
 - 5.50%----Taxable interest rate paid to investor
 - 3.50%----Minus Direct Subsidy (5.00% QTCR x 70% subsidy)
 - **2.00%**----Net Interest Cost (Taxable Rate- Direct Subsidy)

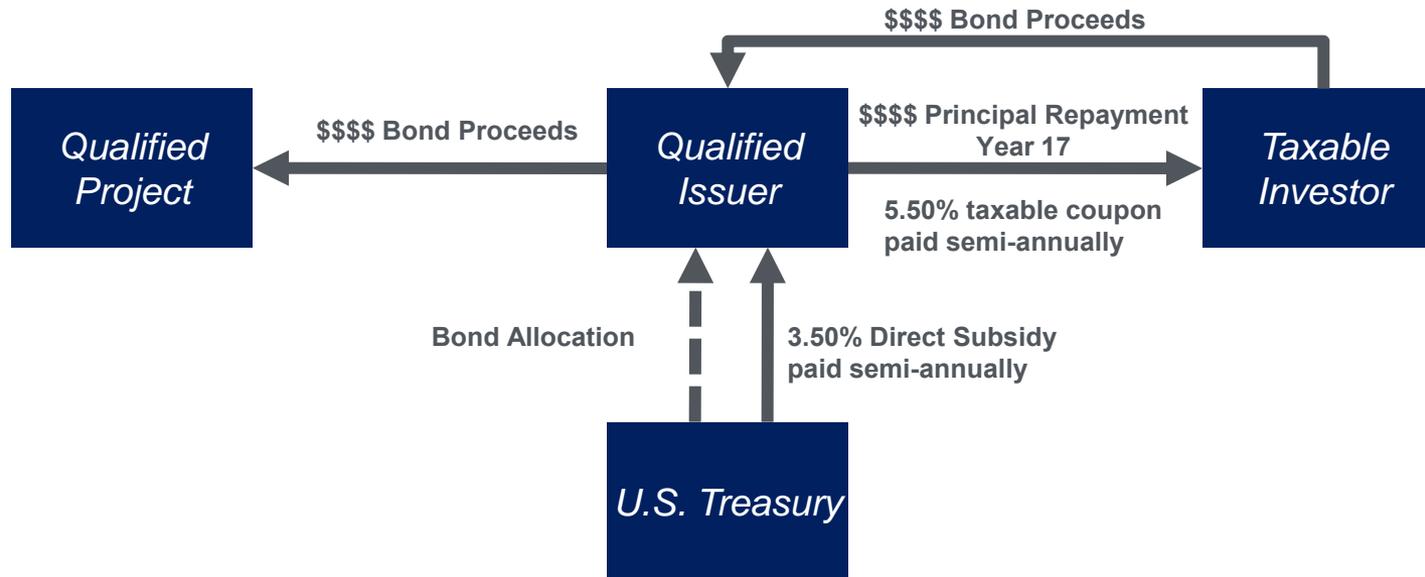
- **Maturity**

- Up to 17 years- Set monthly by the U.S. Treasury**

**Limit is set so that the present value of the principal payments equals 50% of the original principal amount. Discount rate = 110% of the long-term adjusted AFR (Applicable Federal Rate), compounded semi-annually, reset monthly

- **Bond Security**
 - Revenues
 - General Obligation
 - Collateral (equipment, property, etc)

- **Structures**
 - Bullet - All principal is paid back at maturity
 - Serial - A portion of the bonds matures at regular intervals
 - Term bond with sinking fund



The diagram above outlines QECCB cash flows as direct subsidy bonds

- i. U.S. Treasury allocates QECCB bond volume to State Treasurers
- ii. State Treasurers allocate QECCB issuance capacity to Qualified Issuers
- iii. Qualified Issuers sell taxable QECCBs as a 17 year bullet to investors
- iv. Bond proceeds are used to fund a Qualified Energy Conservation Project
- v. The issuer pays a taxable coupon semi-annually to the investor and repays principal at the end of 17 years
- vi. U.S. Treasury pays issuer the lesser of the taxable coupon rate or 70% of the tax credit rate

Qualified projects are defined broadly

Examples of qualified projects include:

- energy efficiency capital expenditures in public buildings
- renewable energy production
- various energy-related research and development
- efficiency/energy reduction measures for mass transit
- energy efficiency education campaigns
- green communities programs

For a full list of qualified projects, please visit the DOE’s QECB/CREB Primer at:

http://www1.eere.energy.gov/wip/pdfs/qecb_creb_primer.pdf

- **Green community programs represent an undefined statutory term**
- **Conference Report to the American Recovery and Reinvestment Act of 2009 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.—
- **Example: Unsecured Residential EE Loan Program**

- A maximum of 30% of QECB allocations may be used for private activity purposes
- All bond proceeds must be spent within 3 years or used to redeem bonds at the end of that 3 year period
- Issuers must have a binding commitment with a 3rd party to spend at least 10% of the bond proceeds within 6 months of the issuance date
- Only 2% of the bond proceeds can be used towards cost of issuance

- **ARRA funds can be used to support QECBs via:**
 - Debt service reserve fund
 - Used to repay principal & interest in the event that the borrower is unable (or revenues are insufficient)
 - Capitalized interest fund
 - Used to make bond coupon (interest) payments
 - Principal sinking fund
 - Used to make bond principal payments
- **ARRA funds being used to support the issuance of QECBs are subject to the same obligation, drawdown, and federal identity requirements as LLRs and RLFs.**
- **Guidance:** EECBG http://www1.eere.energy.gov/wip/pdfs/final_eeecbg_guidance_qecbs_crebs.pdf
SEP http://www1.eere.energy.gov/wip/pdfs/final_sep_guidance_qecbs_crebs.pdf



- **Low QECB volume allocations**
 - QECB volume allocations often do not have sufficient size to whet investor appetite
 - Issuers might want to consider a pooled issuance
- **Investor unfamiliarity**
 - Taxable investors are not as familiar with municipal credits
 - Build America Bonds have helped familiarize the taxable investor base with municipal credits
- **A bond issuance takes several months to structure, market, price and close**
- **QECBs might strain bond issuance limits for some issuers**

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- **Michael Karlosky** has nineteen years of experience in public finance. He has specialized in the development of complex financing structures for sophisticated issuers. He has served as lead/senior banker for the State of New Jersey, City of New York, City of Philadelphia, Dormitory Authority of the State of New York, New Jersey Economic Development Authority, New York State Housing Finance Agency, Southern California Public Power Authority among others.
- **Wayne Seaton** has seventeen years of experience assisting major municipal issuers with infrastructure financings. In his career he has served as lead manager for over \$15 billion in transactions, including for some of the largest and most complex capital programs in the nation. At Wells Fargo Securities, Mr. Seaton is head of Sustainable Public Infrastructure. His group has a nationwide mandate to assist municipalities with financing projects designed to use energy more efficiently, including renewable technologies such as solar or wind. In addition, his team has considerable expertise with certain provisions that were created or enhanced under the American Recovery and Reinvestment Act, such as Build America Bonds, Recovery Zone Bonds, New Clean Renewable Energy Bonds and Qualified Energy Conservation Bonds. Mr. Seaton has served as lead banker to major issuers such as the State of Connecticut, Dormitory Authority of the State of New York, City of Atlanta, City of St. Louis, City of New York and District of Columbia. In infrastructure finance, he has specific expertise in the utility and aviation sectors.

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SECURITIES

Qualified Energy Conservation Bonds

Sustainable Public Infrastructure
September 22, 2010



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- QECCBs are among the lowest cost financing mechanisms available to municipal issuers in today's marketplace
 - **Passage of the HIRE Act has converted QECCBs to a kind of "Super-BAB"**
 - Taxable bonds are issued and Direct Subsidy Payments are received from the U.S. Treasury over time
 - Direct Subsidy of up to 70% of the Qualified Tax Credit Bond Rate
 - $70\% \times 5.03\% = 3.52\%$ subsidy (as of 9/20/2010)*
 - This level of subsidy is far greater than the value of tax-exemption in today's market
- However, there are limits to where and how QECCBs can be utilized
 - QECCB authorization is constrained by a population based allocation
 - Municipalities can subsequently seek to gain allocation that has been waived by other municipalities
 - Projects financed with QECCBs must adhere to a Qualified Energy Conservation Purpose
 - Energy efficiency retrofits
 - Renewable energy generation
 - The maximum maturity of a QECCB is limited
 - 17 years (as of 9/20/2010)*

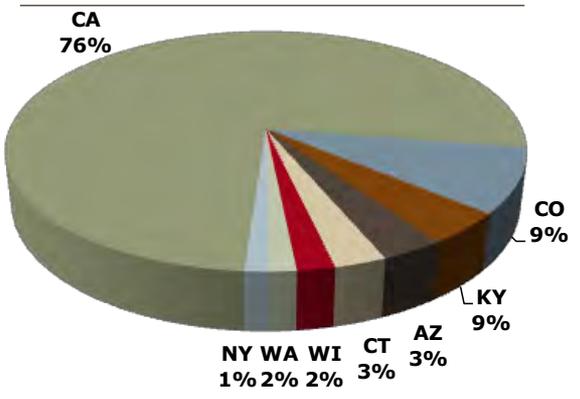
* Source: www.treasurydirect.com

| Qualified Energy Conservation Bonds Issued To Date* | | | | |
|---|--|-------|------------------|----------------------|
| Sale Date | Issuer | State | QECB Size (\$MM) | Standalone Issuance? |
| 6/16/2010 | City of Rochester, New York | NY | 2.166 | Yes |
| 6/16/2010 | Boulder County, Colorado | CO | 5.800 | Yes |
| 6/23/2010 | City of Tucson, Arizona | AZ | 5.590 | -- |
| 6/24/2010 | Board of Trustees for Western State College of Colorado | CO | 1.635 | -- |
| 6/28/2010 | City of Fort Collins, Electric Utility Enterprise | CO | 6.410 | -- |
| 7/21/2010 | Western Wisconsin Technical College District | WI | 1.500 | Yes |
| 8/12/2010 | City of Waterbury, Connecticut | CT | 4.700 | -- |
| 8/13/2010 | Foothills Park and Recreation District, Colorado | CO | 1.000 | -- |
| 8/16/2010 | Village of Pleasant Prairie, Wisconsin | WI | 1.890 | Yes |
| 8/17/2010 | Department of Water and Power of the City of Los Angeles | CA | 131.000 | -- |
| 9/8/2010 | Yakima County, Washington | WA | 2.430 | Yes |
| 9/14/2010 | Louisville-Jefferson County Metro Government | KY | 7.400 | Yes |
| Total | | | \$171.521 | |

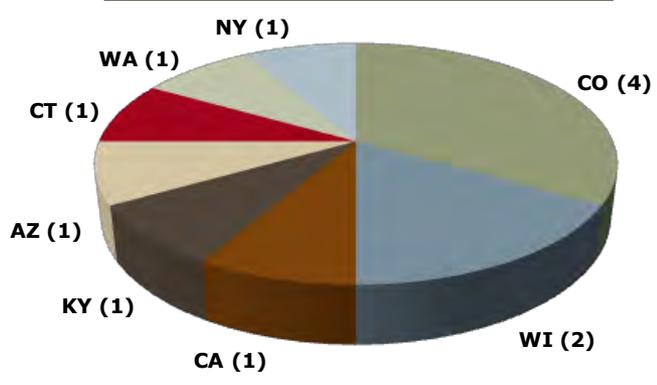
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State of Issuer

By Par Amount

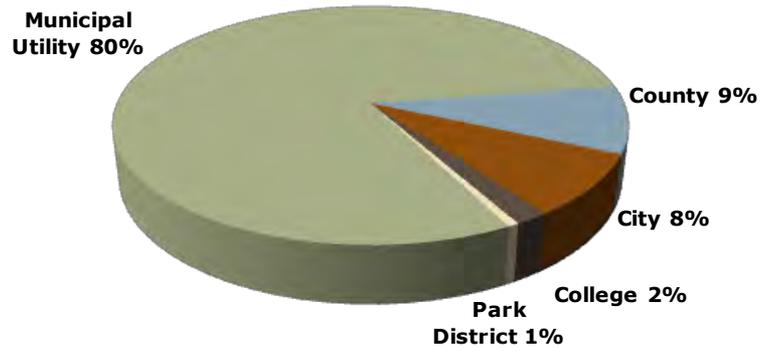


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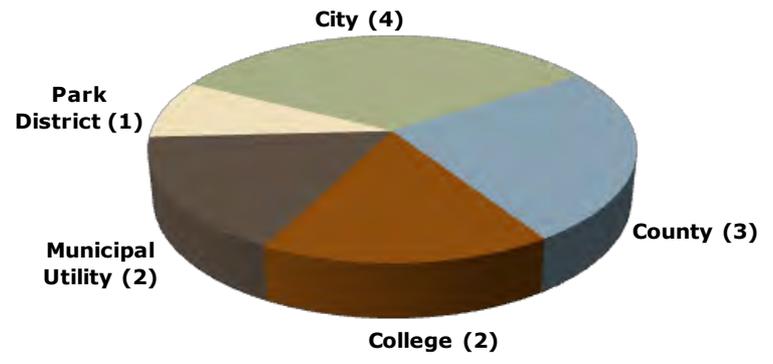


Type of Issuer

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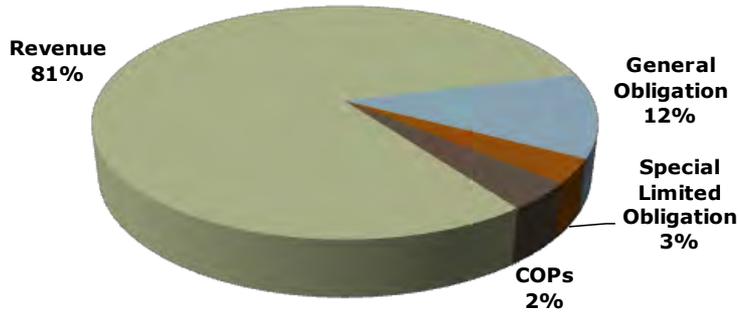
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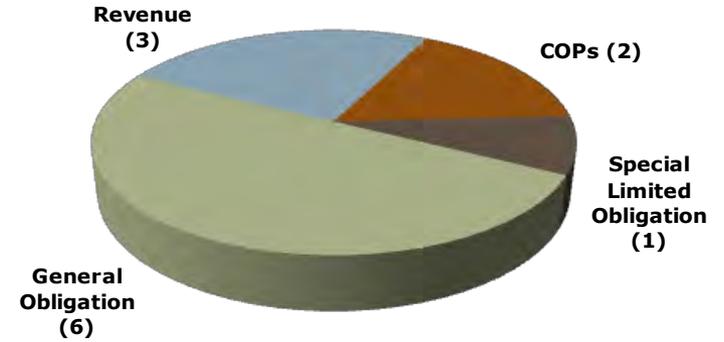
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Pledged Security

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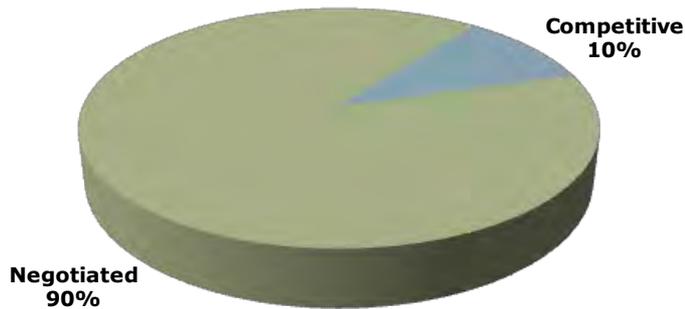


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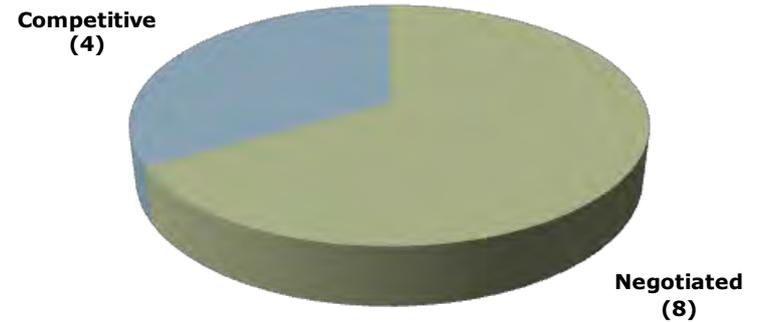


Type of Sale

By Par Amount



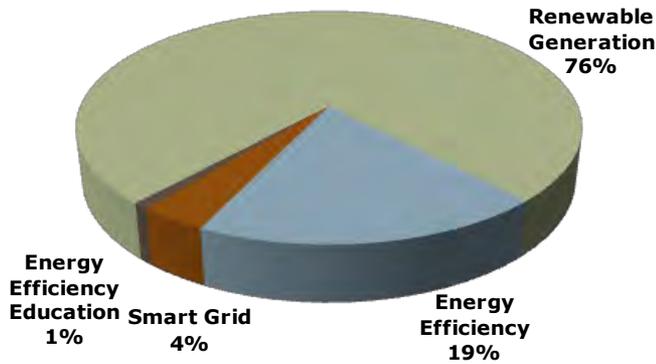
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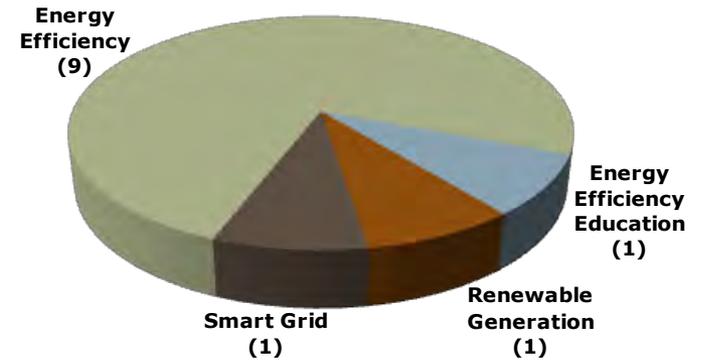
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Qualified Purpose

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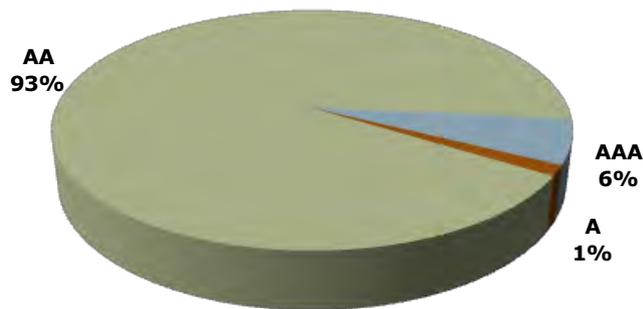


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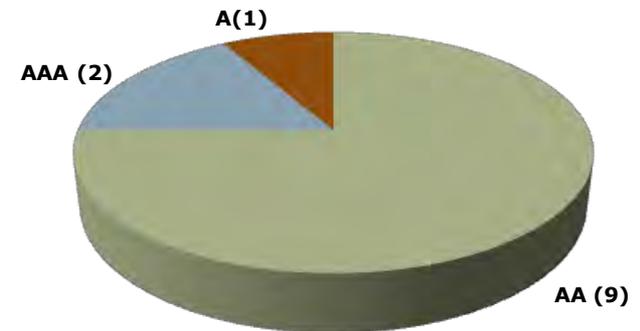


Rating Category

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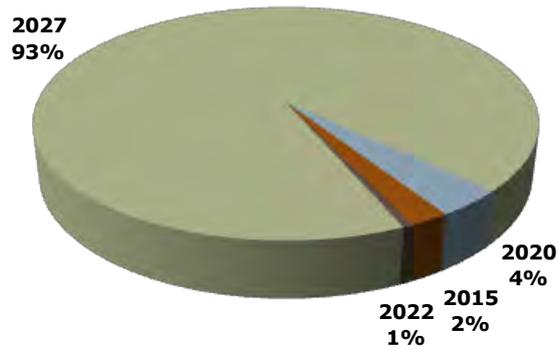
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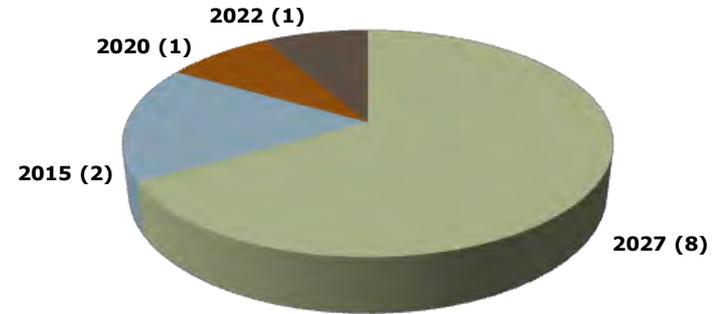
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Final Maturity

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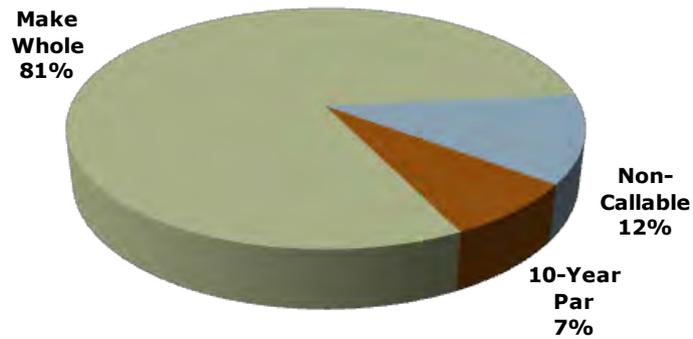


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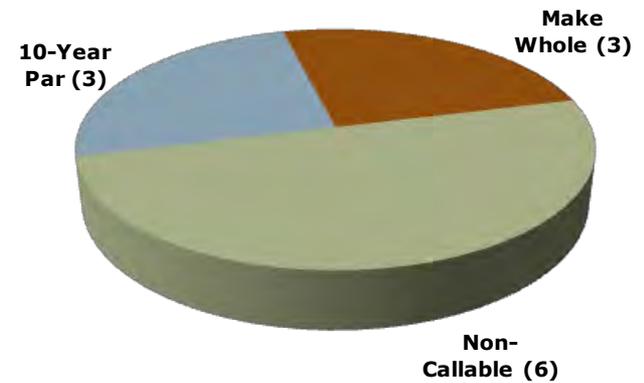


Optional Call Provision

By Par Amount



By # of Issues



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- As a result of the HIRE Act converting QECBs to Direct Subsidy Bonds, much of the issuance process is very similar to **issuing Build America Bonds (“BABs”)**
 - In particular this is true for the process of marketing and selling taxable bonds to the taxable marketplace
- Important features of QECB issuance:

Pre-Issuance

- Appropriate QECB allocation must be obtained
- **The governing body of the municipality must make a formal “irrevocable election” designating the bonds as QECBs** prior to their issuance
- The offering document (Official Statement) for the issuance should have a section generally describing provisions of the QECB including the Direct Subsidy Payment
- Features relevant to the taxable marketplace will need to be decided, such as the optional call provision

Post-Issuance

- At least 30 days prior to the first interest payment date, Form 8038-TC must be filed with the U.S. Treasury along with the QECB debt service schedule
- At least 45 prior to each corresponding interest payment date, Form 8038-CP must be filed in order to receive each Direct Subsidy Payment

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- **Jeff Pitkin** is Treasurer of the New York State Energy Research and Development Authority (NYSERDA), a position he has held since 2001, and served as Controller and Assistant Treasurer since 1991. He is responsible for accounting and financial reporting, budgeting, contract management, and information technology, and the Authority's bond financing program, which has issued \$3.6 billion in tax-exempt bonds to finance qualifying investor-owned utility capital expenditures. He is currently leading the effort to create financing structures to support loans for energy efficiency retrofits under the Green Jobs-Green New York program and also efforts for statewide implementation of property tax assessment financing under the State Municipal Sustainable Energy Loan Program legislation.

Integration of Green Jobs-Green New York Financing Program with Better Buildings Grant and QECCB Bond Issuance

QECCB NASEO-LBL Webinar

September 22, 2010

Green Jobs-Green New York Program

- Enacted through legislation October 2009
- Provide revolving loans for energy efficiency retrofits in:
 - Residential (1-4 family) owned dwellings (up to \$13,000)
 - multifamily buildings (up to \$5,000/unit, \$500,000/bldg)
 - small commercial (<101 employees)/NFP buildings (up to \$26,000)
- Community-based outreach - constituency-based organizations
- Workforce development activities to create green jobs
- Free/subsidized energy audits for income-qualified homeowners
- Funded with \$112 million from Regional Greenhouse Gas Initiative (RGGI) auction proceeds

Strategy: 3 Forms of Financing

1. PACE-type approach

- On hold due to FHFA/OCC notices

2. On-bill recovery financing

- Pilot program with National Grid in upstate gas market – unsecured loan
- Pursuing legislation to authorize statewide: on-meter tariff obligation; shutoff provisions for failure to pay

3. Direct loans



Program Guidelines

- Based on Home Performance with ENERGY STAR program
- Comprehensive energy audits and retrofits completed by BPI-accredited contractors
- Finance cost effective measures – total cost meets Savings to Investment Ratio (SIR) > 1
- Extensive program QA/QC
 - Implementation contractor reviews and approves work scopes pre-implementation
 - Oversight contractor performs post-implementation inspection of 15% of retrofits

Financing Approach

- Loans originated through financial institutions consistent with program loan underwriting standards
- Launch using single originator, Energy Finance Solutions - current FNMA loan originator
- NYSERDA to purchase loans using \$51M RGGI program funds
- Master loan servicer: monitor loan origination, service loans
- Expected launch – October 2010
- Financing for Small Commercial/NFP and Multifamily in process

Loan Terms

- Unsecured loan
- 5,10,15 yr loan term – can't exceed life of measures
- 5.99% rate (5.49% if borrower repays through ACH autopay)

Loan Underwriting Standards

- Two Loan Tiers
- Tier1 loans: loans meet standards that can be financed in capital markets (FNMA standards)
- Tier2 loans: loans originated under alternate criteria (utility bill paying history)
 - Initially issued as revolving loan fund
 - Monitor loan performance over time, they can be pulled from revolving loan fund pool and added to pool of loans financed through capital markets
 - Working with foundations/PRI investors to provide matching capital

Financing Approach

- Aggregate loans and issue bonds using master trust structure
- Bonds supported by loan repayments and loan loss/debt service reserve (\$9.3M from DOE EECBG Retrofit Rampup/Better Buildings grant)
- Proceeds used to fund additional program loans
- First issuance \$25M (2011) - Rated security – Increase Scale

Problem

Loan Rate (5.49%/5.99%) < Bond Net Interest Cost (~7.5%) and program costs

Each round of financing depletes ~30% of program funding

Will improve with scale – need sustainability

Possible Solution: QECCB bond structure

NYS QECB Allocation

\$86.7M New York City

\$95.4M 37 Counties, cities, towns – varying amounts from
\$600k to \$7.9M

\$20.1M State

\$202.2M

QECB Process

- NYSERDA administering State's allocation
- Letter sent to local governments (Jan) requesting them to identify if they intend to use allocation or to allow to revert to State
- Difficulty getting responses:
 - Many small allocation amounts made effective financing a challenge – need aggregation
 - Local governments unwilling to revert allocations without knowing what State would use allocation for
 - Only 7/37 have identified intention to use allocation; one agreed to revert

QECB Opportunity

- Green Community Program purpose allows proceeds to fund loans for energy efficiency – including private facilities
- Working with Governor's Office to apply State allocation for GJGNY financing and to offer local government opportunity to revert allocation to create larger fund
- Lower QECB bond net interest cost (<3%) would eliminate funds depletion and allow lower loan interest rate to be passed on to participants
- Potential for use of \$20M State allocation plus amounts reverted by local governments
- Aggregation program allows munis to effectively use QECB allocation

Questions/Contact

Jeff Pitkin, Treasurer
NYSERDA

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- **Brett Johnson** is the Finance Manager for the Colorado Governor's Office. Brett has worked with local municipalities to find public finance solutions to clean energy-related activities, including the application of QECBs, CREBs, and other financial options. Through his work at GEO, Brett has also served as a leader with regard to the issue of PACE, as well as creating other residential and commercial finance opportunities. Brett has a diverse set of experiences in public finance, including work at an investment bank specializing in municipal finance, and most recently managing the City and County of Denver and the Denver International Airport's debt portfolios.



Governor's
Energy Office

Qualified Energy Conservation Bonds (QECB's) Presentation

*A discussion of QECBs, and the GEO's process to
distribute and allocate QECB's*

Brett Johnson

Finance Manager, Colorado Governor's Energy Office

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www.colorado.gov/energy



Colorado's 2009 Allocation of QECB's:

| | |
|---|--------------|
| Total State Allocation: | \$51,244,000 |
| Re-Allocation to Large Local Municipalities*: | \$42,297,088 |
| State Volume Cap (for GEO allocation): | \$ 8,946,912 |

* Of the \$51 million allocation, the State was required to allocate \$42 million proportionately to larger counties and towns with a population of greater than 100,000.



GEO's Allocation and Redistribution:

Not all local municipalities used their automatic allocation. As the GEO prepared to distribute its statewide allocation through an application process, it estimated the total amount of QECB's for redistribution:

| | |
|--|--------------|
| Large municipalities to use original QECB allocation*: | \$18,455,333 |
| Large municipalities NOT using their allocation: | \$23,841,755 |
| Original state volume cap: | \$ 8,946,912 |
| Total amount for GEO Allocation and Redistribution: | \$32,788,667 |

*Municipalities who *are* using their allocation: Adams, Boulder, Jefferson, Larimer, and Mesa Counties, and Fort Collins.



GEO's Application for QECB Allocation:

After a successful campaign to promote QECB's, the GEO was surprised to receive over \$120 million of QECB requests:

| | |
|------------------------|----------------------|
| State Agencies | \$ 46,054,135 |
| Higher Education | \$ 18,556,646 |
| Local Applicants | \$ 45,808,193 |
| K-12 | \$ 5,689,049 |
| Other | <u>\$ 5,952,387</u> |
| Total Requested | \$122,060,410 |



GEO's Evaluation Process:

Projects will be evaluated by three major components:

- Project Development: Is the project concept well developed? Since it requires financing, is it shovel ready? Is the technology proven?
- Economy and Environment: Is there a strong impact in job creation? Are partners and other leveraged funds ready to be deployed? Are other funding sources realistic?
- Geographical Diversity: Providing a diverse array of locations throughout the state.
- Financial Viability: QECB's are a municipal bond transaction. This means that the project must be well developed, and the borrower must have strong enough credit strength to actually sell these bonds.

Evaluation Schedule:

- Initial Scoring and Spreadsheet : Due **January 7**
- Preliminary discussion about scores and project prioritization: **January 8**
- Final QECB allocation awards to be distributed by: **January 15**



QECB Pricing Successes:

So far, six transactions have been priced in Colorado:

| Applicant | QECB Amount | Closing Date | TIC | Project Description |
|---|---------------------|--------------|---------------|--|
| Boulder County | \$5,838,052 | 2/2/2010 | 3.450%* | Municipal Facilities Capital Improvements |
| Fort Collins | \$6,411,395 | 7/15/2010 | 1.020% | Smart Grid Financing |
| Boulder (City) | \$1,500,000 | 9/27/2010 | 1.460% | Municipal Facilities Capital Improvements |
| Foothills Parks & Recreation | \$1,000,000 | 8/13/2010 | 2.173% | Recreational Facilities Capital Improvements |
| Western State College | \$1,635,388 | 8/19/2010 | 2.190% | Higher Ed Capital Improvements |
| Boulder Housing | \$1,500,000 | 8/25/2010 | 2.790% | Multi-Family Capital Improvements |
| Total and Average Interest Costs | \$17,884,836 | | 1.927% | |

*Average cost does not include Boulder County, which was priced at a tax credit rate.



Property Assessed Clean Energy (PACE) Finance:

- *PACE finance is a mechanism in which a municipality can fund commercial and residential individual improvements, repaid through an annual property assessment instead of a traditional principal and interest loan structure. 25 states currently have some sort of PACE structure approved.*
- *PACE is viewed as an applicable application of QECCBs, as it is considered a “green community program.”*
- *Federal challenges currently have barred residential improvements from being funded through PACE, but commercial remains a possibility.*
- *GEO designated \$6 million of its statewide QECCB allocation for PACE finance.*
- *Boulder County was awarded \$3 million for commercial PACE finance. It is in the origination process for its first commercial PACE program, totaling about \$1.5 million.*



Secrets to Success:

The biggest barrier to full QECB allocation is EDUCATION!

- *Municipalities, Cities, States:* Many eligible borrowers are already planning on capital improvements that would qualify for QECBs. Reaching out to these communities and educating on the benefits of QECBs are half the battle.
- *Bankers:* Bankers, underwriters, and financial advisors may not be aware that QECBs are available for already planned financing transactions.
- *ESCOs:* One of the biggest successes of our QECB competitive solicitation was a strong network with ESCOS in the state. QECBs can benefit both the ESCO and the municipal borrower.



Other Considerations – After the QECB Awards:

Awarding QECBs are half of the battle. In order to ensure that they will be used, several deadlines were given to guide the process:

- *Internal Approval:* A municipality must think through all of the necessary planning for a QECB transaction, such as ordinances, and other procedural requirements. Deadlines which specify dates for ordinance approval and requiring continuous updates will help this process be successful.
- QECBs are not money, they require a finance mechanism that is allowed by City, County, and State laws! Make sure that local communities understand the finance component and specify a strong finance plan for the transaction.
- *Pricing Deadlines:* Along with the internal procedures, finance transactions take time. Make sure that deadlines help awardees plan accordingly.



Other QECB-Related Issues:

Recovery Zone Economic Development Bonds: Since GEO received almost three times the amount of QECB applications than it has to allocate, we are working with Treasury about the possibility of using the State's remaining allocation of RZEDB's.

- *Currently, RZEDB's are designated for higher education-related projects, but there has been little to no interest to use this structure at higher education facilities.*
- *This would add somewhere between \$20-30 million for additional green financing projects.*



QECB Press Opportunities:

State Projects: The projects awarded to State Agencies will be financed through a Statewide COP, approved through SB207 in this year's legislative session. These projects will provide a good opportunity for press for the following possible reasons:

- *QECB projects would promote new green initiatives on a statewide basis to further promote Colorado's leadership to forward the New Energy Economy*
- *In the midst of a large State budget gap, these projects will create budget savings through energy efficiency initiatives that will decrease utility costs*
- *Projects will promote new jobs to help strengthen and re-energize Colorado's economy*



Governor's
Energy Office

Thank You

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Please join us again:

Energy Saving Performance Contracting (ESPC) Basics

Date: September 23, 2010

Time: 1:30 – 2:30 EST

“Green” Codes and Programs

Date: September 24, 2010

Time: 2:00 – 3:00 EST

Designing Effective Renewables Programs

Date: September 28, 2010

Time: 2:00 – 3:00 EST

Driving Demand for Home Energy Improvements: Lessons from the Field

Date: September 29, 2010

Time: 3:00-4:15 EST

For the most up-to-date information and registration links, please visit the Solution Center webcast page at www.wip.energy.gov/solutioncenter/webcasts