



# Energy Programs Consortium Memorandum

To: State and Territory Energy Officials  
From: Elizabeth Bellis, Counsel, EPC  
Date: 8/25/2011  
Re: QECBs: Opportunities and Potential Issues to Consider

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**IRS Circular 230 Disclosure: This information is intended for state and local officials only and was not intended or written to be used, and it cannot be used by any taxpayer, for the purpose of avoiding penalties that may be imposed on the taxpayer under U.S. Federal tax law.**

In its role as a technical assistance provider for states and local governments interested in energy program finance, Energy Programs Consortium (“EPC”) has engaged me to provide assistance relating to tax credit bond programs. In this capacity, the National Association of State Energy Officials (NASEO) has requested I prepare this memo for state and territory energy officials interested in qualified energy conservation bonds (“QECBs”).<sup>1</sup> As a tax attorney, I hope to be of assistance to you in working through the tax rules governing these financing instruments and in developing your ideas into concrete projects ready for execution by contractors, bond counsel, and other advisors.

As many of you are now aware, in 2009, Congress allocated \$3.2 billion for states, large local governments and tribal governments to issue qualified energy conservation bonds to finance renewable energy and energy efficiency projects. The total allocation was divided amongst the state, local and tribal issuers according to population, as shown in Chart 1A attached to this memorandum.

At least 68 projects totaling up to \$480 million have been funded with QECBs in 21 states to date. Some states, like Kansas and Kentucky, have exhausted or nearly exhausted their allocations, while others still have millions of dollars to spend. Additional issuances are being planned in at least 21 states (see Table 1C).

Unless otherwise provided by state law, the authority to issue these bonds does not sunset.

## **Qualified Energy Conservation Bond Process and Mechanics**

As described above, Treasury allocated bond volume to the states, which in turn sub-allocate a portion of this authority to large local governments and municipalities (population 100,000 or more)<sup>2</sup>. These counties or municipalities may waive their allocations and return them to the states.

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<sup>1</sup> QECBs are similar to Build America Bonds (“BABs”) in that the interest on QECBs is taxable but the federal government offers a direct cash subsidy to the bond issuer to subsidize the interest costs. The subsidy on QECBs is twice as large as the BAB subsidy, making QECBs an extremely low-cost financing option.

<sup>2</sup> See Notice 2009-29 (state by state allocations). The sub-allocation process has not been completed in some states.

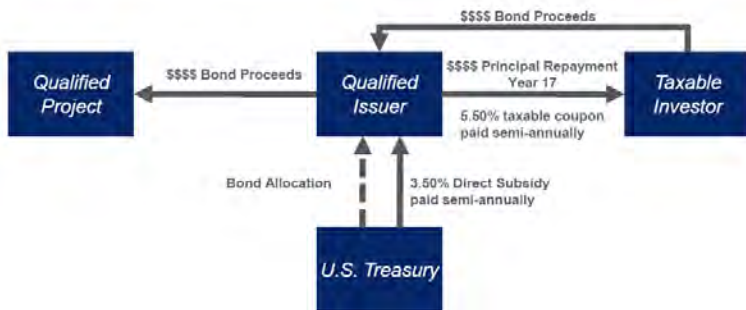
The issuer sells taxable QECBs as a bullet maturity to investors, and the bond proceeds are used to fund a qualified project (see below for a description of qualified projects).

Issuers can choose to issue taxable bonds with a corresponding tax credit to the holders of the bonds or (as is more commonly done) elect to receive a direct cash payment from Treasury in lieu of the allowance of the tax credit to the holders. Whichever option the issuer chooses, the QECB subsidy is generally correlated with Treasury yields and has historically ranged from 3.3-4.1%. This corresponds to net financing costs for issuers of around 1- 1.5%. In addition, QECBs are fairly long-term financing options. The maximum amount of time the bonds can be outstanding (“maturity”) is set by the government and has historically ranged from 12.5-19 years.<sup>3</sup> Up to date QECB rates and maturities can be found online at <https://www.treasurydirect.gov/GA-SL/SLGS/selectQTCDate.htm>.

In the more popular direct pay QECB, the issuer pays a taxable coupon to the investor and repays principal at the end of the term. In conjunction, the issuer may make level annual payments into a fund known as a “sinking fund,” for payment of principal. Sinking funds are invested at the permitted sinking fund yield established at pricing (not shown in the Department of Energy (DOE) QECB Primer illustration below). Treasury pays issuer the lesser of the taxable coupon rate or 70% of the tax credit rate.

Net Interest Cost Example from the DOE QECB Primer<sup>4</sup>:

- 6.00%----Taxable rate
- 3.70%----Minus Direct Subsidy (5.29% tax credit rate x 70% subsidy)
- 2.30%----Equals Net Interest Cost (Taxable Rate-Direct Subsidy)



EPC is supporting an ongoing project to provide technical assistance to states to develop energy efficiency finance and renewable energy programs. We have developed a capacity to examine options for states to issue tax credit bonds to support the financing of energy projects. We are also coordinating efforts with NASEO, DOE and Lawrence Berkeley National Laboratory to provide model documents and other QECB resources.<sup>5</sup>

<sup>3</sup> Source: Wells Fargo

<sup>4</sup> The DOE QECB Primer may be found at: [http://www1.eere.energy.gov/wip/pdfs/qecb\\_cred\\_primer.pdf](http://www1.eere.energy.gov/wip/pdfs/qecb_cred_primer.pdf)

<sup>5</sup> The NASEO QECB resource page may be found at: <http://www.naseo.org/resources/financing/qecb/index.html>

## Qualified Projects

QECBs may only be issued for qualified conservation purposes as defined in section 54D of the U.S. Internal Revenue Code. “Qualified conservation purposes” include capital expenditures:

1. To reduce energy consumption in publicly owned buildings by at least 20%
2. To implement green community programs (including the use of grants, loans, or other repayment mechanisms to implement such programs)
3. For rural development (including producing renewable energy)
4. For certain renewable energy facilities (such as wind, solar, and biomass)<sup>6</sup>

The DOE QECB Primer indicates that a green community program can 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.<sup>7</sup> However, issuers should keep in mind that IRS/Treasury, and not DOE, will audit bond issuances for compliance with section 54D and are not bound by DOE interpretation of IRS and Treasury rules and regulations. In addition, IRS and Treasury have provided little written guidance to address the more detailed questions most issuers have. A working relationship with experienced bond counsel is critical for potential issuers.

## QECB Project Examples

### *Municipal Energy Efficiency -- Waterbury, CT*

The Connecticut Development Authority issued \$4.7 million of QECB on August 12, 2010. Funds generated from the QECBs went toward heating and air conditioning improvements and window replacement for the Waterbury city hall and library.

### *Multifamily Energy Efficiency – Boulder, CO<sup>8</sup>*

The Boulder Housing Partners (BHP) issued \$1.5 million of QECBs on August 25, 2010 to increase energy efficiency in public housing projects. BHP used the bond proceeds for an Energy Performance Contract (EPC) to do weatherization and other energy reduction improvements on BHP’s eight Public Housing sites. The EPC is expected to reduce carbon emissions in BHP’s housing by 6,915 metric tons over the life of the project.

### *Renewables -- Los Angeles, CA*

The Department of Water and Power of the City of Los Angeles issued \$131 million of QECBs on August 17, 2010 to expand their existing wind facility with the addition of 10 1.5 MW wind turbines as well as to build and operate a solar photovoltaic electrical generation facility.<sup>9</sup>

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<sup>6</sup> Other qualified purposes include research activities, mass commuting facilities, demonstration projects, and public education campaigns.

<sup>7</sup>[http://www1.eere.energy.gov/wip/solutioncenter/pdfs/taking\\_advantage\\_of\\_qualified\\_energy\\_conservation\\_bonds\\_qecbs\\_presentation.pdf](http://www1.eere.energy.gov/wip/solutioncenter/pdfs/taking_advantage_of_qualified_energy_conservation_bonds_qecbs_presentation.pdf)

<sup>8</sup> <http://www.stateenergyreport.com/using-qecbs-for-multifamily-housing-upgrades-a-case-study/>

<sup>9</sup> <http://www.treasurer.ca.gov/cdlac/news/summary.pdf>

*Green Community Programs--Residential Energy Efficiency Loans -- St. Louis, MO*

The city of St. Louis is using its \$10.7 million, issued April 19, 2011, in QECB funding for a residential energy efficiency loan program, which will provide unsecured loan financing for energy efficiency improvements to homes, with a maximum loan amount of \$115,000.

*Green Community Programs -- Commercial PACE -- Boulder, CO*

The city of Boulder issued \$1.575 million in QECBs on November 5, 2010 and is using the funds for a Commercial PACE Program (funding commercial retrofits and efficiency improvements repaid through an annual property assessment).

*University Improvements -- Louisville, KY*

On December 15, 2010, the University of Louisville issued \$20,942,000 in QECBs. It combined this funding with Build America Bonds to make improvements (using energy service performance contracting) within seventeen education and general buildings. The improvements consisted of lighting retrofits, HVAC system replacement, building controls, motors, belts, water conservation, commissioning, and training.

**Information Sharing and Technical Assistance**

If you are exploring your options for energy program financing through QECBs, EPC and NASEO can offer assistance by sharing other state and governmental officials' experiences, putting you in touch with issuers who have dealt with similar issues, and reviewing your financing structure to provide comments and feedback. Conversely, if you have any experiences to share, we would very much like to hear from you so that other state and local governments may benefit from your work. This effort is being undertaken in a coordinated way with the [NASEO Energy Financing Task Force](#), and EPC and NASEO will provide updates on these efforts on an ongoing basis.

If you would like more information on the issues listed above or if you have information on your state to feature, please contact me at [ebellis@energyprograms.org](mailto:ebellis@energyprograms.org) and Diana Lin at [dlin@naseo.org](mailto:dlin@naseo.org).

**Table 1A: Qualified Energy Conservation Bonds Issuances by State**

State	Amount	Issued	Remaining
Alabama	48,364,000	0	48,364,000
Alaska	7,120,000	0	7,120,000
Arizona	67,436,000	14,320,000	53,116,000
Arkansas	29,623,000	0	29,623,000
California	381,329,000	211,044,730	170,284,270
Colorado	51,244,000	22,684,880	28,559,120
Connecticut	36,323,000	9,800,000	26,523,000
Delaware	9,058,000	0	9,058,000
District of Columbia	6,140,000	0	6,140,000
Florida	190,146,000	0	190,146,000
Georgia	100,484,000	0	100,484,000
Hawaii	13,364,000	0	13,364,000
Idaho	15,809,000	0	15,809,000
Illinois	133,846,000	30,370,000	103,476,000
Indiana	66,155,000	3,300,000	62,855,000
Iowa	31,150,000	0	31,150,000
Kansas	29,070,000	29,070,000	0
Kentucky	44,291,000	41,306,080	2,984,920
Louisiana	45,759,000	0	45,759,000
Maine	13,657,000	0	13,657,000
Maryland	58,445,000	6,515,000	51,930,000
Massachusetts	67,413,000	1,698,790	65,714,210
Michigan	103,780,000	0	103,780,000
Minnesota	54,159,000	8,500,000	45,659,000
Mississippi	30,486,000	0	30,486,000
Missouri	61,329,000	11,440,000	49,889,000
Montana	10,037,000	0	10,037,000
Nebraska	18,502,000	0	18,502,000
Nevada	26,975,000	8,135,950	18,839,050
New Hampshire	13,651,000	0	13,651,000
New Jersey	90,078,000	0	90,078,000
New Mexico	20,587,000	0	20,587,000
New York	202,200,000	3,569,470	198,630,530
North Carolina	95,677,000	0	95,677,000
North Dakota	6,655,000	1,200,000	5,455,000
Ohio	119,160,000	15,488,560	103,671,440
Oklahoma	37,787,000	0	37,787,000
Oregon	39,320,000	0	39,320,000
Pennsylvania	129,144,000	25,089,560	104,054,440
Rhode Island	10,901,000	0	10,901,000
South Carolina	46,475,000		46,475,000
South Dakota	8,343,000	2,575,000	5,768,000
Tennessee	64,476,000	0	64,476,000
Texas	252,378,000	0	252,378,000
Utah	28,389,000	5,000,970	23,388,030
Vermont	6,445,000	0	6,445,000
Virginia	80,600,000	0	80,600,000
Washington	67,944,000	17,905,000	50,039,000
West Virginia	18,824,000	0	18,824,000
Wisconsin	58,387,000	14,920,000	43,467,000
Wyoming	5,526,000	0	5,526,000
American Samoa	673,000	0	673,000
Guam	1,826,000	0	1,826,000
Northern Marianas	899,000	0	899,000
Puerto Rico	41,021,000	0	41,021,000
US Virgin Islands	1,140,000	0	1,140,000
<b>Total</b>	<b>\$3,200,000,000</b>	<b>\$483,933,990</b>	<b>2,716,066,010</b>

Notes:

1. Although IRS collects information on QECB issuances on Form 8038-TC, no government agency is currently sharing QECB issuance information. As such, it is not possible to ascertain the exact number and quantity of QECB issuances to date. The information attached hereto has been gathered from various sources, including IRS Notice 2009-29, Municipal Securities Rulemaking Board – EMMA, DOE, LBNL, Wells Fargo, state and local issuer websites, state and local government contacts.

2. Figures are rounded up.

**Table 1B: Qualified Energy Conservation Bonds Issued By States**

<b>Qualified Energy Conservation Bonds Issued (as of 8/24/2011)</b>				
<b>Issued To</b>	<b>State</b>	<b>Issue Date</b>	<b>Amount</b>	<b>Use of Proceeds</b>
Tempe	Arizona	7/1/2011	\$7,300,000	Municipal EE improvements
Tucson City	Arizona	6/23/2010	\$5,590,000	Expansion Energy plant
Tucson City	Arizona	6/9/2011	\$1,430,000	Replace HVAC
Los Angeles Dep't of Water & Power	California	8/17/2010	\$131,020,000	Solar & wind
Yuba Community College	California	6/21/2011	\$15,040,000	Renewable generation (solar)
Oxnard Union High School District	California	9/29/2010	\$19,067,730	Solar improvements in schools
Lodi Unified School District	California	11/18/2010	\$9,915,000	Solar improvements in schools
Fallbrook Public Utility District	California	11/18/2010	\$3,400,000	Solar
Santa Clara County Photovoltaic	California	2/10/2011	\$20,368,000	Renewable generation (solar)
Yuba College Central Plant	California	6/3/2011	\$6,324,000	Replace HVAC
Irvine Unified School District	California	7/29/2010	\$4,840,000	Solar improvements in schools
Richmond	California	12/1/2010	\$1,070,000	Streetlights; municipal EE
Boulder County	Colorado	2/2/2010	\$5,838,050	Municipal EE improvements
Western State College	Colorado	8/19/2010	\$1,635,390	Higher ed EE improvements
Boulder Housing Partners	Colorado	8/25/2010	\$1,500,000	Multi-family EE improvements
City of Englewood	Colorado	9/15/2010	\$1,286,440	Municipal EE improvements
Mesa County School District #51	Colorado	10/29/2010	\$2,000,000	School EE improvements
Boulder PACE	Colorado	11/5/2010	\$1,515,000	Green community program (PACE - commercial)
Fort Collins City	Colorado	6/28/2010	\$6,410,000	Smart Grid
Foothills Park & Rec	Colorado	8/13/2010	\$1,000,000	Recreational EE improvements
City of Boulder	Colorado	9/27/2010	\$1,500,000	Municipal EE improvements
East Hartford	Connecticut	4/10/2010	\$6,000,000	Municipal EE improvements
Waterbury City	Connecticut	8/11/2010	\$3,800,000	Municipal EE improvements
Ivy Technical Community College	Indiana	10/1/2010	\$3,300,000	School EE improvements
City of Chicago	Illinois	11/4/2010	\$29,665,000	Water
Champaign Cty School District 116	Illinois	12/14/2010	\$585,000	School EE improvements
Champaign Cty School District 193	Illinois	12/20/2020	\$120,000	School EE improvements
Wyandotte Cty/Kansas Unified Govt.	Kansas	11/18/2010	\$2,530,000	Municipal EE improvements
Kansas Dev. Finance Authority	Kansas	12/21/2010	\$17,819,000	Higher ed EE improvements
Lawrence City	Kansas	3/10/2011	\$8,721,000	Renewable (hydroelectric)
Louisville-Jefferson County	Kentucky	9/14/2010	\$7,408,700	Municipal EE improvements
University of Kentucky	Kentucky	11/19/2010	\$12,955,000	School EE improvements
University of Louisville	Kentucky	12/20/2010	\$20,942,380	School improvements (ESPC)
Public schools	Maryland	7/27/2011	\$6,515,000	School EE improvements
City of Northampton	Massachusetts	12/22/2010	\$1,698,790	Municipal EE improvements
Greene County	Missouri	3/3/2011	\$1,130,000	Municipal EE improvements
St. Louis County	Missouri	4/29/2011	\$10,310,000	Green community (res. Loans)
Grant County	Minnesota	2/1/2011	\$2,000,000	Municipal EE improvements
Itasca County	Minnesota	2/8/2011	\$3,690,000	Municipal EE improvements
ELY ISD #696	Minnesota	5/19/2011	\$2,810,000	School EE improvements
City of Reno	Nevada	6/1/2010	\$2,261,650	HVAC retrofit for City Hall

Issued To	State	Issue Date	Amount	Use of Proceeds
Las Vegas	Nevada	3/16/2011	\$5,874,300	City facilities retrofit
Rochester City	New York	6/16/2010	\$2,166,000	HVAC replacement
Chautauqua County	New York	1/19/2011	\$1,403,470	Expansion Electric Plant
Morton County (Mandan S.D.)	North Dakota	1/18/2011	\$1,200,000	School EE improvements
Owens State Community College	Ohio	3/18/2010	\$3,125,000	Higher ed EE improvements
Kent State University (Stark Campus)	Ohio	6/11/2010	\$672,130	Higher ed EE improvements
Pickaway County	Ohio	12/15/2010	\$1,479,810	County facilities retrofit
Kent State University (Regional)	Ohio	3/30/2011	\$2,693,610	Higher ed EE improvements
Kent State University (Main Campus)	Ohio	5/31/2011	\$7,000,000	Higher ed EE improvements
Findlay County	Ohio	6/30/2011	\$518,010	County facilities retrofit
Allegheny County	Pennsylvania	11/22/2010	\$9,389,560	City facilities retrofit
Commonwealth of PA/Penn St CTFS	Pennsylvania	9/30/2010	\$15,700,000	Municipal EE improvements
Davison County (Mitchell) #17-2	South Dakota	11/10/2010	\$1,725,000	1.5 MW wind turbine
Lake County	South Dakota	6/1/2011	\$850,000	Renewable (geothermal)
Utah County	Utah	10/22/2010	\$5,000,970	Energy efficiency
Bellingham City	Washington	4/13/2011	\$6,500,000	Municipal EE improvements
Yakima County	Washington	9/8/2010	\$2,430,000	EE improvements courthouse
Thurston County	Washington	10/26/2010	\$2,040,000	New LEED bldgs; remodel existing bldg
King County	Washington	11/15/2010	\$3,000,000	HVAC project
King County	Washington	11/15/2010	\$2,825,000	Energy efficiency and HVAC
Kitsap County	Washington	12/16/2010	\$1,110,000	Sewer financing
Western Wisconsin Tech College	Wisconsin	7/21/2010; 1/27/2011	\$3,000,000	Public education campaign; municipal EE improvements
Western Wisconsin Tech College	Wisconsin	7/27/2011	\$1,200,000	
Pleasant Prairie Village	Wisconsin	8/16/2010	\$1,890,000	Municipal EE improvements
School Dist Hartford No. 1 (Dodge and Washington Counties)	Wisconsin	4/11/2011	\$2,295,000	School EE improvements (geothermal)
Jefferson School District	Wisconsin	3/18/2011	\$2,345,000	Renovate/upgrade HVAC
Mount Horeb School District	Wisconsin	4/18/2011	\$2,500,000	Renewable generation
Menasha School Dist	Wisconsin	6/28/2011	\$1,690,000	School EE improvements
Total Issued as of 8/24/2011			\$483,933,990	

Note: Abbreviation "EE" is energy efficiency; abbreviation "res" is residential; "HVAC" is Heating, Air Conditioning, and Ventilation; "ed" is education; "bldgs" is Buildings.

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For additional information on this memo, please contact Elizabeth Bellis ([ebellis@energyprograms.org](mailto:ebellis@energyprograms.org)).