

Bond Financing for Energy Efficiency and Renewable Energy: Overview for State and Local Leaders

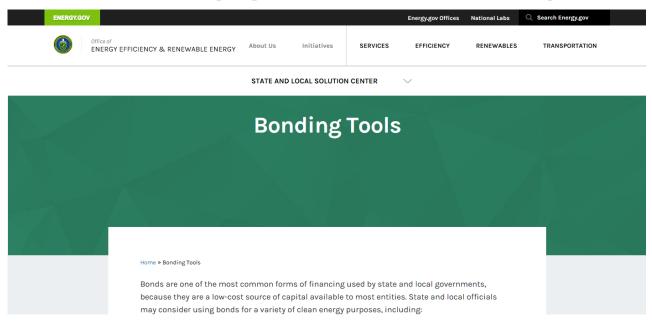
April 19, 2018



Overview

Purpose:

- Inform state and local governments about how bond financing can be leveraged to support their energy efficiency and renewable energy goals.
- Share DOE's bond financing resources. See:
 https://www.energy.gov/eere/slsc/bonding-tools



Logistics

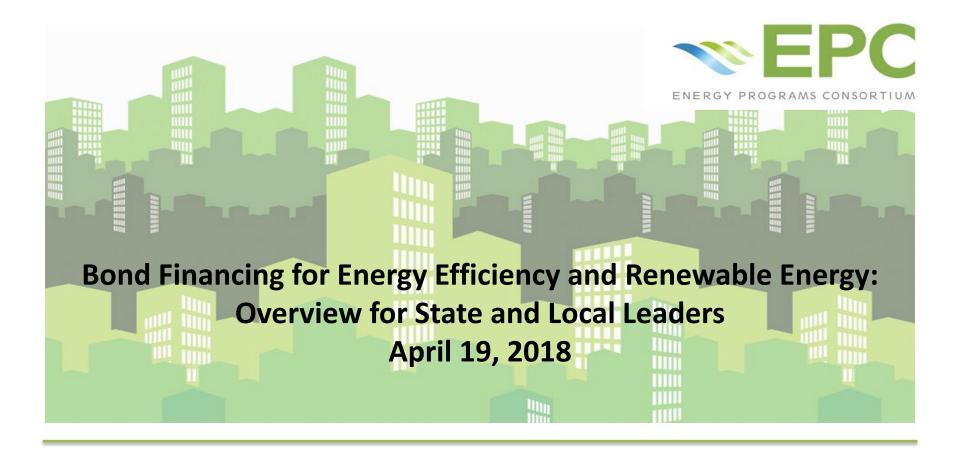
• The recorded webinar, transcript and slides will be available online at: https://energy.gov/eere/slsc/state-and-local-solution-center.

- Attendees are in listen-only mode.
- Attendees are encouraged to type questions and feedback in the webinar interface tool throughout the webinar. We will answer questions at the end.

Agenda

Bond Financing

- Legislative update
- What are bonds and who uses them
- Case studies
- Important questions when considering bond financing
- Q&A
- Share DOE bond financing resources



Elizabeth Bellis Wolfe Energy Programs Consortium



QECBs and new CREBs Eliminated

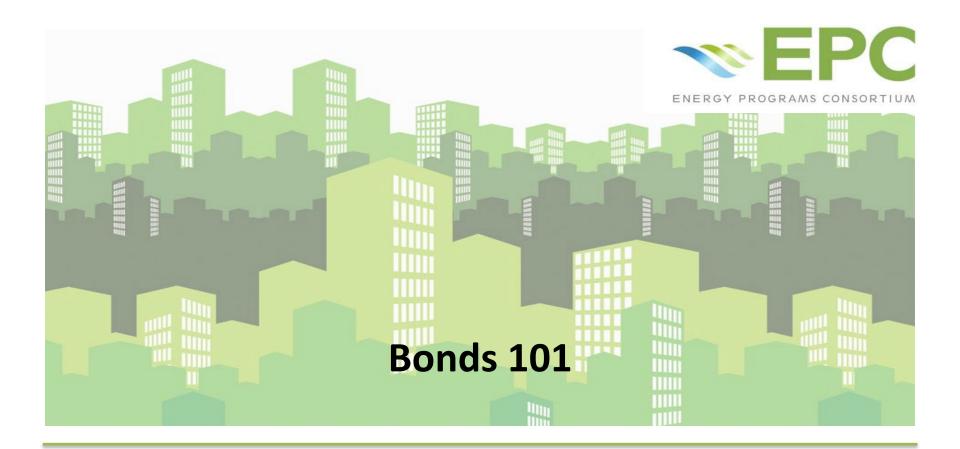
- Section 13404 of the Tax Cuts and Jobs Act repealed tax credit bonds effective January 1, 2018
- Issuers of QECBs (i.e. state and local governments) that elected to receive direct payments from the Treasury for QECBs issued before December 31, 2017 will receive these tax credits for the life of the bonds

State & Local Bond Options for EE & RE



- State and local governments may
 - Issue bonds directly to finance energy efficiency or renewable energy projects, OR
 - Facilitate, support or encourage the issuance of bonds by private issuers
- State and local governments that issue directly have a number of options:
 - Tax-exempt vs. taxable
 - Standard municipal bond vs. Private activity bond
 - General obligation vs. revenue, special/limited obligation
 - Labeled as "green" or similar (climate, sustainability, etc) or not
 - Certified as "green" or similar by an independent third party or not

Poll Question #1



What is a Bond?



- A bond is a financial instrument, a type of debt security that public, private, and nonprofit issuers can use to fund a capital expenditure
- Bond investors and purchasers are often called "bondholders"
- Bondholders have essentially lent money (the "principal" or "bond proceeds") to the bond issuer in a form that may be more readily tradable than a traditional loan
- Unlike stocks and other equity investments, bonds are typically fixed-income securities: the amount borrowed is paid off periodically at pre-determined interest rates over its term
 - Bond interest rates may be fixed or may "float" that is, vary according to a pre-agreed "spread" (markup) over some index rate that varies over time





- A bond issued by or on behalf of a state or local government
- Tax-Exemption: If the bond is issued for governmental purposes to finance government-owned property (or improvements thereto), interest payments made to bondholders may be exempt from U.S. federal income taxation
- Private Activity Bonds (PABs): Governments may issue bonds for non-governmental purposes up to their annually-determined population-based "volume cap"
 - Interest on PABs is taxable unless "qualified" due to meeting certain technical requirements in the tax code

Types of Muni Bonds



- General Obligation ("GO") Bonds: State or local governments may stand behind their promise to repay the bond proceeds to bondholders by pledging "full faith and credit" or their ability to tax their constituents to raise the funds needed to repay if existing available revenues are not sufficient to cover payments
- Revenue Bonds: Alternatively, bonds may be backed only by the revenues of the project being financed, or perhaps by some additional limited reserves
- EPC's research suggests that about ¾ of green-labeled municipal bonds are issued as Revenue Bonds rather than General Obligation bonds*

^{*}See EPC Green Muni Bonds Paper (June 2017), p.12, available at http://www.energyprograms.org/wp-content/uploads/2017/06/greenmunicipalbonds.pdf

What Kind of Governments Use Muni Bonds?



 Almost everyone: As of 2016, there were over 31,000 different municipal bond issuers with bonds outstanding*

 Of the nearly \$30 trillion U.S. bonds issued since 2013, approximately \$1.5 trillion, or about 5%, are municipal bonds**

^{*}https://www.sifma.org/wp-content/uploads/2016/10/US-Capital-Markets-Deck-2017-09-11-SIFMA.pdf

^{**}https://www.sifma.org/wp-content/uploads/2016/10/US-Fact-Book-2017-SIFMA.pdf

What is a Bond Rating?



- A bond issuer may hire a rating agency to assign a "rating" to the bond
- These credit ratings serve as an indicator of riskiness/creditworthiness
- Investors use these ratings as a measure to determine an issuer's ability to repay and the risk of default
- Some credit rating agencies now offer ratings as to a bond's "greenness" as well





- Multiple definitions, taxonomies and standards exist
- A green bond is a bond whose proceeds are used to finance something that bond investors may consider "green", such as: energy efficiency, renewable energy, public transportation, clean air, waste management, conservation, and certain water projects
- Some green bonds are labeled green to facilitate their identification by investors interested in sustainable investing





- At a minimum, labeled green bonds are generally expected to comply with the International Capital Market Association's (ICMA) Green Bond Principles
- Issuers may "self-label" or obtain independent third party opinions, ratings or verifications
 - EPC found that about 80% of green-labeled bonds were self-labeled as of mid-2017

What Kind of Governments Issue Muni Bonds for EE, RE & Similar Purposes?



• All kinds:

- From 2005-2017, EPC found muni bonds were issued for projects that may be considered green in at least 44 states, as well as the District of Columbia and Guam
 - About \$28.7 billion for energy efficiency and renewable energy projects
 - Energy efficiency projects outnumbered renewable energy projects by more than 2-to-1

State Leaders in Use of Bonds for EE/RE/Similar Purposes, 2005-2017



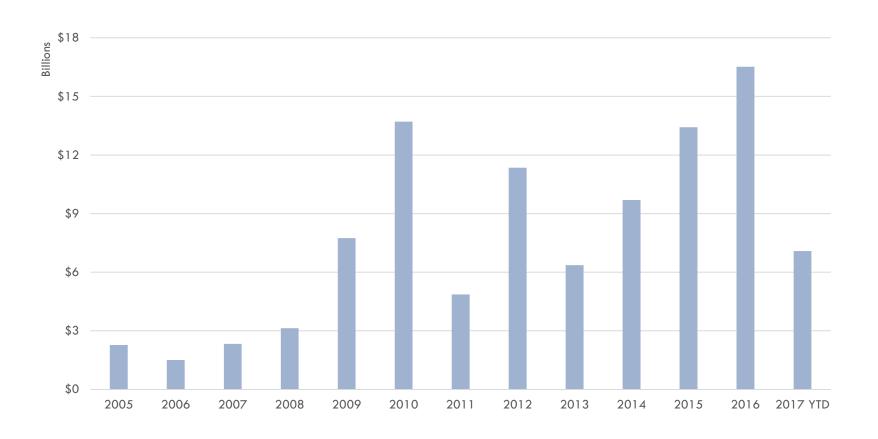
Top 10 States by \$ Issued

- 1. New York: 63 issuances, \$27.8 billion
- **2.** California: 131 issuances, \$7.1 billion
- **3. Ohio:** 102 issuances, \$6.2 billion
- **4. Washington**: 31 issuances, \$4.8 billion
- **5. Utah:** 17 issuances, \$3.6 billion
- **6. Illinois:** 17 issuances, \$3.6 billion
- 7. Texas: 47 issuances, \$3.4 billion
- **8. Georgia:** 15 issuances, \$3.2 billion
- **9. Missouri:** 30 issuances, \$2.6 billion
- 10. Massachusetts: 22 issuances, \$2.1 billion

^{*}Source: EPC June 2017 Green Muni Bond Paper. Note that these figures include issuances for purposes other than energy efficiency and renewable energy, including certain water-related projects.







Poll Question #2



Asheville, NC LED Streetlight Conversion



Issuer: City of Asheville, North Carolina

• Amount: \$1,750,000

Type: General Obligation Bonds

- Project: 7,500 lights converted from High Pressure Sodium (HPS) to Light Emitting Diode (LED) over 18 month period
- Annual savings:
 - 2,294,030 kWh
 - \$401,476
 - used to repay the bonds and fund other energy improvements through the Green
 Capital Improvement Plan (CIP) where the savings from each project are deposited in a capital improvements account, whose funds can roll from one year to the next
- Payback Period: 4.6 years

See https://www.usdn.org/uploads/cms/documents/mi-led-streetlight-convening-report final-01-27-14.pdf

Oxford, Michigan ESPCs in Schools



- Issuer: Oxford Area Community School District, encompassing 8 schools with 4,600 K-12 students
- Amount: \$2.9 million
- Type: Limited Tax General Obligation bonds
- Project: New boilers, new chiller, lighting upgrades, and other energy conservation measures
- Annual Savings: \$341,176
- Payback Period: 8.5 years

See https://www.energy.ogv/sites/prod/files/2014/06/f16/lbnl-6133e-mi.pdf

Delaware Sustainable Energy Utility State-wide ESCO program



- Issuer: DSEU, a state-created nonprofit organization authorized to issue bonds to finance efficiency projects
- Amount: \$70.2 million
- Type:
 - Payments to bond holders are made solely from agency installment payments funded through state agency budget appropriations and backstopped by guaranteed energy savings agreements for each agency retrofit project
 - The bonds are not deemed to constitute a debt or liability of the State and interest on the bonds is exempt from state income tax
- Project: State agency lighting and building upgrades
 - ESCOs enter into Guaranteed Energy Service Agreements with the agencies, and in turn the agencies enter into Installment Payment Agreements (IPAs) with DSEU to pay for the improvements
- Rating: AA+
- See https://www.energy.gov/sites/prod/files/2014/06/f16/Clean-Energy-Group-Reduce-Risk-Increase-Clean-Energy.pdf



Questions When Considering Issuing Muni Bonds for Energy Efficiency or Renewable Energy Projects



- What approval process is required in our jurisdiction in order to issue a municipal bond?
- Are there procurement requirements and procedures that we need to factor in to our timeline and decision-making process?
- Is our project eligible for tax-exempt municipal bond financing?
- Is our jurisdiction looking to finance other projects with bonds that could be issued together with ours to reduce the issuance costs per dollar financed?
- What is our jurisdiction's rating?
- Will a legal opinion of outside counsel be required?
- How certain are the amounts and timing of the projected revenues from our project?
- Does the builder or energy services company we are working with offer any performance guarantees, and how confident are we in the company being able to make good on those guarantees if needed?

Bond Issuance Steps



- Identify a project to be financed
- Select bond counsel and financial advisor and/or underwriter, who assist in "structuring" the bond and drafting necessary documentation
- Obtain necessary local approvals
- Market and sell the bonds
- Use proceeds to finance the project
- Post-issuance compliance

Questions?

Please type questions into the webinar dialogue box.

DOE Resources for Bond Financing

DOE's State and Local Solution Center: Bonding Tools

Case Studies

- Douglas County School District (NV) Bonds Case Study
- Oxford Area Community School District (MI) Bonds Case Study

Reports

 Reduce Risk, Increase Clean Energy: How States and Cities are Using Old Finance Tools to Scale Up a New Industry (CE + BFI, 2013)

Tools

Leveraging bond financing to support Energy Savings
 Performance Contracts – <u>ESPC Financing Decision Tree</u>

Updates

Update on QECBs and CREBs (Eliminated effective Jan. 1, 2018)

Thank You

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State and Local Solution Center

http://energy.gov/eere/slsc/state-and-local-solution-center