

Case Study

VirginiaSAVES

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Executive Summary

Before the federal government discontinued the United States Department of Energy's (DOE) Qualified Energy Conservation Bond (QECB) program in 2017 as part of its tax reform package, states like Virginia leveraged this program to accomplish energy efficiency goals.^{1,2}

When evaluating how to use Virginia's QECB allocation, decision makers considered the increased flexibility of Green Community Programs (GCPs) relative to traditional QECBs and "qualified" projects.

GCPs can issue bonds for any mix of public and/or private projects. In contrast, under the traditional QECB structure, a maximum of 30% of allocations can be issued for private projects.

In addition, GCPs are not subject to the 20% energy-reduction requirement. This broad scope and relaxed requirements allow them to be structured and operated on a case-by-case basis, leaving significant room for creativity and adaptability to different states, locations, and projects.

On December 10, 2014, Virginia Governor Terry McAuliffe signed Executive Order 36, which simultaneously reauthorized expired suballocations to Large Local Governments (LLGs), provided a mechanism by which unused QECBs would revert back to the state, and authorized the creation of a GCP.

Specifically, the executive order set out to:

- Designate the Director of the Division of Energy of the Virginia Department of Mines, Minerals, and Energy (DMME) as the QECB Allocation Director who would work in conjunction with the Virginia Small Business Financing Authority (VSBFA)
- Reallocate QECBs to localities with populations in excess of 100,000
- Create a constructive waiver mechanism that would give LLGs nine months to notify the QECB Allocation Director in writing of their intent to use their suballocation for specific projects³
- Allow the QECB Allocation Director issue a Request for Proposals (RFP) for the administration of the GCP⁴

On March 18, 2015, the DMME published an RFP for the design and administration of the Virginia Green Community Program. This program was intended to be a vehicle with the objective of providing low-cost financing for energy efficiency, renewable energy, and ethanol infrastructure.

1 Ungar, L. (2017.) *What the tax bill may mean for energy efficiency*. American Council for an Energy-Efficient Economy. Retrieved from <http://aceee.org/blog/2017/12/what-tax-bill-may-mean-energy>

2 U.S. Department of Energy. (n.d.) *Qualified Energy Conservation Bonds*. Retrieved from <https://energy.gov/eere/slsc/qualified-energy-conservation-bonds>

3 LLGs were required to utilize their suballocations within one year. If no notice was given and/or no allocation was issued, the unused QECBs were considered waived and returned to the QECB Allocation Director.

4 State of Virginia. (n.d.) *EO36 actions*. Retrieved from <https://governor.virginia.gov/newsroom/newsarticle?articleId=7447>

Broadly speaking, the GCP requirements were as follows:⁵

- Create flexible financing mechanisms to support the goals of the 2014 Energy Plan
- Deploy \$20 million of the state's QECB allocation by the end of 2016 for public and/or private projects through the GCP
- Ensure that the general obligation or credit of the state was not impacted in such a way that conduit issuers would need to be used
- Provide details on how the GCP administrator for private projects (VSBFA), the administrator of public projects (Virginia Resources Authority), and private entities involved in projects would structure bond issuances to ensure they do not impact the general obligation or credit of the state

The implemented GCP structure used the SAVES structure (Sustainable and Verifiable Energy Savings). It was created by Abundant Power/CleanSource Capital and had been previously deployed without major complications in St. Louis County, South Carolina, and North Carolina.

This structure relies on conduit issuers such as the South Carolina Development Authority or the North Carolina Agricultural Finance Authority. These state agencies issue QECBs on behalf of the ultimate borrowers, although bonds are not backed by the state.

The use of a conduit issuer allows private projects to be funded through QECBs while responsibility for repayment rests solely with the ultimate borrower.⁶ This GCP structure was designed to address the key challenges associated with QECBs—flexibility, scale, and expertise.

Challenges and limitations of the program included lack of awareness about QECBs and GCPs, inflexibility of transaction and issuance costs, restrictions due to low interest rates, and artificial inflation of labor costs.

Problem

MARKET SITUATION IN VIRGINIA

As recently as 2008, about 44% of electricity generation in Virginia was from coal. The state has since diversified its energy mix, so natural gas (52%), nuclear (26%), coal (17%), renewables (4%), hydroelectric (1%), and petroleum (1%) supplied its power needs as of August 2016.⁷ This market evolution has been largely due to the low price of natural gas and the growing support for renewables policies.

5 Virginia Department of Mining, Minerals, and Energy. (n.d.) *VGCP RFP contract terms*. Retrieved from https://www.dmme.virginia.gov/DMME/Contracts/VGCP-RFP_Contract_Terms.pdf

6 Energy Programs Consortium. (2016.) *Qualified Energy Conservation Bonds (QECBS)*.

7 U.S. Energy Information Administration (2016). *Independent statistics and analysis*. Retrieved from <http://www.eia.gov/state/?sid=VA>

Through its 2014 Updated Energy Plan, Virginia has put forth substantial goals for industry growth, new infrastructure, alternative fuels, vehicle technologies, and talent development. Since 2014, Virginia has attracted \$500 million in clean energy capital investments and established the VirginiaSAVES Green Community Program. But it still lags behind some of its neighboring states in terms of clean energy-technology adoption.⁸

The relative historic lack of policy support for renewables at the state level has hindered development in that space. Unlike some other states, Virginia has no state-level tax credits and no renewable energy certificate market. It has a 1% cap on net metering programs relative to total utility sales.

However, the state has been able to take advantage of government-issued QECBs to spur energy efficiency and, to a lesser extent, renewable energy. It has made these improvements while encouraging private capital investment.

REQUIREMENTS FOR QECBS

The Energy Improvement and Extension Act (EIEA) of 2008 authorized the issuance of \$800 million of QECBs. These qualified tax credit bonds were allocated among states by population. They were suballocated to large local and tribal governments (LLGs) with populations in excess of 100,000.

The bonds were intended to provide low-cost capital for LLGs to finance qualified energy conservation projects. Under this tax credit structure, the LLG would be responsible for the principal of the bonds, but not the interest.

In lieu of interest payments, the lender would receive federal tax credits equal to 70% of the full rate set by the U.S. Department of the Treasury. This subsidy has ranged from 2.68% to 3.9%, which is approximately twice as large as the one for Build America Bonds.⁹

In 2009, the allocation was expanded to \$3.2 billion through the American Recovery and Reinvestment Act. In 2010, via H.R. 2876, bond issuers were given the option of a direct interest-rate subsidy in lieu of a tax credit. This new structure allowed for the delivery of a direct payment equal to the foregone tax credit. This payment was issued from the Treasury to the borrowers, effectively creating a lower interest rate for the borrowers.

In order to be considered a “qualified project,” a project must achieve/address one of the following requirements:¹⁰

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- 8 Virginia Department of Mines, Minerals and Energy. (n.d.) *2014 Virginia Energy Plan*. Retrieved from https://www.dmme.virginia.gov/DE/2014_VirginiaEnergyPlan2.shtml
 - 9 Energy Programs Consortium. (2016.) *Qualified Energy Conservation Bonds (QECBS)*.
 - 10 U.S. Department of Energy. *Qualified energy conservation bonds*. Retrieved from <https://energy.gov/eere/slsc/qualified-energy-conservation-bonds>

1. Reduce energy consumption in publicly owned buildings by at least 20%
2. Implement GCPs, which may include the use of repayment mechanisms with grants or loans
3. Spur rural development including the production of renewable energy
4. Provide research facilities and grants related to alternative fuels and storage
5. Create public-education campaigns to promote energy efficiency
6. Develop mass-commuting projects that reduce energy consumption and pollution

Two requirements are particularly important: efficiency and GCPs.

Notice 2012-44, issued by the IRS in 2012, gives further details on both qualified projects, particularly with regard to energy efficiency-measurement techniques and GCP implementation requirements.¹¹

Energy efficiency projects aimed at reducing energy consumption by at least 20% are the most common use for QECBs. In order to qualify, the savings can be measured in several different ways. It can occur in a single publicly-owned building, across multiple publicly-owned buildings, in one or several components of a building or multiple buildings, or in any combination of these units. The issuer must use a “reasonable and consistent” method to measure energy savings such as an ASHRAE level 3 audit or the DOE eQUEST software. Although issuers are not required to measure energy savings, they are encouraged to engage in energy-monitoring practices. Energy efficiency projects have been the most common use of QECBs, representing about 67% of issuance.¹²

Green Community Programs are the third highest category of existing issuances, comprising 13% of QECBs. They are only required to meet two broad requirements:

1. Projects must promote energy-conservation retrofits. These might include energy, heating/cooling, lighting, and water. They may also cover distributed generation, public transportation, or alternative fueling.
2. Projects must “involve property that is available for public use” and “involve a loan or grant program that is available to members of the general public, including individuals or businesses.” Programs do not need to affect all residents, but must broadly benefit the public in the affected area.¹³

Although the requirements are quite broad for GCPs and other qualified projects, many LLGs have not issued any QECBs. And those that have issued them still had the majority of their allocations left when the program was discontinued.

CHALLENGES WITH QECBS

As of August 2016, only approximately \$1.26 billion in QECBs had been issued out of the \$3.2 billion allocated across all the states. This shows there was a 39% level of issuance by the program after 8 years of existence.

¹¹ Internal Revenue Service. *IRS notice 12-44*. Retrieved from <https://www.irs.gov/pub/irs-drop/n-12-44.pdf>

¹² Energy Programs Consortium. (2016.) *Qualified Energy Conservation Bonds (QECBS)*.

¹³ Internal Revenue Service. *IRS notice 12-44*. Retrieved from <https://www.irs.gov/pub/irs-drop/n-12-44.pdf>

The program has now been discontinued as of December 2017.

Of about 37 states that have issued QECBs, only 4 states—Colorado, Kansas, Kentucky, and Nebraska—had issued all or nearly all of their allocations at the time when this report was initially drafted.

The low utilization is the result of the many challenges inherent in issuing QECBs. Time constraints, allocation size, issuance costs, debt aversion/debt caps, project costs, wage legislation, stakeholder familiarity, and sequestration vulnerability are some of the primary reasons.

- 1. Time Constraints:** QECB issuances could take months to close. Also, at least 10% of the bond proceeds were required to be spent within six months. The remaining proceeds were required to be spent within three years.
- 2. Debt Aversion/Debt Caps:** Many states and jurisdictions are unwilling to take on additional debt. They may also have legally defined debt-volume caps.
- 3. Project Costs:** Financed projects fell under the purview of the Davis Bacon Fair Wage Act, which stipulates that contractors and subcontractors must be paid “no less than the locally prevailing wages and fringe benefits of corresponding work on similar projects in the area.”¹⁴ For contracts in excess of \$100,000, this means workers received 1.5x their usual pay rate for all weekly overtime in excess of 40 hours.
- 4. Sequestration Vulnerability:** QECBs were subject to sequestration cuts. Although these cuts were very small relative to the entire program, they can have a significant impact on issuers with tight margins.
- 5. Stakeholder Familiarity:** Bond-issuing agencies/authorities differ by state. New issuers might have sometimes required technical assistance and logistical support. Project eligibility could also have been unclear to new participants. For example, an organization might ask how it should measure a 20% energy efficiency improvement.

In a 2013 survey carried out by Energy Programs Consortium to ascertain reasons for non-issuance of QECBs, 36% of the respondents (LLGs in 11 states) cited a lack of awareness, 27% cited a lack of qualified projects, 15% alluded to debt capacity limitations, and the rest gave a number of reasons including sequestration vulnerability.

Key challenges with the suballocations were small allocation sizes which made issuances difficult to sell, especially when the transaction costs are capped to 2% of the bond proceeds. Some states have employed legal mechanisms to pool these unused suballocations at the state level to achieve the scale required for financing larger projects. Three broad mechanisms used included:

- 1. Affirmative waivers:** The LLG waived its QECB suballocations through a resolution.
- 2. Constructive waivers:** The state set a certain date by which each LLG must provide its intent to use its QECB allocation. An allocation was considered waived when the LLG failed to notify the state at the due date.
- 3. Letter of intent:** The state sent letters to all LLGs asking if they intended to use their QECB suballocations. If they replied that no such intention existed, the QECBs were returned to the state.

¹⁴ U.S. Department of Labor. (2002.) Davis-Bacon and related acts – wage and hour division (WHD) Retrieved from <https://www.dol.gov/whd/govcontracts/dbra.htm>

These “clawback” mechanisms were a necessary requirement for state-level GCPs. 34 states have used a waiver process. 13 of them used executive orders. However, of those 13, only Virginia and Idaho used an executive order to simultaneously authorize QECCBs and a constructive waiver. 24 of the waivers were affirmative, 6 were constructive, and 4 used letters of intent.

Solution

PROGRAM AND DEAL STRUCTURE

The structure of VirginiaSAVES, while not necessarily novel, differed from traditional government bond structures due to the use of conduit issuers as well as some specific requirements of QECCBs. The program summary is presented below, including key stakeholders, capital flows, process documentation, and other features:

U.S. Department of the Treasury: Allocated \$80.6 million in QECCBs to the state of Virginia (which were suballocated to LLGs)

Governor of Virginia: Initially capitalized the VirginiaSAVES Program with \$20 million of QECCBs, using a constructive waiver; the DMME later increased this to \$55 million

The Virginia Department of Mines, Minerals, and Energy’s (DMME) Designated QECCB Allocation Director: Allocated QECCBs for qualified projects to the conduit issuers—the Virginia Resource Authority for public projects and the Virginia Small Business Financing Authority for private projects

Clean Source Capital Program Administrator: Administered VirginiaSAVES, which included workforce and market development activities such as developing pipelines, qualifying contractors, assessing borrowers and projects, and communicating to stakeholders

For borrowers, VirginiaSAVES provided an attractive mechanism for low-cost energy-project funding. The table below details the interest savings for the five projects that had been funded through VirginiaSAVES as of the date this case study was drafted.

BORROWER	FINANCING	QECCB SUBSIDY RATE	EFFECTIVE INTEREST RATE	INTEREST SAVINGS
Pittsylvania County Schools	\$3,313,595	3.24%	0.23%	\$876,162
St. Anne’s Belfield School	\$2,500,000	3.3%	0.00%	\$532,773
Warren County & Warren County Schools	\$8,691,000	3.21%	0.89%	\$3,541,794
Pamunkey Regional Jail Authority	\$2,187,501	2.80%	0.94%	\$560,288
Randolph Macon Academy	\$3,855,000	2.89%	1.16%	\$1,263,002

PROJECT EXAMPLE

To obtain funding through VirginiaSAVES, the borrowers were required to obtain energy and credit approval, loan underwriting, and program compliance.¹⁵ The following steps were required:

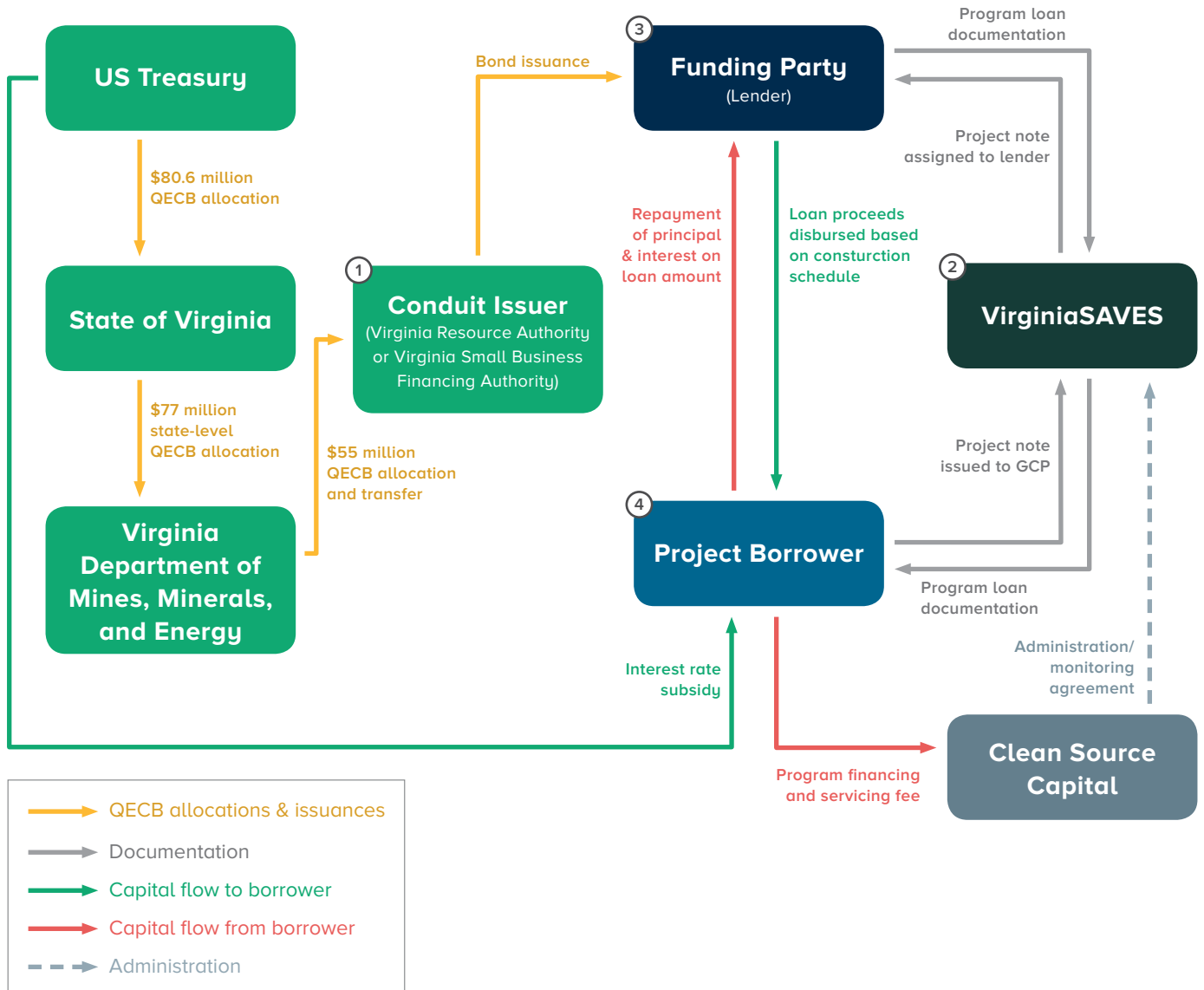


¹⁵ State of Virginia. (n.d.) *VirginiaSAVES GCP overview*. Retrieved from https://static1.squarespace.com/static/55914563e4b03ab3a9aaab93/t/55e5a54fe4boe17dfcf325d0/144113423859/VirginiaSAVES_Program_Overview.pdf

¹⁶ National Association of State Energy Officials. (2015.) *SAVES platform*. Retrieved from <http://www.naseo.org/Data/Sites/1/events/regional/southeast/2015-05/MONTGOMERY-CleanSource-SAVES-Platform.pdf>

The figure below provides a visual representation of the capital flow, bond allocations, and project documentation:

Four-Party Loan-and-Note-Purchase Agreement



PROGRAM COMPLICATIONS AND LIMITATIONS

While VirginiaSAVES achieved much success, challenges and limitations existed. Perhaps the chief one of those challenges was a lack of awareness about QECCBs and GCPs. This lack of awareness extends throughout the country, even within states that have issued QECCBs and/or created GCPs.

Transaction costs presented another major challenge for the program. Transaction and issuance costs were largely fixed. They didn't significantly vary based on the sizes of the transactions. The 2% limitation on QECCB bond proceeds that could be used for transaction costs held back initial projects. Although GCPs typically issue millions of dollars in bonds, issuance costs can easily exceed the 2% limitation. This put additional financial stress on the borrowers and reduced the overall benefit they received from the program.

Low interest rates were challenging for VirginiaSAVES. Low rates limited the size of the subsidies.

Recommendations

As of 2016, VirginiaSAVES had been allocated \$55 million in QECCBs. It had issued 5 QECCBs providing \$20.5 million in financing, \$6.8 million in interest cost savings, projected lifetime energy savings of approximately \$28.6 million, and over 350 jobs due to the program, all in 2016.¹⁷ The evidence shows GCPs can be deployed rapidly and successfully. Other states and municipalities, including St. Louis, Missouri; South Carolina; and Alabama have instituted similar GCPs.

The constructively broad definition and relatively few requirements of GCPs allowed each program to be tailored to its specific state and municipality. Virginia used funds through the program primarily for efficiency. It used some for renewable energy as well.

In conclusion, the federal QECCB program has been discontinued by the 2017 tax reform legislation. If it opens again, states will be able to apply the insights of programs like VirginiaSAVES to develop new solutions like this one. Otherwise, experts can still learn from Virginia's experience when creating other financing opportunities.

¹⁷ Interview with Greg Montgomery, Managing Partner at Abundant Power.