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## *Tax Credit Bonds: A Brief Explanation*


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**Abstract.** CREBs were created by the Energy Policy Act of 2005 (P.L. 109-58) and the GTCBs by the Gulf Opportunity Zone Act of 2005 (P.L. 109-135). The TRHCA increased the volume cap for CREBs from $800 million to $1.2 billion and extended the authority to issue CREBs from December 31, 2007, to December 31, 2008. S. 2886 in the 110th Congress would add $400 million to CREB volume. Authorization to issue GTCBs expired on January 1, 2007. FCBs were created by the Food, Conservation, and Energy Act of 2008 (P.L. 110-234). The first section of this report examines the mechanics of TCBs in more detail. The second section of this report analyzes the market for TCBs relative to municipal and corporate bonds.


# Tax Credit Bonds: A Brief Explanation

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# Summary

Tax Credit Bonds (TCBs) are a type of bond that offers the holder a federal tax credit instead of interest. This report explains the tax credit mechanism and describes the market for the bonds. Currently, there are four types of TCBs: qualified zone academy bonds (QZABs), clean renewable energy bonds (CREBs), gulf tax credit bonds (GTCBs), and forestry conservation bonds (FCBs). QZABs, which were the first tax credit bonds, were introduced as part of the Taxpayer Relief Act of 1997 (P.L. 105-34) and were first available in 1998. CREBs were created by the Energy Policy Act of 2005 (P.L. 109-58) and GTCBs by the Gulf Opportunity Zone Act of 2005 (P.L. 109-135). FCBs were created by the Food, Conservation, and Energy Act of 2008 (P.L. 110-234).

Each TCB is designated for a specific purpose or type of project. Issuers of QZABs are required to use the proceeds to finance public school partnership programs in economically distressed areas. CREBs are designated for clean renewable energy projects. GTCB proceeds are for the refinancing of outstanding government debt in Gulf Coast regions affected by Hurricane Katrina. GTCBs could only be issued in 2006. FCBs are intended to help non-profits or government entities purchase then conserve forest land.

All of the TCBs are temporary tax provisions. In December 2006, Congress extended the QZAB program, with modifications, for 2006 and 2007. Several bills have been introduced in the 110th Congress that would extend, expand, modify, or create new tax credit bonds. S. 2886 would extend QZABs two years, through 2009, and would add $400 million in capacity to the CREB program. H.R. 6049, which was approved by the House on May 21, 2008, would extend QZABs one year, expand CREBs, and create a new type of tax credit bond for energy conservation. Similarly, S. 3335 would extend QZABs one year, authorize $2 billion of new CREBs, and create energy conservation TCBs.

This report will be updated as legislative events warrant.

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# Introduction

Almost all state and local governments sell bonds to finance public projects and certain qualified private activities. Most of the bonds issued are *tax-exempt* bonds because the interest payments are not included in the bondholder's (purchaser's) federal taxable income. Naturally, interest payments not included in taxable income escape federal income taxation. In contrast, interest payments from other types of bonds, such as corporate bonds, are included in a bondholder's taxable income. Because of the difference in taxability, state and local government tax-exempt (municipal) bonds offer a lower pre-tax interest rate than corporate bonds.[1] The federal government is providing a subsidy for projects that use tax-exempt financing of approximately 20% to 30% of the interest cost on the bonds. For example, on August 7, 2008, the average high-grade taxable corporate bond rate was 5.70%, and the average high-grade municipal bond rate was 4.75%.[2] The municipal bond rate is about five-sixths of the taxable bond rate, a considerable subsidy for the bond issuer.

In contrast, tax credit bonds (TCBs) allow the holder to claim a federal tax credit equal to a percentage of the bond's par value (face value) for a limited number of years. This tax credit percentage is set at the current yield on taxable corporate bonds. Thus, TCBs deliver a larger federal subsidy to the issuer than do municipal bonds. The subsidy to the issuer is the full 5.70% instead of the difference between the taxable rate and the lower tax-exempt rate of 4.75%.[3] With tax credit bonds, the issuer does not pay any interest.

Currently, there are four types of tax credit bonds with varied authorization periods: qualified zone academy bonds (QZABs), clean renewable energy bonds (CREBs), gulf tax credit bonds (GTCBs), and forestry conservation bonds (FCBs). QZABs, originally enacted as part of the Taxpayer Relief Act of 1997 (TRA 1997; P.L. 105-34), are not permanent though Congress has extended the program several times. In the 107th Congress, the Job Creation and Worker Assistance Act of 2002 (P.L. 107-147) extended QZABs through 2003. In the 108th Congress, P.L. 108-311 extended QZABs through 2005. In the 109th Congress, the Tax Relief and Health Care Act of 2006 (TRHCA; P.L. 109-432) extended QZABs through 2007. In the 110th Congress, S. 2886 would extend QZABs through 2009. And, H.R. 6049, which was approved by the House on May 21, 2008, would extend QZABs one year, expand CREBs, and create a new type of tax credit bond for energy conservation. QZABs allow qualified issuers to carry forward unused capacity for up to two years. Thus, QZABs could be issued beyond 2007 if unused capacity were carried forward by qualified issuers.

CREBs were created by the Energy Policy Act of 2005 (P.L. 109-58) and the GTCBs by the Gulf Opportunity Zone Act of 2005 (P.L. 109-135). The TRHCA increased the volume cap for CREBs from $800 million to $1.2 billion and extended the authority to issue CREBs from December 31, 2007, to December 31, 2008. S. 2886 in the 110th Congress would add $400 million to CREB volume. Authorization to issue GTCBs expired on January 1, 2007. FCBs were created by the Food, Conservation, and Energy Act of 2008 (P.L. 110-234).

[1] For ease of exposition, the phrase "state and local tax-exempt bonds" is replaced by "municipal bonds" for the remainder of the report.

[2] Federal Reserve Board, Table H. 15, "Selected Interest Rates," http://www.federalreserve.gov/releases/H15/data.htm#top, visited Aug. 13, 2008.

[3] See CRS Report RL30638, *Tax-Exempt Bonds: A Description of State and Local Government Debt*, by Steven Maguire.

The first section of this report examines the mechanics of TCBs in more detail. The second section of this report analyzes the market for TCBs relative to municipal and corporate bonds.

# The Details of Tax Credit Bonds

A TCB allows the bondholder to claim a tax credit equal to a specified credit rate as determined by the Secretary of the Treasury. The rate of credit is intended to be set such that the bonds need not be sold at a discount (for a price less than the face value) or with interest cost to the issuer. The government entity selling the bond is obligated to repay only the principal of the bond. The federal government makes "payments" to the bondholder through the tax credits. The tax credits delivered through the bonds are unlike typical tax credits because the credit is included in taxable income as if it were interest income. The tax credit bond rate is set with the intent of compensating for the taxability. The structure of each TCB is explained briefly in this section.

## QZABs

The first TCBs were introduced as a part of the Qualified Zone Academy Bond (QZAB) program in the Taxpayer Relief Act of 1997. Under this program, individual public schools, through their participating state and local governments, use the bond proceeds for school renovation (not including new construction), equipment, teacher training, and course materials. To qualify for the program, the school must also be a "Qualified Zone Academy."

### Qualified Zone Academy

A "Qualified Zone Academy" is any public school (or program within a public school) that provides and develops educational programs below the postsecondary level if

> such public school or program (as the case may be) is designed in cooperation with business to enhance the academic curriculum, increase graduation and employment rates, and prepare students for the rigors of college and the increasingly complex workforce....[4]

The academy must also be located in an empowerment zone or enterprise community. Alternatively, the academy also qualifies if it is reasonably expected that at least 35% of the students qualify for the free or reduced price school lunch program. At least 95% of the bond proceeds must be used for rehabilitating or repairing public school facilities, providing equipment, developing course materials, or training teachers and other school personnel.

### Annual QZAB Limit

The limit for new QZAB debt is $400 million annually from 1998 through 2007. The limit is allocated to the states based upon their portion of the population below the poverty line. States are responsible for the allocation of the available credit to the local governments or qualified zone academies. Unused credit capacity can be carried forward for up to two years.

[4] 26 U.S.C. 1397E(d)(4)(A). The private entity must donate an amount equivalent to 10% of the bond proceeds. Services of employees as volunteer mentors satisfies the 10% private partnership requirement.

### Term of QZAB Debt

The maximum term (the number of years for which the credit will be paid) "shall be the term which the Secretary estimates will result in the present value of the obligation to repay the principal on the bond being equal to 50% of the face amount of the bond."[5] Specifically, the maximum term of the bonds is determined by the prevailing interest rate for municipal debt with a maturity of greater than 10 years. The maximum term on QZABs issued on August 13, 2008, was set at 14 years.

### The QZAB Tax Credit Rate

Since July 1999, the Secretary of the Treasury establishes a national credit rate that is generally intended to allow issuers of QZABs to sell their bonds at par (face value) without additional interest expense. The credit rate published (by the U.S. Bureau for Public Debt) on the issue sale date is the bondholder's annual rate of credit. For example, the annual tax credit rate was 5.89% on August 13, 2008. The bonds sold on that day would allow the taxpayer to claim a federal tax credit in one year equal to 5.89% multiplied by the face value of the bond. Thus, a $100,000 bond issued on August 13, 2008, would yield a tax credit of $5,890 for the bondholder one year after the original issue and each following anniversary for the term of the bond. However, unlike interest on municipal bonds, which does not create a taxable income stream, the credit amount is included in the bond holder's gross income.[6] The credit is limited to the bondholder's current tax liability; it is "non-refundable."

### Arbitrage Rules

Before the 2006 extension of the QZAB program, QZABs were not subject to the same arbitrage rules as traditional tax-exempt bonds. The TRHCA Act of 2006 requires that QZABs follow the same arbitrage limits as traditional tax-exempt bonds. Generally, issuers of QZABs must ensure that 95% of the proceeds are spent within five years of issuance.

## CREBs, GTCBs, and FCBs

Clean renewable energy bonds (CREBs) are available to electric cooperatives to finance qualified energy production projects which include (1) wind facilities, (2) closed-loop bio-mass facilities, (3) open-loop bio-mass facilities, (4) geothermal or solar energy facilities, (5) small irrigation power facilities, (6) landfill gas facilities, (7) trash combustion facilities, (8) refined coal production facilities, and (9) certain hydropower facilities. The national limit on the bonds, which can be issued through 2008, is $1.2 billion of which a maximum of $750 million can be granted to governmental bodies. The term and credit rate for CREBs are determined in the same manner as QZABs. The CREB credit is split into four quarterly payments in contrast to the annual QZAB credit. CREBs are also subject to the arbitrage rules that require the issuer to spend 95% of the proceeds within five years of issuance.

[5] 26 U.S.C. 1397E. The term of QZABs is found by calculating the following: $log(2)/log(1+r)$. The variable $r$ is the "discount rate of the average annual interest rate of tax-exempt obligations having a term of 10 years or more which are issued during the month."

[6] In special cases, some insurance companies may indirectly pay income tax on otherwise tax exempt debt. In addition, interest paid on private activity bonds may be subject to the alternative minimum tax.

The third type of TCBs are gulf tax credit bonds (GTCBs). The authority to issue these bonds expired on January 1, 2007. GTCBs could have been issued by the states of Louisiana, Mississippi, and Alabama to (1) refund bonds outstanding on August 28, 2005, that were issued by the designated states or (2) to make a loan to a jurisdiction within the designated states to cover the principal, interest, or premium of debt issued by that jurisdiction. Unlike the other two types of bonds, the maximum maturity was capped at two years. The credit rate for the two-year bonds was set in the same manner as the other TCBs. Louisiana could issue up to $200 million, Mississippi $100 million, and Alabama $50 million.

Forestry Conservation Bonds (FCBs) are limited to $500 million to be allocated before May 22, 2010 (24 months after enactment of P.L. 110-234). Once the bonds are issued, the proceeds must be spent within three years. A unique feature of FCBs is the allowance for an allocation amount to be used to offset any taxes due the federal government. Any allocation amount used to settle outstanding federal tax debts cannot be used for bond issuance. A qualified issuer is a "State or any political subdivision or instrumentality thereof or a 501(c)(3) organization."[7] For purposes of the FCB program, a qualified forestry conservation purpose must meet the following criteria:[8]

> (1) Some portion of the land acquired must be adjacent to United States Forest Service Land.
>
> (2) At least half of the land acquired must be transferred to the United States Forest Service at no net cost to the United States and not more than half of the land acquired may either remain with or be conveyed to a State.
>
> (3) All of the land must be subject to a native fish habitat conservation plan approved by the United States Fish and Wildlife Service.
>
> (4) The amount of acreage acquired must be at least 40,000 acres.

## Comparison of TCBs

The four TCBs created by Congress have distinctive characteristics that differentiate the bonds from each other. As policy makers consider using new TCBs, investors (and other market participants) may request that TCB mechanics become more standardized. As **Table 1** exhibits, TCBs have generally the same structure, though differences increase the cost to taxpayers who invest in the bonds. For example, QZABs pay credits once per year and the credits are not strippable. Whereas FCBs, the newest TCB, offer credits quarterly and allow investors to strip the credits from the principal and sell them.

[7] Sec. 15316(a) of P.L. 110-234.

[8] Sec. 15316(a) of P.L. 110-234.

**Table 1. Comparison of Tax Credit Bonds**

| Bond Feature | QZABs | CREBs | GCTCBs | FCBs |
|---|---|---|---|---|
| Purpose | School renovation | Investment in renewable energy | Post-disaster local government debt assistance | Forest conservation |
| I.R.C. section and Public Law | sec. 1397E<br>P.L. 105-34 | sec. 54<br>P.L. 109-58 | sec. 1400N<br>P.L. 109-135 | sec. 54A & 54B<br>P.L. 110-234 |
| Authorization status | expired 12/31/2007 | expires 12/31/2008 | expired 12/31/2006 | expires 5/22/2010 |
| Credit rate | Set to insure no cost or discount to issuer at a rate equivalent to a taxable 10-yr bond | Set to insure no cost or discount to issuer at a rate equivalent to a taxable10-yr bond[a] | Set to insure no cost or discount to issuer at a rate equivalent to a taxable10-yr bond[a] | Set to insure no cost or discount to issuer at a rate equivalent to a taxable10-yr bond[a] |
| Credit payment | annual | quarterly | quarterly | quarterly |
| Credit strippable | no | no | no | yes |
| Term[b] | log(2)/log(1+r) | log(2)/log(1+r) | 2 years | log(2)/log(1+r) |
| Issuer | government entity, e.g., LEA | an electric coop, a coop that has made loans to 100 or more coops, government entity | Alabama, Louisiana, and Mississippi | state or political subdivision thereof, 501(c)(3) |
| Investor or taxpayer | bank, insurance co., or corporation in the business of lending money | no restrictions | no restrictions | no restrictions |
| Partnership | 10% of issue must be matched by private business partner | n/a | One-to-one match with state funds for same purpose | None though 50% of forest land purchased with bonds must be transferred to the USFS |
| Authorized amount | $400 million annually 1997 to 2007 | $1.2 billion through 2008 | $350 million through 2006 | $500 million |
| Allocation process | State-by-state based on state's portion of total US population below poverty line | Projects the Secretary determines appropriate | AL: $50 million<br>LA: $200 million<br>MS: $100 million | Projects the Secretary determines appropriate[c] |
| Carryover | Up to two years | n/a | n/a | n/a |
| Registration/ reporting | No | yes; report as under sec. 149(e) | yes | no; report as under sec. 149(e) |

a. In contrast to QZABs, CREBs, GTCBs, and FCBs allow the Secretary's designee to estimate the appropriate credit rate.

b. For the term calculations, "r" is the average annual interest rate of tax-exempt debt having a term of 10 years or more.

c. Up to 50% of FCB allocation can be used to satisfy outstanding federal tax debts.

## Investing in Tax Credit Bonds vs. Other Bonds

The credit rate for TCBs is set higher than the municipal bond rate to compensate for the credit's taxability. Generally, to attract investors, the credit rate should yield a return greater than the prevailing municipal bond rate and at least equal to the after-tax rate for corporate bonds of similar maturity and risk.

Consider the following example where we assume an average 4.75% interest rate on municipal debt. Investors in the 15% income tax bracket would need a credit rate of at least 5.59% (4.75% divided by (1 - 0.15) is 5.59%) to choose TCBs over municipal bonds. Investors in the 35% bracket would require a credit rate on TCBs of 7.31% (4.75% divided by (1 - 0.35) is 7.31%). Generally, the TCB credit rate would have to exceed the return on municipal bonds and the after-tax return on corporate bonds of like term to maturity, given an investor's tax bracket.

The summary below describes how a potential bond investor would evaluate the attractiveness of a tax credit bond relative to two other bond investments. The choice between TCB and traditional tax-exempt municipal bonds is dependent upon the bondholder's tax rate. When compared to municipal bonds, bondholders in the highest tax bracket find the tax credit less attractive than those in the lower brackets. However, the tax credit is fixed at the same rate for all buyers.

**Evaluating a Tax Credit Bond Investment**

| | | |
|---|---|---|
| $t$ | = | income tax rate of bond holder |
| $r^{TCB}$ | = | pre-tax rate of TCB credit |
| $r^{muni}$ | = | prevailing interest rate on high grade tax-exempt municipal bonds |
| $r^{corp}$ | = | prevailing interest rate on corporate bonds |
| Purchase a TCB if: | | |
| $r^{TCB}$ | > | $r^{muni}/(1-t)$ |
| | | or |
| $r^{TCB}$ | > | $r^{corp}$ |

The TCB tax credit rate must be greater than (a) alternative tax-exempt municipal bond interest rate divided by one minus the income tax rate, or (b) the prevailing corporate bond rate.

The choice between a tax credit bond and a taxable corporate bond is not as dependent upon the bondholder's tax bracket. At comparable levels of default risk, TCBs and corporate bonds are equally attractive to purchasers that anticipate tax liability. However, a corporation without tax liability that holds a tax credit bond would not be allowed to claim a credit for future tax liability. For these investors, this risk may not be sufficiently covered by the potential for a future tax credit.

### The Bond Market and TCBs

There are two agents in the market for bonds: the bond seller and the bond buyer. The price and yield of bonds is determined by the interaction of supply (bond sellers) and demand (bond buyers). Bond prices and interest rates determine the yield or rate of return on bonds. In all cases, the yield on bonds moves in the opposite direction from bond prices. If investors believe the

expected yield on bonds is greater than what the current prices and interest rates reflect, bond prices will rise, lowering the yield. Alternatively, if investors believe the expected yield on bonds is too low, bond prices will fall, raising the yield.

The market for TCBs is not like the market for traditional tax-exempt bonds and corporate bonds. In contrast to traditional bonds, which are available to almost all investors, QZAB credit is only available to certain financial institutions. The limited number of potential buyers would likely put downward pressure on the demand for QZABs relative to other TCBs. In contrast, CREB, GTCB, and FCB credits are available to any taxpayer.

Also, the federal credit from TCBs cannot be adjusted to reflect the perceived riskiness of individual bond issuers. In traditional bond markets, issuers with strong credit ratings can offer bonds at lower interest rates whereas issuers with weak credit ratings typically offer higher interest rates to compensate for the higher default risk. TCB issuers with relatively weak credit ratings can and have offered supplemental interest payments, original issue discounts, or bond insurance to investors to compensate for the greater risk. Some issuers and observers have noted that these additional payments seem contrary to the intent of Congress to have the Secretary of the Treasury set the rate such that TCBs can be issued without discount and without interest cost to the issuer.

The relatively small annual TCB volume capacity—$400 million of QZABs per annum; $1.2 billion total of CREBs; $350 million of GTCBs; and $500 million of FCBs compared to $430 billion (in 2007) of municipal bonds—also limits the market attractiveness of TCBs. Investors generally prefer deep secondary markets for assets.[9] However, the unique nature of the TCB tax credit and the limited volume make it difficult for investors to justify devoting resources necessary to properly evaluate TCBs.

Even with potential weakness in the market for TCBs generally, Congress has extended QZABs several times and added three new types of TCBs since QZABs were first issued in 1998.[10] Analysts in the bond community generally agree that the tax credit mechanism may need further adjustments before TCBs are widely accepted by investors as alternatives to municipal bonds or taxable bonds. To date, no comprehensive study of the TCB programs has been undertaken.

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[9] Source Media, Inc., *The Bond Buyer/Thompson Financial 2008 Yearbook*, New York, NY, 2008. For more on QZAB investors, see Thornton Matheson, "Qualified Zone Academy Bond Issuance and Investment: Evidence from 2004 Form 8860 Data," *Statistics of Income Bulletin*, U.S. Department of Treasury, Internal Revenue Service, Spring 2007.

[10] P.L. 106-170, enacted on Dec. 17, 1999, extended the QZAB program two years, through 2001. P.L. 107-147, (Mar. 9, 2002), extended the program another two years, through 2003. P.L. 108-311, (Oct. 4, 2004), extended the program through 2005. P.L. 109-432, (Dec. 20, 2006), extended the program through 2007.