

**FINANCING RENEWABLE ENERGY PROJECTS  
USING TAX-EXEMPT AND TAX CREDIT  
BONDS  
Where is the Market Today?**

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**John M. May  
Managing Director  
Head of Alternative Energy Finance Group  
Stern Brothers & Co.  
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# Introduction

- **Even with existing tax-exempt and new tax credit bonds available under the ARRA, you have to assume that the bonds present a project financing to the bondholder.**
- **Borrower is not automatically going to qualify for a LOC, bond insurance, an IG rating, a corporate guarantee, or federal or state backing in some form – like a USDA or DOE loan guarantee, or a state moral obligation (very rare).**
- **It is still the banker's job to assess and structure the creditworthiness of the project. Regardless of the type of bond mechanism selected, many projects may have to be financed without enhancement.**

# Effectiveness of Bonds Today

- **For this reason, what I would like to talk about is something that I hope will have more value to conduit issuers, private or public borrowers, economic development professionals, developers, executives administering federal and state programs, and bond counsel.**
- **That is, the effectiveness of bonds in providing debt to renewable projects, based on our firm's experience with specific transactions of different types since 2003.**
- **Renewable professionals have to start with the realization that as much as we would love to have a broad development tool box to finance these projects, our experience so far has been that tax-exempt bonds in particular have been left out of the “green revolution” to a large degree.**

# Effectiveness (continued)

- **With some exceptions under the ARRA, the private activity rules under the IRC have not been changed significantly in years – with respect to the application of solid waste bonds, small mfg IRBs as they relate to energy producing projects, pollution control bonds, heating and cooling bonds, etc.**
- **These rules are arcane and difficult to satisfy, and appear inconsistent with the public policy of sustainability.**
- **As such, these outdated rules do not offer new and customized solutions to various segments within the renewable energy area.**

# Effectiveness (continued)

- **Granted we now have CREBs and QECBs and Recovery Zone bonds.**
- **But with respect to the tax credit bonds, it is unclear at this moment whether a broad market for these credits exists.**
- **As to the zone bonds, it is still being worked out how the zones will be designated and cap allocated.**
- **In sum, there are able bankers and bond counsel working in these areas, but they do not offer the broad-based tool kit we need to make an impact in the financing of the renewable space today.**

# What Is Working Today?

- **So what are we left with that really adds value to renewable finance from the bond perspective today?**
- **Solid waste bonds for ethanol – both first generation (now nearly impossible to sell) and at some point in the future, possibly cellulosic ethanol. SW bonds for WTE and biomass and LFGTE.**
- **New bonds such as private activity recovery zone bonds raise the issue of eligibility; CREBs and QECBs raise the issue of execution.**
- **So today, in most alt energy segments we do not have the tools to provide a wholly independent source of debt capital for renewable projects apart from traditional bank debt.**

# What Is Working Today?

## Private Sector

- **Thus, for the most part, we are not able to provide bond solutions for wind, solar, geothermal, hydro, fuel cells and other emerging segments UNLESS the owner of the project is a govt or NFP or a muni utility or coop. (Note there is at least one example of a utility district issuing tax-exempts to prepay for electric power.)**
- **So ironically, in the areas where there is the most activity in terms of renewable development, and where there are the most creditworthy developers – wind and solar – there is as yet no private sector tax-exempt solution.**
- **Our experience is that local govts and NFPs are just now beginning to consider development or ownership of renewable assets themselves.**

# What Is Working Today?

## Public Sector

- **This is happening in selected states where the policy regime supports this through RPSs, subsidies, feed-in tariffs – in short, mandates requiring adoption in spite of the fact that the renewable source does not achieve grid parity and where subsidies are necessary to bridge the cost gap. Calif, Conn, NJ, Mass come to mind.**
- **Many other states are trying but due to budget issues are still falling short of helping for profit and governmental/NFP developers make the economics work.**
- **So ironically, in the areas where there is the most activity in terms of renewable development, and where there are the most creditworthy developers – wind and solar – there is as yet no private sector tax-exempt solution.**

# What Is Working Today?

## Investor Owned Utilities

- **Our experience with IOU's regarding the adoption of renewable assets is that they would prefer to RFP the development and provide a PPA.**
- **But only for the largest projects which permit RPS compliance and a pass thru of costs to ratepayers.**
- **Unfortunately, these large projects do not lend themselves to bonds as a playing a material role in the financing mechanism in most cases.**

# Why Do Bonds Add Value?

## Structure Increases Credit Quality

- **This is a shame. Why? Because our firm's experience in the transactions where we have placed bonds is that they have been transformative – whether used as a substitute for or a complement to syndicated bank debt. What have we seen when bonds are introduced into the cap structure?**

**Longer tenors**

**Lower interest rates**

**More flexible amortization**

**Deferred principal amortization**

**No cash sweeps**

**Lower DS payments**

**Higher DS coverage**

**Higher IRR for equity. As a result of the bond structure, there is cash flow to allow dividends to be paid earlier in the life of the project.**

# How Can Bonds Stay Relevant?

- **When we first got involved with the industry 5 years ago what did we see on the landscape:**
- **Too few banks and other lenders like GE with a mandate to lend into renewables. European banks in NY and Farm Credit banks in Omaha dominated biofuels lending.**
- **USDA and DOE guarantees, as well as state enhancement, were still evolving.**
- **Today, with bank liquidity still an impediment to syndication, bonds continue to offer hope to developers if you can identify the right bond approach, tax-exempt or taxable and the right credit quality. And there has been movement toward the recognition of the application of USDA and DOE loan guarantees, and ex-im bank guarantees, to bonds.**

# How Can Bonds Stay Relevant?

- **So we are stretching the application of bonds to provide solutions as much as we can within the limits of outdated rules. Today, we are seeing govts start to reach out to embrace renewable solutions in WTE and biomass, for example, the financing of which can be accomplished with bonds.**
- **We are also seeing NFP universities and hospitals begin to adopt renewable project under national climate commitments and to privatize utilities and cogeneration plants to cut down on fuel and power costs.**
- **The bond industry has to continue to encourage govts and NFPs to take reasonable technology risks in order to reduce carbon footprint and avoid fines for land application and land filling of waste. We should also encourage PPPs where there is a private developer selected but the govt or NFP provides the PPA or offtake.**

# How Can Bonds Stay Relevant?

- **As we look toward wind and solar, these continue to present a challenge: there is no reason why a taxable long-dated bond cannot complement const and term bank debt and achieve similar structural benefits as they did in biofuels (without the lower rate).**
- **But NY banks are telling me that as long as tax equity is avail for the best deals in these segments the developer doesn't need to recapture economics through a longer tenor which may come at a higher fixed interest rate.**
- **Finally, there has been progress made with respect to the use of bonds alongside tax credits. We can now use tax exs and tax credit bonds along with the ITC or Federal grant. There is still a haircut as to the PTC and an elimination of MACRS or bonus depreciation.**

# Conclusion: A Plea?

- **While the rules governing many bonds are still arcane and unnecessarily limiting, there is progress.**
- **We bankers are calling on the CDFA and its membership to call for the updating of these rules and the development of a truly comprehensive bond tool kit for the renewable energy space.**

# What Renewable Projects Have Been Financed with SW Bonds in Today's Market?

## Microgy

**\$62,425,000**

- **Issuer: California Statewide Communities Development Agency**
- **Environmental Facilities Revenue Bonds, dated September 3, 2008**
- **Microgy Holdings Project, Series 2008A (First Tranche, AMT)**
- **9% Due December 1, 2038**
- **Interest only 2008 to 2013; Level Debt Service 2014 to 2038**
- **Non-Rated**
- **Capitalized Interest: 14 months, net funded**
- **Minimum 20% Equity Contribution by EPC**
- **10-year call**

# What Renewable Projects Have Been Financed with SW Bonds in Today's Market?

## Microgy (cont.)

- For the acquisition, construction, improving and equipping of certain solid waste disposal facilities consisting of three clusters of multi-digester biogas production and gas conditioning facilities for the recycling of cattle manure and the production of pipeline-grade, renewable natural gas.
- Renewable Natural Gas Purchase and Supply Agreement with Pacific Gas & Electric
- The Loan Agreement provides that EPC must raise at least \$45mm in additional capital before the Company is permitted to draw on the proceeds of the Bonds except to pay issuance costs.

# Disadvantages of Tax-Exempt Bonds?

- **Negative arbitrage in project and CAPI funds.**
- **Straight line depreciation on that portion funded with bonds.**
- **Reduction of PTC by % of financing done with bonds, capped at 50%. Impact of PTC reduction, when compared with benefits of bonds to IRR, should be evaluated on project by project basis.**

**Thank You.**