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March 11, 2008

Financing Green Projects

by Ken Silverstein, Editor-in-Chief, EnergyBiz Insider

Bridges, highways and sewer systems are built by private companies but often paid for through the use of tax-free municipal bonds. Such projects are typically guaranteed by the tax authority given to those municipalities issuing the instruments and therefore assuring the debt holders that they will be paid in full.

Without public financing, key infrastructure would not get built. Now, green energy pioneers want to use this same municipal bonding capacity to pay for clean energy projects, albeit the concept allows for privately-owned companies to operate city-owned projects and then to use the subsequent revenues to pay off the jurisdiction's obligation.

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>
> -- Paul Fenn, Director, Local Power

The projects are pegged to the creditworthiness of customers who enter into "power purchase agreements." Essentially, such contracts not only provide the initial capital to build expensive green projects but they also provide investors the necessary assurance they need. Meantime, a broad and reliable customer base provides the funding necessary to maintain a steady and comparatively inexpensive power source.

The idea has particular resonance in those states that allow community-wide aggregation, or the ability of cities to purchase power on behalf of their consenting citizens. California, for instance, implemented "Community Choice" that permits the state's cities and counties to switch residents and businesses to a new power supplier. Not only is this technique used to win more bargaining power but it is also used to finance a portfolio of green power and energy conservation projects.

"Third parties finance this," says Paul Fenn, director of San Francisco-based Local Power and the brainchild behind using municipal bonds to finance renewable energy deals. "It opens the doors for those consumers who can't bear the burden of the investments. They agree to take the power but not to put up the capital."

It's a 20-year proposition, Fenn adds. Over the life of a project, the fuel costs are substantially more than the initial capital costs, which are averaged in with other, lower priced technologies such as energy efficiency. Ultimately, electricity prices are aligned with those offered by the incumbent utilities, making such deals affordable.

The idea first surfaced in 2001 when San Franciscans approved revenue bonds to pay for green energy deals. But no bonds were ever issued because the pay-back scheme was poorly crafted and because the price of solar panels far exceeded

conventional fossil fuels. But the proposition's creators regrouped and rewrote it to allow the entire city's 400,000 meters to financially guarantee all projects. In April 2007, it received citywide approval and now backers are talking to the investment banks and to Wall Street.

No Guarantees

Besides California, the citizens in Massachusetts, New Jersey, Ohio and Rhode Island can receive their electricity via city aggregation plans. California, though, is far along with multiple cities representing millions of residents actively seeking to implement Community Choice plans. Some of those jurisdictions are promising to exceed the 20 percent state renewable energy portfolio mandate.

In California, the green electricity would be transported using Pacific Gas & Electric's transmission and distribution lines under open access laws. According to Fenn, PG&E will not lose money from procurement losses, which are covered by a "customer responsibility surcharge." PG&E's will ultimately earn less "rent," he adds, because fewer electrons will be sent over the company's lines. That load reduction will be the result of more demand side resources to cut consumption as well as more on site generation such as photovoltaic energy.

To be sure, any future bond issuance is not guaranteed. The fate of any deal rests first and foremost with the issuer, which in these cases will be cities and counties. But they must have the resources to cover obligations. Unlike the first attempt to sell bonds in 2001, the modern version will rely on the whole city to back deals and not on the specific users.

Risks are still prevalent, however, because the present bond market is uncertain. The $342 billion "auction-rate" bond market — long term bonds in which interest rates reset every 28 to 35 days — is suffering. That's because the investment banks that use their own capital to support the sale of the bonds have stopped and are instead trying to shore up their own balance sheets. The result is that borrowing costs are dramatically rising. The Long Island Power Authority, for instance, says that it wants to replace some of the company's nearly $1 billion auction-rate debt with long-term, fixed rate bonds.

Despite the current environment, Local Power's Fenn remains undeterred. "Certainly there is volatility in investment banking in recent months, and this has impacted the bond market. We are not selling bonds next week or next month, but probably in about a year, by which time the banks and bond insurers will hopefully have re-stabilized."

Certainly, the long-term prognosis for both the economy and green markets in particular is positive. Overall, the national trend is one of supporting the policies necessary to clean the environment and to take steps to battle climate change. As a result, federal and state policies are integral to the effort with the former offering production tax credits and the latter — in the case of about 26 jurisdictions — mandating renewable portfolio standards.

The net effect of pro-environmental policies is that a properly structured deal can provide attractive long-term returns. Now, some want to use tax-free bonds to pay for green energy projects. While voters in at least California have agreed, the fate of a future bond issuance is unknown. In the end, the cities and counties issuing the instruments must persuade potential underwriters and investors. If they are successful at doing so, other municipalities will follow suit.

Ken Silverstein is an award-winning journalist who is the editor-in-chief of Energy Central's publication, EnergyBiz Insider. With a background in economics and public policy, he has spent several years writing about the issues that touch the energy and financial sectors, and his work has been published in more than 100 periodicals.

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Author:
george saintonge
Date Posted:
March 11, 2008

New Jersey municipalities / counties should implement the Solar Bond strategy.

Bonds can be issued, with the funds used to install solar in the community.

New Jersey's unique Solar Renewable Energy Certificate (SREC) market is soon to

pop in value, as the utility /electricity provider fines (ACP) will jump from $300

to $711. The SRECs are issued for each 1000 kwh of clean renewable electricity

generated. The SRECs may trade over $600. Retained as collateral for the

bond escrow account, NJ's 15 year SRECs will pay the bondholders. Your

community goes green with maybe enough money left over to reduce property

taxes. george@RRREC.net

Comment 1 of 7

Author:
Carolyn L.
Date Posted:
March 11, 2008

http://www.renewableenergyworld.com/rea/news/reinside claims that Kenya has the world's highest household solar ownership rate.

http://www.worldbank.org/html/fpd/esmap/energy_repor "A case study on private provision of photovoltaic systems in Kenya", tells how this happened.

An interesting quote from page 5.
"Photovoltaic systems can save consumers more than US$8 a month over more traditional forms of energy, with 80 percent of the savings coming from lower kerosene and dry cell consumption. Thus a 10- to 15-peak-watt photovoltaic system will pay for itself within 1.5 -2.0 years."

Comment 2 of 7

Author:
Kamugisha Byabato
Date Posted:
March 11, 2008

Yes, any information about financing of PV installations in tropical developing countries would be relly appreciated.

Comment 3 of 7

Author:

Kamugisha Byabato

Date Posted: March 11, 2008

Hallo

I am an old new comer. Am an Engineer from Tanzania currently at Dortmund University Germany. Am looking for examples of Roof Integrated PV in tropical areas. Articles, pictures stories and both positive and negative experiences. Could anyone help?

Comment 4 of 7

Author: George Messier

Date Posted: March 12, 2008

Phil -

You are correct. As I have written in these spaces before, solar thermal is sadly consigned to the backwaters of RE, when in fact it offers a better ROI than PV.

Comment 5 of 7

Author: Phil Manke

Date Posted: March 12, 2008

Both households and businesses could lay off more daily operation cost with the investment into solar thermal than PV. The efficiency of solar thermal is cost viable right now, even without incentives. Of course incentives will serve to shorten payback times. But the investment is certainly viable now. Why would anyone(muni's especially) install PV when a portion would probably be used for water and space heating, which could be much more efficiently done with solar thermal. Many businesses and homeowners are missing the boat on this cost and CO2 saving option with much larger payback benefits! Interest free loans and 100% income deductions are the best benefit here.

Comment 6 of 7

Author: George Messier

Date Posted: March 12, 2008

Google CREB (Clean Renewable Energy Bonds) for info. Utilizing CREBS, municipalities can finance large-scale PV projects (school buildings, etc.) and install at wholesale prices, often utilizing 3rd-party ownership, and Power Purchase Agreements (PPAs). After 10-20 years, investors sell the system to the municipality (with good useful life remaining) to avoid costs associated with moving the system. Over time, the community ramps up on the PV learning curve.

It overcomes several PV industry challenges: market penetration, installing at retail prices, and homeowners' reluctance to buy 30 years' worth of electricity on a house they may not own very long, etc. Municipalities are not going to be relocating..... PV remains pricey - so all depends upon state incentives.

Comment 7 of 7

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