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Awakening the Potential of Clean Energy Bonds.

A paper by the Brookings-Rockefeller Project on State and Metropolitan Innovation has investigated the barriers that are currently holding back widespread adoption of clean energy bonds. The paper has provided recommendations for development finance agencies seeking to tap their potential.

Clean energy bonds hold enormous potential to drive investment in renewable power and energy efficiency and reduce their cost of capital. Yet progress has been sluggish with only a handful of examples of clean energy bonds to date.

The paper, "Clean Energy Finance through the Bond Market: A New Option for Progress," was released on April 9. It details the difficult environment that currently exists with regard to financing clean energy projects.

Strengthening Weak Investment

Fickle federal support, extremely high costs of capital, and weak demand for clean energy investments have dampened growth. But the report said state, municipal and local bonds offer a proven way to address these issues, following a model that has been successfully used to fund major infrastructure projects throughout the past century.

The Council of Development Finance Agencies (CDFA) has identified over 50,000 state, county and municipal development finance agencies with a total tax-exempt bond market of $3 trillion. CDFA estimates the potential for clean energy bonds as being "in the tens of billions of dollars in the next several years."

Building New Programs

Compared to this impressive potential, the current list of clean energy bond offerings is staggeringly small. New York State Energy Research and Development Authority (NYSERDA) has raised $24.3 million in bonds that will be used to finance energy efficiency improvements. Smaller offerings have recently taken place in Oregon, Connecticut and Pennsylvania.

Since 2009, Morris County, N.J. has used a combination of bonds and power purchase agreements to finance solar installations. And Hawaii has enacted legislation to issue clean energy bonds funded in part by an on-bill utility surcharge.

Weighing Risk and Return

Toby Rittner, president and CEO of CDFA and coauthor of the report, said he sees the mismatch between the potential of clean energy bonds and their current levels as a failure by development finance agencies, investors and rating agencies to appreciate the low risk that clean energy projects offer.

“With energy, we get frustrated or we get concerned about risk. It really doesn’t make a whole lot of sense. We’ve found very little historical evidence to say why there is this concern over risk,” Rittner said. “We need the market to frame projects in a way where they’re showing there’s reduced risk. Bond-financed clean energy projects are the same risk as a traditional piece of infrastructure.”

Collaboration between state energy offices and development finance agencies can help initiate clean energy investment, according to the report. Rittner said local organizations and municipalities should lead the way by creating clean energy investment options.

“We’re recommending a much more intensive collaboration between clean energy financing and bonding officials,” said Lew Milford, president of Clean Energy Group (CEG) and coauthor of the report, during a webinar called Clean Energy Financing through the Bond Market. The webinar, which referenced the release of the Brookings report, took place on April 22 and was hosted by CDFA, Brookings and CEG.

“States should be considering things like joint investment plans,” Milford said. He also said states should be looking at instruments like pooled bonds for clean energy. He recommends finding ways to link clean energy funds and funds raised by utilities and the United States Environmental Protection Agency (EPA) to create larger pools of capital.

New York leveraged EPA funds last year. Jeff Pitkin, treasurer of NYSERDA, said during the webinar that this bond deal won the 2013 Deal of the Year Award for small issuer financing from The Bond Buyer. The state used a credit enhancement guarantee that included EPA funding.

Rittner has identified four major problems that currently inhibit the widespread use of infrastructure bonds for clean energy projects.

Changing Development Finance

The first major barrier is changing how the development finance agencies perceive these projects as risky since they simply aren’t used to financing energy projects.

“In the bond world and in the finance world, we finance roads and bridges and sewers and wastewater treatment facilities and city halls,” Rittner said. “We finance all sorts of infrastructure with traditional financing like bonds.”

It is not surprising that development finance agencies with little experience or technical knowledge of clean energy projects are hesitant to step up to the plate. But improved cooperation between these agencies and clean energy offices is critical to widespread bond funding of clean energy, sharing of information, and reduction of perceived risks.

Building Market Scale

The second major issue is that the lack of a large market for clean energy bonds is inhibiting rapid scaling. In essence, most state and local agencies are waiting until the clean energy finance model has been proven, with few willing to take the lead by innovating and experimenting with different financing models.

“The only way to get to scale is to get a lot of small places all heading in the same direction,” Rittner said. Yet he sees evidence that this is starting to happen, since some states are experimenting with credit enhancement tools through green banks and PACE financing programs.

Standardizing Performance Data

Third, lack of standardized documentation and performance data make it difficult to convince institutional investors or ratings agencies of how safe clean energy investments really are. While the data that does exist supports this claim, it is lacking in both quantity and quality.

Improved data and increased standardization will ultimately result in securitized portfolios of clean energy loans that investors can purchase and trade. A further challenge of securitization is that, as Rittner said, “no two deals are the same, but you can create really big tranches of standard programs or portfolios” that can be bundled into single products.

“We need a lot more standardization,” Milford said. “A lot more documentation, a lot more data. We’ve suggested a number of things that can be done to get to that point. A lot more work needs to be done in this space and federal labs can play a role as well.”

A number of initiatives led by National Renewable Energy Laboratory’s Solar Access to Public Capital working group and Environmental Defense Fund’s Investor Confidence Project are currently focused on developing securitized solar PV and energy efficiency markets. Local and state agencies have a part to play by adopting standardized documentation and data collection processes.

“We need to develop more substantial amounts of performance data that would allow these structures to stand on their own,” Pitkin said.

Creating Investor Demand

Finally, institutional investor demand for clean energy bonds remains limited. “I think this is changing rapidly,” Rittner said.

Rittner said sales of energy efficiency loan portfolios in Oregon, New York, Connecticut and Pennsylvania in the last 18 months are signs of this change. Despite failing to attract attention from Wall Street, these portfolios have been oversubscribed and shown strong performance and low default rates.

Rittner said he sees it as just a matter of time before rating agencies and institutional investors stand up and take notice. He said he anticipates this sea change will take place during the next two years – as long as irresponsible market players do not set the industry back.

“We think there is a demand for clean energy securities,” Milford said. “We’re looking for partners to try to help us achieve a lot of these goals.”

“I think we’ve seen efficient markets and processes for structured finance products,” Pitkin said. “We think that same market has the potential to deal with securitization. The traditional methodology that’s used relies upon a great deal of historical information that this sector doesn’t have yet.”

by Michael Puckett and Kat Friedrich

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