4-1-2016

Integrated Climate Solutions: From Subsidies to Finance with Green Banks

Henry Herndon
Climate Solutions New England

Jennifer Andrews
University of New Hampshire, Jennifer.Andrews@unh.edu

Sarah Large
Climate Solutions New England

Cameron P. Wake
University of New Hampshire, cameron.wake@unh.edu

Catherine Ashcraft
University of New Hampshire, catherine.ashcraft@unh.edu

See next page for additional authors

Authors

Henry Herndon, Jennifer Andrews, Sarah Large, Cameron P. Wake, Catherine Ashcraft, Irene Queen, and Tom Kelly

SUSTAINABILITY briefing

University of New Hampshire
The Sustainability Institute

climate solutions new england

Spring 2016

Integrated Climate Solutions: From Subsidies to Finance with Green Banks

Many states have programs in place to manage state funds that have been allocated to energy efficiency upgrades, low-income weatherization programs, and similar energy projects. Funding for these entities can come from a variety of sources: for example, "systems benefits" charges to utility customers, bundled state appropriations, proceeds from RGGI (the Regional Greenhouse Gas Initiative), state bonds or renewable portfolio standard funds. Usually, these funds are then distributed through grants or rebates to consumers who are undertaking efficiency or alternative energy projects. This model for funding clean energy has two main shortcomings: grant money can only be spent once, and the limited funds are only accessible to a tiny fraction of the marketplace.

HIGHLIGHTS

Green Bank Outcomes
- Market transformation
- Reduced greenhouse gas emissions
- Enhanced climate resilience
- Economic development
- Potential for enhanced social equity and access

Barriers
- Bureaucracy, inertia and/or skepticism
- Identifying and effectively engaging all of the key stake holders

Green Banks use a different model. They take the limited public dollars that have been allocated to advance deployment of clean energy and energy efficiency, and use these funds to attract private capital. Shifting away from subsidies and towards private investment dramatically expands the deployment of clean energy and energy efficiency by bringing in far more capital.

This approach not only has benefits for a greater number of those looking for ways to fund the "up-front costs" of their projects, but it also benefits the private-sector partners with whom the Green Bank is working, by offering them superior investment opportunities. Green Bank programs offer the financial firms that partner with them investments that produce tangible benefits in their local communities, enhance local economic growth overall, and reduce institutional risk by adding diversity to the types of projects in their portfolios. The Connecticut Green Bank, the New York Green Bank, the Rhode Island Infrastructure Bank, and institutions in the other states are using this approach to spur market transformation in the energy sector and unleash the multi-billion dollar industries of clean energy.

"Financial solutions widen the customer range. [Green banks solve] the problem of upfront costs"

-Matt Doubleday, VP Project Management, Sun Rays Investment

Sustainability Briefings are a collection of occasional essays, thought pieces, case studies and research briefings through which University of New Hampshire (UNH) faculty, staff and students can connect with larger audiences on the complex issues of sustainability. The collection is sponsored by the Sustainability Institute at UNH, a convener, cultivator and champion of sustainability on campus, in the state and region, and around the world. Learn more at www.sustainableunh.unh.edu.

"Our intent was to scale up clean energy deployment by attracting more private investment. It was clear that a 1:1 ratio of public to private dollars wasn't going to get us where we needed to be."
– Bryan Garcia, President and CEO of the Connecticut Green Bank.

INNOVATION IN CONNECTICUT

In 2011, through bipartisan legislative cooperation and collaboration with the Governor's office, Connecticut established the nation's first Green Bank. Its programs brought together three essential stakeholder groups: capital providers, contractors, and consumers.

One early and important example of stakeholder collaboration was to create and coordinate a "Solarize" program in the state, which saw great success. Solarize is a community engagement program, originally piloted on the West coast, that works on the ground in individual communities and neighborhoods to provide education, awareness-raising, convening and "match-making" to get multiple households in a community signed up to install solar panels, creating economies of scale for solar energy providers, and, by extension, discounts for participants. (See our Briefing on Solarize for more.)

As part of the Solarize program, the Green Bank worked closely with financial institutions to expand the options for solar financing in Connecticut. For example, it began offering "Loan Loss Reserves" to provide credit enhancements for private banks' residential solar PV lending programs. A Loan Loss Reserve is used to protect the lender in the case of a customer default. With technical support and guidance from the Green Bank, Connecticut banks agreed to finance solar PV installations, and the loans were repaid with the returns from selling solar energy into the grid. As the loans were repaid or securitized and sold off, the credit enhancements were paid back into the Green Bank, to leverage further investments.

The Connecticut Green Bank also works to improve the Property Assessed Clean Energy (PACE) policy. PACE was developed to deal with the deterrents that long payback periods present for residents or business owners who may be uncertain if they will occupy the same space for long enough to pay back the project and enjoy post-payback savings or benefits. PACE addressed this issue by attaching the debt of the energy investment to the building, not the owner or resident. If the property is sold, the debt is passed on to the buyer.

The Connecticut Green Bank programs have been so successful that financial institutions in Connecticut no longer require Green Bank credit enhancements to offer long-term loans for clean energy; they have connected with a new market, refined their offerings, and are moving forward with these sorts of loans as a part of their "business as usual" offerings. Similarly, when the CT Green Bank launched, no private institutions were offering PACE financing. The Green Bank demonstrated the value of this product and now all private lenders in the state offer residential and commercial PACE options.

Connecticut's total investment of $225 million in loans, leases and credit enhancements has contributed to:

- An increase in the market demand for clean energy by over 2,000%.
- The installation of 40 megawatts of behind-the-meter distributed energy. Behind-the-meter refers to solar that is intended for onsite use (ie. any residential or commercial/ business that puts solar on their roof and uses the generated electricity on site).
- The avoidance of more than 370,000 tons of greenhouse gas emissions
- Creation of over 700 direct jobs and nearly 1,200 indirect jobs.

REPLICATING THE MODEL: NEW YORK, RHODE ISLAND, AND CALIFORNIA

New York

In 2012, many stakeholders advocated for a New York Green Bank and, in 2013, Governor Cuomo announced the creation a $1 billion Green Bank for the state of New York. The Coalition for Green Capital worked with the New York State Energy Research and Development Authority (NYSERDA) and other key stakeholders to develop a business plan, which led to regulatory approval of the NY Green Bank and a starting capitalization of $250 million in February 2014. Since NYSERDA already had the legal authority to issue loans and perform securitization, creation of a NY Green Bank did not require legislation.

Rhode Island

During the early months of 2015, the Governor and the Treasury Department of Rhode Island gathered all relevant stakeholders, including the business community, labor groups, environmental organizations, and state agencies, to assess the state of Rhode Island's infrastructure.

They identified three missed opportunities:

1. Unmet needs for public building energy retrofits.

2. Lack of depth in the investment measures being taken by residential and commercial users of current energy efficiency and clean energy programs. For example, a deep retrofit might be installing a new boiler that is 10 times more efficient versus a shallow retrofit would be replacing all light bulbs with LEDS.

3. Lack of private capital addressing clean energy and energy efficiency.

With these needs in mind, Rhode Island laid out a plan to rebrand the existing highly respected state agency, the Clean Water Finance Authority and expand its role to ll these gaps. Moving forward, the newly christened Rhode Island Infrastructure Bank will fund water infrastructure projects, and direct resources towards deployment of cost-effective clean energy and energy efficiency across the state. Many of the methods they plan to use are establishing revolving loan funds, enhancing the PACE and C-PACE financing, providing credit enhancements for private bank energy lending programs, etc., which they learned from Green Banks.

California

In California, the State Treasurer's Office serves as California's Green Bank. It operates two authorities that finance and administer energy efficiency, alternative energy and advanced transportation projects (the California Alternative Energy and Advanced Transportation Financing Authority, or CAEATFA), and waste reduction and recycling projects (the California Pollution Control Financing Authority, or CPCFA). These agencies support businesses through mechanisms like sales and use tax exclusions, low-interest tax-free loans or bonds, and planning and technical assistance. CAEATFA also offers support for community PACE programs and consumer energy financing programs.

In its Green Bank role, the CA Treasurer's Office also invests a portion of funds from California's Pooled Money Investment Account (PMIA)—a fund which "invests taxpayers' money to manage the State's cash flow and strengthen the financial security of local governmental entities"—in Green Bonds issued by the World Bank (see the Green Bond briefing).

LOW-MODERATE INCOME COMMUNITIES

"Financing solar in wealthy communities is all well and good because solar is solar but the economic welfare gain of... lowering LMI communities' energy bills by 20% is way more important. There is a clear role for government and Green Banks to serve the remaining population that is most in need."

– Jeffrey Schub, Vice President, Coalition for Green Capital

LESSONS LEARNED

Use public funds as leverage, not capital

The success of the Green Bank model clearly demonstrates the value of using public funds as leverage, rather than as project capital. This strategy could certainly be applied when administering other public funds directed toward energy in New England.

Expand beyond traditional borrowers

The CT Green Bank is now working to direct its resources at under-served sectors, such as low- to moderate-income communities who are not as likely to be served by traditional lenders.

Laying groundwork & using exisiting resources

For those wishing to establishing a new Green Bank, two themes emerged in looking at the efforts of others: 1) It's important to lay the groundwork. As one state official noted, "We invested a lot of time early on in stakeholder outreach and were able to line up support from a broad range of sectors." And 2) There are resources available to help. Organizations like Coalition for Green Capital (CGC), for example, provide expertise and guidance for implementing Green Bank methodology.

Work to become irrelevant

If Green Banks are truly successful in driving market transformation, their direct and active participation in programs won't be need for the entire project's lifetime. As Jeffrey Schub of the Coalition for Green Capital describes this function of Green Banks, "We dip our toes in the water first to show that no piranhas are going to jump out and bite you, and then we can back out and let the market go from there."

ENDNOTES

1. CT Green Bank Comprehensive Plan FY 2015, 2016. July 18, 2014. (3)
2. California Green Bank. http://www.treasurer.ca.gov/greenbank/ February 17, 2016. (3)

Integrated Climate Solutions Case Study Series

This briefing was researched and written by the Climate Solutions New England research team: **Henry Herndon**, Jennifer Andrews, Sarah Large, Cameron Wake, Catherine Ashcraft, Irene Queen, and Tom Kelly. This briefing is part of Climate Solutions New England's "Integrated Climate Solutions" project. The "Integrated Climate Solutions" project aims to promote leadership and innovation by highlighting initiatives that provide opportunities for enhanced civic participation and democratic governance, economic development, public health, and social justice, while tackling climate change mitigation and/or adaptation. Full case studies on each of the solutions featured are in development, and will be available at climatesolutionsne.org.

University of New Hampshire
The Sustainability Institute

107 Nesmith Hall, 131 Main Street, Durham, NH 03824 USA
603.862.8564 ph | 603.862.0785 fax | www.sustainableunh.unh.edu