

Bringing Down Green Financing Costs: How a State-sponsored Bank Might be the Key

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The costs of clean energy solutions are falling. As one example, solar panel prices are down more than 50 percent in the last three years.¹ Costs of batteries, wind turbines, and fuel cells have also declined. As promising as that is, soft costs—installation, permitting, and financing—now account for nearly two-thirds of the cost of a residential solar system, and they have not declined. There is little hope of providing clean energy solutions at scale until the soft costs are brought under control. One promising innovation is a state-sponsored “green bank” to lower finance costs for the deployment of clean energy.

Despite nearly record low interest rates, financing costs for the clean energy sector remain high—not for the largest, utility scale projects—but for smaller projects, including small business and residential. Because the ongoing costs of clean energy are very low, given that wind and sunlight are free, the solution to reducing clean energy costs is reducing the upfront costs. And costs are costs—whether they are hardware costs or financing costs. The key reason of why financing costs are high for clean energy is that the industry is financed in an old-fashioned, anachronistic way. The energy technology deployed may be 21st century, but the financing structures used are out of date.

Three market gaps or failures in the clean energy financing market keep it from modernizing.

First, there is an overreliance on tax equity. Because many projects are financed on a nonrecourse project finance basis by entities that do not have large taxable incomes, the industry relies on a small number of tax equity partners that, despite the term “equity,” offer debt-like financing in exchange for tax benefits. Today, there are fewer than 20 active providers of tax equity.² The limited number of providers means that tax equity is not only expensive, but also that it is primarily rationed to the largest projects and developers. The

1 Rocky Mountain Institute, “As Solar PV Efficiency Climbs, Costs Likely To Drop,” May 14, 2013, available at http://blog.rmi.org/blog_2013_5_14_As_Solar_PV_Efficiency_Climbs_Costs_Likely_To_Drop.

2 There is a disconnect between the tax equity market for Low Income Tax Credits and renewable energy tax credits. Although part of the disconnect relates to the size and maturity of markets—and risks associated with project financing structures found in renewable energy—a major part of the difference stems from the benefits lenders obtain through Community Reinvestment Act (CRA) investments in housing credits. Except where renewable energy projects are located in low- and moderate-income areas and offer significant employment opportunities, renewable energy projects are not eligible for CRA benefits.

other problem is that the deals are typically structured so that the bulk of the cash flow from projects over the first few years goes to repay the tax equity provider. Although investors everywhere are looking for current yield investment opportunities of all kinds—after all, the choice is between low interest rates and a volatile stock market—the current tax equity structure makes it difficult to tap general investor demand for current yield opportunities because renewable energy projects offer little current yield.

Second, bank capital rules and insurance company regulations restrict lending. After the financial crisis, it is understandable that banks and insurance companies are more prudent. In practice, the amount of capital that banks must reserve against smaller loans, those that are barely investment grade or below, or long tenor loans means that smaller renewable energy projects simply cannot get loans from large financial institutions at any cost. This is one of the reasons there are few solar installations on the many flat warehouse and factory rooftops near airports. To be clear, these constraints are not loans to finance the manufacturing of renewable energy equipment; these are loans to renewable energy projects using proven technology.

Third, clean energy financing markets make little use of stock or bond markets. In most sectors of the U.S. economy, companies use stock and bond markets to raise billions of dollars of capital. Stock and bond markets typically offer cheaper and deeper pools of capital than private markets. Not so in the clean energy sector, with the exception of bonds for the largest of projects. Stock market investors can buy shares in Real Estate Investment Trusts (REITs) or Master Limited Partnerships (MLPs) that have yield characteristics of renewable energy projects; however, MLPs or REITs are not available for renewable energy assets. Further, to create renewable energy bonds for clean energy markets will require standardization of contracts that does not exist yet in order to aggregate small loans into larger bonds and sufficient data to allow bond ratings.

What Do These Market Failures Mean?

With continued reliance on tax equity, limitations on availability of bank debt, and little use of stock and bond markets, the United States clean energy industry relies too much on private capital compared to other countries that are able to take advantage of their competitive capital markets. Simply put, costs of financing remain too high here in the United States. In addition, customer choice is also limited. Consider getting a new car: you can buy it using cash or borrowed money or you can lease it. The same is true for most large capital expenditures. The solar lease has revolutionized the residential solar market; given that energy is an ongoing operating expense, it is not surprising that customers would want to substitute one operating expense—their electric bill—for another—the lease payment. Unfortunately, in the clean energy space, the solar lease is the exception rather than the rule. If a customer wants a solar hot water system, an energy efficiency upgrade or a ground source heat pump, more likely than not, he or she would need a home mortgage or pay cash.

State Governments Respond to the Challenge

These market gaps justify government involvement. Absent federal action, several states have established or announced the formation of state green banks. In his State of the State address in January 2013, Governor Andrew M. Cuomo announced that New York will create a \$1 billion green bank to help address some of these failures in clean energy finance. The NY Green Bank strategy has several operating principles:

1. It will provide credit support to clean energy generation and energy efficiency projects. Until it can earn a meaningful surplus, it will not offer loans to manufacturers.
2. It will work where government activity can catalyze private market activity, which is what the Department of Energy's loan program did so successfully. Government loans to large solar projects led the way so that subsequently, private-sector banks could lend to other projects without government involvement.
3. It will find intermediaries in the market—project developers, service companies, or private-sector financial institutions—whose progress is constrained by the lack of availability in financing more than cost. It will not use artificially low-cost financing as the sole means of generating demand. Examples of activities the green bank—in conjunction with private-sector intermediaries—intends to support include loans to smaller clean energy projects such as commercial and industrial solar projects, which could be standardized, aggregated, and sold to the capital markets and credit enhancement for energy efficiency loans, where data on project energy performance and/or customer credit performance is immature. Through risk sharing, a green bank can help a private bank lend more than it would otherwise feel comfortable doing on its own. The same logic can be applied to partnerships with insurance companies that are considering insurance products to help in financing clean energy projects. Offering financing to equipment providers that want to provide new clean energy products to customers through a leasing structure or vendor financing and smaller scale combined heat and power units that use natural gas are other opportunities for green banks.
4. It will not be in the direct lending business itself. New York's green bank will work in partnership with private-sector finance institutions to offer financing both to leverage private sector capital, and to benefit from the origination and underwriting capabilities of the banks.
5. It will facilitate development of bond markets. In exchange for providing financing, the green bank intends to help standardize contracts and can provide warehouse facilities to act as an aggregator of smaller loans. In addition, the bank can help collect data to help rating agencies. Through credit enhancement, perhaps in conjunction with an insurance company, the green bank could also help clean energy bonds achieve investment grade ratings, thereby further lowering the cost of capital.

By focusing on gaps in the financing value chain rather than strictly on the costs of financing, the green bank will not be in the subsidy business per se. Instead, it will operate at the near frontier, where financial institutions are not active, and use its resources to reduce

risk for the private sector. Once the market sees that specific opportunities are attractive, the green bank can step out of the way, leaving the private-sector to take over and the green bank to move on to the next frontier.

Conclusion

State green banks can help solve clean energy financing gaps. After all, it makes sense for states to play a role in clean energy finance: projects are local, building codes are local, and a substantial part of utility regulation is done at the state level. However, although states can address some of the financing gaps, they cannot address them all. Federal leadership is needed.

An outline is emerging of how federal government policy might address the remaining market gaps. First, only the federal government can solve the industry's reliance on tax incentives. Permitting transferability of tax benefits would reduce the overreliance on tax equity and remove a barrier to tapping investor demand for current yield instruments. Because the current structure increases financing costs, it increases the industry's need for government support. Second, green banks can do little to help create stock-market instruments for clean energy projects: only federal policy can do so. Giving MLP or REIT status to renewable energy would level the playing field. And to be clear, the benefit in the cost of capital is less about the tax benefits of MLPs and REITs and more about the lowers costs of equity in the stock market than in private equity markets. Expanding eligibility to renewable projects on a revenue-neutral basis would barely change the cost of capital for those incumbent industries that currently enjoy MLP or REIT benefits. Third, although state green banks can help accelerate the creation of debt markets, it would be better for the federal government to help standardize contracts and collect data rather than have 50 states work on the problem independently. Fourth, the federal government could help capitalize state green banks. New York has identified likely funding sources for its bank, but other states may not have such resources. Given that state green banks can focus on market gaps and therefore earn a rate of return, the federal government could be repaid for its support. Eximbank and the Overseas Private Investment Corporation (OPIC) show that the federal government can offer guarantee programs that offer low cost financing and can earn a surplus from guarantee fees.³

None of these steps require a major new federal commitment to industry subsidies. Rather, they involve repurposing existing programs, expanding others on a revenue-neutral basis, or providing financial support on which the government can earn a rate of return. Together with state initiatives, these proposed federal actions would lower costs of clean energy financing by leveraging private-sector capital and accelerating the transition to using stock and bond markets. Leaders in the clean energy industry look forward to the end of

³ For more information on Eximbank's "Working Capital" program, please visit: <http://www.exim.gov/products/workingcapital/index.cfm>. For more information on OPIC's financial products, please visit: <http://www.opic.gov/what-we-offer/financial-products>.

subsidies and the arrival of cost parity because at that point the industry faces nearly unlimited demand for its products. The quickest way for the industry to achieve cost parity is through economies of scale, and lowering financing costs is one of the most cost-effective ways to accomplish this objective.

Richard Kauffman joined the administration of New York State Governor Andrew M. Cuomo in February 2013 as the chairman of energy and finance for New York. In June 2013 he was also confirmed as chairman of the New York State Energy Research and Development Authority (NYSERDA). His mission is to develop and implement a strategic plan to scale up clean energy, enhance New York's competitiveness for clean energy businesses, and make the state's energy systems more resilient and reliable. Prior to his current appointment, Mr. Kauffman served as senior advisor to Secretary Steven Chu at the U.S. Department of Energy. In his private sector career, he was CEO of Good Energies, Inc., a leading investor in renewable energy and energy efficiency technologies, a partner of Goldman Sachs where he chaired the Global Financing Group, and vice chairman of Morgan Stanley's Institutional Securities Business and co-head of its Banking Department.