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Sent by Email to energyfinancing@dnr.mo.gov Only


To Director Craig Redmon,

To begin, thank you for the opportunity to respond and provide input on what is certain to be a very exciting, necessary conversation in helping our state move forward in the critical area of energy infrastructure. I am the Executive Director of Renew Missouri, a duly-organized 501 (c)(3) committed to policies that will make Missouri a leader in renewable energy and energy efficiency for the county, is pleased to present its responses to the Request for Information (RFI) dated October 9th of 2020.

A note on that. While Renew Missouri believes that the energy infrastructure bank can be used to help with – as an example - privately-owned water water and sewer systems, our primarily focus looks at projects involving solar or wind or geothermal or products and programs that help make buildings more energy efficient. That will be the focus of our response. Moreover, Renew Missouri works on policy issues. We do not currently build or lease energy-producing or – distributing systems. Most of the response we are providing today will focus on general concepts of the potential energy infrastructure bank. Do note we took efforts to distribute the notice issued by DNR to our friends and allies who can offer a perspective from the ground. Our hope is that this document can allow your agency to compare and contrast programs from around the country in order to help the state of Missouri make the right decision for the needs of its economy.

Introduction

Energy projects and infrastructure have a phenomenal potential for the prospect of jobs and economic opportunity in our state. The fastest growing job sector in our country involve clean energy development – fields like energy efficiency contracting and solar technician. Further, shareholders and governing boards of major corporations will only relocate to states where there is inexpensive, tangible access to sustainable courses of energy. Clean energy and sustainability
are not altruistic concepts alone; they are demanded of a modern economy that will build our state.

An example, the state of Missouri a few years ago formally submitted a pitch for Amazon to relocate its “second” headquarters to somewhere within our borders. One of the requirements from Amazon was for the responding parties to show how the headquarters would be able to access sustainable energy sources for this operation. This issue was not addressed by the state of Missouri anywhere in its application, despite the urging of our organization. In turn, Missouri was never seriously considered for this project.

Renew Missouri brings up this anecdote to emphasize the point: Clean energy and sustainable energy is not about environmentalism. It is literally part of the calculation for major businesses on where they locate and relocate their operations. Without having a plan for this, Missouri will continue losing opportunities.

Yet, there are barriers to such opportunities. As with anything, capital can be a significant issue. While there are traditional forms of financing available in addition to new mechanisms that offer additional opportunity, there are still projects and customers that do not fit the tidy models presently provided. It is our hope that financing through an “infrastructure bank” or “green bank” or any form of institution administered by the state with a combination of public and private funds available for energy infrastructure projects. By encouraging these projects with more affordable options for financing.

Before we begin addressing the questions presented in the RFI, Renew Missouri wants to begin with a baseline definition of what we consider as “an energy infrastructure bank.” This is a financial organization that uses strategic public-private partnerships to overcome market barriers and increase the amount of private capital to finance clean energy or energy infrastructure projects. Creating an energy infrastructure bank delivers financing energy options and can leverage millions of dollars in private-sector investments to meet public-sector energy and environmental demands.

An energy infrastructure bank is a mechanism designed to address and improve an aging infrastructure, increase energy reliability and resiliency, and provide opportunity to underserved communities to access energy investments.

The primary function of such a bank is to leverage public funds with private capital, creating a self-sustaining program that focuses on building/replenishing capital in the near-term and transition the programs financing activities to the private sector in the long term. Additionally, these operations increase the availability of capital in the short and long-term. There are four existing models for this type of mechanism, which include the following:

- Quasi-public organization model: through which several existing funding sources are consolidated under one umbrella.
- State clean energy financing authority model: the entity remains housed within a state or local entity and partners with outside stakeholders to increase access to third-party capital.
- **Infrastructure bank model**: in which an infrastructure bank combines with a state energy authority (EIERA would be the authority here in Missouri) to finance clean energy projects.
- **Nonprofit community development financial institution (CDFI)**: freestanding entity that may offer a robust suite of financial offerings in a self-sustaining, scalable fashion.

Renew Missouri believes the Division of Energy (DE), as a part of DNR, should only look at models that rely on the consolidation of privately available funds that can be administered by the state to specific energy infrastructure projects or based on a model that allows the state to generate funds through the issuance of bonds to investors in order to raise the necessary capital to make available to project.

One thing we wish to share that’s of note about energy banks ran in other states. If you go to the New York Green Bank website ([https://greenbank.ny.gov/About/Approach](https://greenbank.ny.gov/About/Approach)), this provision is really useful:

Unlike grant or incentive payments, NY Green Bank funds are invested at market rates, ensuring **that the organization can cover its own costs**, while preserving its capital base for continued deployment.

End quote. In other words, if implemented and managed correctly, this should not cost the State of Missouri any money. In fact, as we will display below in our responses, this should be a mechanism to **GENERATE** money for the State.

Finally, Renew Missouri is going to refer to examples from other states or municipalities or counties that operate similar institutions. In almost every case, they are called “green” banks because that is their focus. We believe this is mere semantics. Missouri should be able to call this whatever they want and place the bank’s focus on a wide variety of energy infrastructure. If you see that phrase, please do not consider it our endorsement of that title.

Now, on with Renew Missouri’s response to the RFI.

1. **What Missouri sectors are underserved by current energy infrastructure financing opportunities? In particular:**
   a. Are the following sectors underserved: agriculture, multifamily housing, commercial, and water/wastewater treatment facilities? Please explain.
   b. What, if any, other sectors are underserved? Please explain.

**Response**: There are several barriers that prevent individuals and communities from accessing energy financing opportunities. Renew Missouri will begin by discussing why traditional lending often does not work for energy infrastructure projects, particularly those geared towards goals of clean energy and how this can be for any kind of customer and should not be seen as an impediment for any particular classification of business.

**Timelines**: Energy projects have long and complicated timelines. Projects must assume and negotiate many costs and uncertainties up front without proper permitting and sufficient
financing in-place. For example, energy projects require negotiations with utilities about rates. Often utilities require payments up front to provide feasibility and interconnection analysis. Dependent on technology a professional feasibility study is usually completed. Applicable technology needs to be purchased, which may be difficult to order such as wind turbines, and require significant deposits up front, prior to receiving financing and permits. There are also a number of local and federal government incentives that can be utilized but are dependent on certain criteria being accomplished. In addition, many of these programs can change along with local and national political leadership. All of the lenders interviewed agreed that before approving a loan they want certainty about long-term cash flow, proper permits, interconnection agreements, etc. The timeline of energy projects can span years, and the order in which events happen are unfamiliar and concerning to institutions considering financing these deals.

Upfront Costs: Energy infrastructure projects require up-front investment for feasibility studies, permitting, work with utilities, and deposits on equipment and technology. All of the project participants interviewed commented that it is very difficult to find financing for these early stage expenses yet the early stages are critical for projects to be successful. Projects without wealthy investors or cash flow from existing businesses often lack the funds to pay early costs and reach the construction phase.

Permits and Regulations: All of the project participants were critical about the number of permitting and siting requirements within federal and state law that apply to energy projects. Often, a project developer will have to deal with a number of different agencies including the Department of Energy, Fish and Wildlife, not to mention local regulations and permit requirements. They often will require state-wide approval from DNR or the Public Service Commission. With all of these moving parts, traditional lenders do not want to start down a path that may ultimately lead to a regulatory roadblock.

Multiple Parties and Stake Holders: Similarly, energy projects involve a number of governmental and nongovernmental organizations. Project participants all mentioned about the challenges dealing with the utilities, which have the ability to make a project succeed or fail based on the fees they charge and how willing they are to negotiate transmission and other technical issues. Energy projects also include investors, developers, government officials, land-owners, consultants, manufacturers, etc. Successful energy projects require vigilant project management and strategic negotiating to address the needs of the many different stakeholders.

Technology and Expertise: The successful installation and operation of energy project equipment is critical. Several project participants commented that it is critical to partner with a manufacturer or contractor that is very experienced and knowledgeable about installation, operation, local code requirements, etc. Traditional banks are concerned about the reliability of some of the equipment and technology used for energy infrastructure projects. Banks do not want to be the first to finance new equipment or technology. They want to know whether there is a current facility or institution using the equipment/technology with success.

Timing and Uncertainty of Financing: A big challenge of securing early capital centers on how the financing, tax credits, and incentives are available only upon project completion, after a majority of development issues have been resolved. Project participants most frequently
identified bridge financing as the most difficult type of financing to secure, even though a project has committed tax credits and/or has addressed a number of the issues outlined above. Many lenders are unwilling to commit significant time and resources to a short-term high-risk loan. Due to the upfront costs and uncertain timeline, lenders do not want to provide financing unless projects are well developed and looking for long-term financing.

What Renew Missouri has outlined above are general concerns. But what about projects referenced by the RFI? As an example, there is a gap in funding with residential low- to moderate-income homeowners. These homeowners do not qualify for low-income weatherization programs because their income exceeds the maximum threshold for participation, and they do not have sufficient income to qualify for traditional financing options.

There is also the issue of split incentives which permeate the multi-family and low- to moderate-income households. In leasing arrangements, property owners often pass on energy costs to the tenant, so the owners have little incentive to make facility improvements, this is known as “split incentives.” Many small commercial customers rent their place of business and multi-family renters are affected by split incentives. This increases the challenge of making energy efficiency improvements for this group. Conversely, tenants are reluctant to pay for energy improvements because they don’t own the building or may be thinking about moving.

As an example, many landlords who own residential housing units or apartments have no real incentive to invest thousands of dollars into the efficiency of these properties because it is the tenant paying the utility bill. But research is clear that energy efficiency projects can increase the value of property (as well as the properties in proximity) and lessen liability for the owner. Less hazards means greater peace of mind for an insurance company considering coverage.

Currently, there are few options that present reasonable opportunities for such investments. Renew Missouri has advocated for the investor-owned utilities (Evergy, Ameren, Liberty-Empire) to offer a Pay as You Save (PAYS) on-bill finance program that is baked directly into the customers’ utility bill. A typical repayment term will last around ten years. If a customer moves, the next occupant of the location takes over the payment obligations. When the upgrade’s cost-recovery payment term ends, the upgrade will belong to the building’s owner. In the event of nonpayment, utilities may disconnect the customer but may not repossess the upgrades. No loan or purchase obligations. Customers are not borrowing money for the upgrades. Credit checks are not required. Customers are not taking on individual debt. If money does need to be borrowed, only the utility is borrowing the money. Borrowed money is recovered by the tariff from the customer.

While this will be an option in the service territories for those three utilities within the next year, PAYS will not be available in any other municipal or rural electric cooperative (REC) service territory. There should be other options available to customers and landlords in those areas, too. Options that help reduce utility bills and improve the value of the property.

Municipalities or county government entities report struggling with financing because of their debt capacity and inability or unwillingness to take on further public debt which may adversely affect the cost of borrowing for other projects. An additional off-balance sheet financing options would help to address this concern. Municipalities identify projects with funding needs of less
than $1 million as being the most difficult to finance. Often government stakeholders feel constrained by limited time, technical capacity, and staff to dedicated to moving financing projects forward.

Renew Missouri has talked to city leaders in places like Bolivar and Columbia; Hartville and Stockton. There is a desire to seek some energy independence and lower utility costs with efficiency upgrades and solar panels. Jails and maintenance sheds are excellent examples of inefficient buildings built to suit solar arrays. But realistic funding is not available.

This should not merely stop with buildings owned by local governments. Renew Missouri participated with DE’s “Roadmap to Resiliency” project last year. In that six-month effort, we spoke with leaders of municipal utilities in St. James, Rolla, and St. Roberts. All of whom feared aging infrastructure (water systems, distributive lines) were going to be too expensive to replace and, if they did, the rates they would have to place on their customers would cause a “shock.” This RFI response will not repeat information that was put together by DE’s top-notch staff that worked on this series but will say that, if these utilities could receive low-risk financing over a period of time that could help lessen the short-term effects of a rate increase to replace this equipment, it would be of great benefit to the local governments and the citizens they serve.

Commercial, industrial, and agricultural customers look for projects with a rapid payback. Many will not undertake energy efficiency of clean energy projects that take more than three years to recoup its costs.

Additionally, interest rates need to be very competitive to ensure that customers can see immediate savings from energy reductions that exceed the costs of financing. Projects that simply “break even” may not motivate the borrower. Small commercial as the sector with the largest potential for clean energy and energy efficiency projects, as well as the largest need for financing. It’s identified the lack of financing for smaller to mid-size projects ($5,000 - $2 million) as a significant gap in both energy efficiency and renewable energy financing. Split incentives are a barrier to be addressed for small commercial projects.

Missouri has Property Assessed Clean Energy (PACE) districts, as authorized by statute. PACE is a financing tool that allows both commercial and residential property owners to retrofit their properties with energy efficiency and renewable energy improvements with no upfront cost. PACE involves the local government’s tax authority, which issues special bonds to finance the energy upgrades and then collects repayment through a special assessment on the building’s property taxes. In essence, the PACE board is no different than a fire district or school district in terms of local oversight and collecting revenue through the county. There are ample consumer protections found in PACE. Any improvements must result in a net economic benefit, which is to say the land owners’ utility bill must be less than it was even with the payments on these loans. The loans cannot extend pass the life of the improvement and, under no circumstances, can they extend beyond twenty years. Moreover, local governments have significant latitude to add local regulations.

PACE financing allows a local government—whether a county or a city—to provide or enable financing for a home improvement project and to recover the loan through the property tax bill.
As the loan is secured through the property tax obligation, it does not have a credit score requirement. It also allows property owners to borrow up to 85% or 90% (depending on the jurisdiction) of available equity in the home—a much larger sum than that available through most traditional financing vehicles. PACE offers terms comparable to a home equity line of credit, up to twenty years, that can provide very low monthly payments relative to unsecured products. PACE financing, usually intended to support conservation broadly, may allow water conservation measures as well as energy conservation. As the financing is not sponsored by a utility, it usually does not include a quantified energy savings target, allowing PACE programs to include less cost-effective measures that those typically excluded from utility rebate programs, but which may still provide a savings benefit over substitute products.

There are a number of issues with PACE. First, the loans are at a very high interest. Seven- to eight-percent is typical. Again, the purpose of PACE is not for reasonable interest rates; it is for reasonable terms of repayment with the security of a local government backing up the financing. Secondly, PACE is not available in the majority of areas of Missouri. A local government must opt-in to the program. Many have not. As an example: While Springfield has a PACE district, Greene County does not. This leaves a lack of access to PACE financing to much of the third-largest Metropolitan area in the State.

While opportunities to fund energy infrastructure is improving in this state, barriers remain. Upfront costs are significant, payback periods are extensive, and traditional lenders are leery of any projects that rely on technology. This presents particular challenges to local governments, who would see substantial benefits to energy infrastructure; not simply for their buildings but also the operations and maintenance of their municipal utilities. There are new programs available, but these programs are not available to all customers. But this is impacted on consumer, industrial, and agricultural programs as well.

No matter how it is structured, an energy infrastructure bank can fill in these gaps left by other means of financing and lending.

2. What potential Missouri energy infrastructure projects have difficulty obtaining financing in the current market, are unlikely to be financed in the current market, or would be built more quickly if new financing sources were available?

For each project provided in response to this question, please specifically identify:

a. The project type and/or technology;
b. The timeframe within which the project could be completed;
c. The size of the investment required;
d. The financing barriers applicable to the particular project (e.g., interest rates, credit or collateral requirements);
e. The benefits from the project to the State of Missouri and its citizens. Please quantify the benefits and identify the benefit recipients when possible. Such benefits could include:
   i. Project value creation for direct beneficiaries (e.g., energy cost savings, improved resilience);
   ii. Jobs created;
   iii. Local economic development impacts;
   iv. State and local tax revenue gains;
v. Environmental improvements; and,
f. Potential project opposition.

Response: Since Renew Missouri is a policy group, we have relied on our partners who are working on these projects to provide responses. Many of these business leaders and upstarts have indicated they will respond to this RFI directly. Rather, what we intend to do with this section is outline what other states – and the energy infrastructure (or “green”) banks provide to the public in their jurisdictions. By providing this information, we hope to provide a process of answering this question by showing what other states are able show in benefits.

Moreover, we hope that the responses that come from these private businesses (and potential from local governmental entities) will be placed through the policy perspectives we offer below. In turn, that can be used to craft certain programs and products to help maximize economic benefit.

To fully capitalize on public investment and achieve the expected benefits, the initial design of an energy infrastructure bank should align with other state programs and policies. The bank should fill policy gaps, focus on projects that meet the objectives of the key internal and external stakeholders, and match the size of the clean energy market. Once specific challenges are brought to DE’s attention, they should be viewed by using the following methods to help find ways of tackling said challenges.

Establish a coordinated coalition of internal and external partners: Most states have public and private clean energy and energy efficiency programs. To fully understand where programs overlap and to identify gaps that a green bank could fill, the process should be informed by a coalition of stakeholders, including state agencies, financial institutions, nonprofit organizations, renewable providers, utilities, consumer advocates, project developers, and energy service companies. Documents establishing the green bank should articulate a general purpose; then, the green bank can consider stakeholder viewpoints to identify investment priorities and ensure these are coordinated and consistent with existing programs.

Understand the market potential: The state or community considering a green bank should conduct a market sizing analysis, to estimate the maximum market potential for clean energy development. This analysis should identify opportunities for investment for particular customer classes (industrial, commercial, agriculture, residential) and sectors (e.g., energy efficiency, solar photovoltaic, storage, onshore/offshore wind, combined heat and power, biomass, or emerging technologies). This analysis will help to determine the role of the green bank and the lending programs and projects it should support.

Develop a list of green bank project offerings: Once the market potential and target markets have been identified, green bank project offerings can be developed. Many banks choose to focus on projects that are economically viable, but currently not financially feasible. These can include:
• Smaller commercial and industrial projects (less than $1 million) where an Energy Savings Company (ESCO) doesn’t currently invest;
• Projects needing longer terms to match limited cash flow (for low-income or small business borrowers);
• Credit-constrained borrowers;
• New technologies that are viable, but unproven in the market;
• Commercially accepted technologies yet to achieve broad acceptance, including electric vehicle infrastructure, EV fleet conversion, solar-plus-storage installation, anaerobic digester gas systems, and fuel cells;
• Long-term power purchase agreement needs (large-scale renewables) Many energy banks choose to focus on a select group of projects and then adapt as circumstances change.

If adaptability is important to a state or community, the founders should draft the energy bank’s organizational documents to enable this flexibility. For instance, rules implementing the North Carolina Clean Water Revolving Fund allow the Department of Environmental Quality to deviate from annual plans in emergency situations.

With those goals in mind, what are some of the products that can be offered by an energy infrastructure bank? In a survey conducted by Duke University for southeastern states, there were a number of programs identified that would provide value to customers seeking funding. They are as follows:

**Direct loans:** Direct lending of public funds to consumers can jump-start a market or technology that might be commercially viable, but is unproven in the financial marketplace and therefore unable to compete with other, more mainstream, clean energy projects. It can also be used to attract senior (priority) debt investors into new markets like storage, fuel cells, or new technologies that have not yet gained a long-term repayment performance record.

**Co-investment loans:** Public funds can also be used in partnership with private funds. In these arrangements, the co-invested debt acts both as a direct lending mechanism as well as a credit enhancement. For example, a green bank might offer subordinated (or secondary) debt for 20% of the financed cost of a project and assume the first loss position in the event of a default. This reduces the risk of the private investor’s 80% portion and leverages the public fund’s 20% investment.

**Septic programs:** The Rhode Island Infrastructure Bank (RIIB) offers a lending program that provides low-cost, long-term financing to residential property owners for the repair or replacement of substandard or failing septic systems or to replace cesspools when the homeowner wishes to upgrade to a septic system. Financing is interest-free, with borrowers only subject to a $300 loan origination fee and a 1% annual servicing fee on the outstanding loan balance (differs in some communities). Residents may borrow up to $25,000 with a term of up to ten years (maximum loan amount varies by community) and may be used to pay for engineering costs in addition to construction work.

**Water Abatement loans:** Also under RIIB, municipalities and other local wastewater agencies that have been identified as needing upgrades or replacements by the state authority are eligible for construction and upgrade of wastewater collection systems and treatment facilities, storm-water pollution prevention and treatment facilities, non-point source pollution (e.g. storm-water) best management practices, and other water pollution abatement and water quality protection activities. RIIB provides approved borrowers with a discounted interest rate – currently 33% off the borrower’s market rate.
Energy Efficiency Improvement Programs: In Connecticut, financing is provided to property owners seeking to upgrade the energy performance, economics, and health and safety of their properties. Loans are generally able to be repaid based on new cash flow created from the estimated energy, operations and maintenance cost savings of the project.

Municipal Road and Bridge funds: A financing program from RIIB provides attractive long-term financing to municipalities for transportation infrastructure projects. Eligible projects include capital improvements to roads or bridges, and associated infrastructure, such as sidewalks. The Infrastructure Bank provides approved borrowers with a below-market interest rate - currently 33% off an independently determined market rate.

Alabama SAVES Program. SAVES offers a hybrid financial product that pairs up public funds with loans from third-party banking partners. It uses funds from the U.S. Department of Energy State Energy Program (SEP) through the Energy Division of the Alabama Department of Economic and Community Affairs to acquire a participating interest in a third-party loan made to fund qualifying energy conservation measures. This participating interest is subordinated in the event of default to the third-party loan’s remaining principal and carries an interest rate 2% below the rate of the third party loan, thereby acting as both a credit enhancement (subordinated debt) and a subsidized direct loan.


But here are some highlights of the progress that state has made between 2015 and 2019:

- Clean energy companies across the state have created 3,691 new jobs between 2015 and 2019, and full-time equivalent clean energy jobs are growing even faster than the overall clean energy labor market.

- At the end of 2019, clean energy jobs comprised 2.6 percent of all jobs in Connecticut. Clean energy employment grew by 9.1 percent between 2015 and 2019.

- Since 2015, full-time equivalent clean energy jobs in Connecticut have grown by 13.9 percent, indicating that employees are spending more of their time on clean energy work in the state. (see page 12 for more on this).

- Energy efficiency workers represent eight in ten clean energy jobs across the state. This sector has also seen the greatest absolute growth since 2017, creating 1,257 new jobs—a growth rate of 3.6 percent. Within the sector, HVAC and ENERGY STAR® and efficient lighting technologies account for the majority of activity.

- The majority of surveyed clean energy jobs pay more than their corresponding occupational average, especially for entry-level workers. In total, just over three-quarters (76.9 percent) of
clean energy jobs in Connecticut earn more than the corresponding occupational average across all levels of experience. For entry-level workers in particular, 92 percent of surveyed occupations are paid a premium.

In short, investment in clean energy can lead to substantial impacts on the economy.

To conclude this response, DE should look at the responses from other parties as to what the needs are from the private sector as well as local (municipal or county) through the lens of very specific policy goals. The programs can be tailored to fit those needs and, if implemented successfully, the economic benefits should be great.

3. What is a realistic cost of capital that could facilitate short-term (i.e., within one to three years) private capital investment in the underserved sectors identified in response to Question 1?

Response: In order to fully illustrate the realistic cost of capital, Renew Missouri has put together a compare/contrast of how other energy infrastructure banks (referred to as “green banks” in most other jurisdictions) are structured, how they attract capital, and the amount of capital they have on hand to handle costs and to provide loans to the public. Renew Missouri is mindful that the jurisdictions we reference will not present apple-to-apple comparisons. However, we do believe these examples from other states (and a county in one case) does provide guidance to the State of Missouri in its considerations of developing a similarly-structured entity.

Connecticut: The Connecticut Green Bank was established in a bipartisan manner by the Governor and Connecticut’s General Assembly in 2011. It is a quasi-public agency that supersedes the Connecticut Clean Energy Fund. As the nation’s first state green bank, it makes green energy more accessible and affordable for all Connecticut citizens and businesses by creating and thriving marketplace to accelerate the growth of green energy. The Bank facilitates green energy deployment by leveraging a public-private financing model that uses limited public dollars to attract private capital investments. By partnering with the private sector, it creates solutions that result in long-term, affordable financing to increase the number of green energy projects statewide.

Since inception (FY 2012- FY 2019) the Bank has mobilized $1.68 billion of investment into the state’s economy. Its activities have helped generate an estimated $87.1 million in state tax revenues and has supported the creation of more than 20,000 direct and indirect jobs. It has reduced the energy costs for more than 375 business and more than 40,000 families. The Green Bank has helped reduce emissions that has created an estimated $206.7-$466.7 million of lifetime public health value.

In FY 2012 (the first year), the Green Bank used $3.4 million to attract $6.5 million in private investments. The Bank has exponentially increased its investment capital, attracting more private monies. In FY 2019, the Green Bank used $40.1 million to attract $312.7 million in private investments. For every $1 of Green Bank investment, the bank attracted $8.7 of private investment. In FY 2019 The Bank’s activities helped generate $17.8 million in tax revenue for the state.
**New York:** In 2013, the New York Green Bank (NYGB) was created as a $1 billion “state-sponsored investment fund” aimed at attracting private-sector financing for clean energy projects. NYGB was created as a division of the New York State Energy Research and Development Authority (NYSERDA), a state agency, and is intended to supplement NYSERDA’s current programs through a focus on leveraging private capital. As a first step, NYGB is worked with NYSERDA’s existing finance and incentive programs to streamline current offerings and avoid overlap. NYGB aims to enable greater investment in New York’s growing clean energy economy by opening up financing markets and expanding the availability of capital using innovative financing solutions and strategic partnerships with private-sector intermediaries.

NYGB receives incremental capital contributions through NYSERDA upon executing new commitments of the authorized capital. To date, NYGB has been funded through utility bill surcharges and other proceeds generated by utility companies. NYSERDA funds these contributions either from a transfer of existing cash and investment balances (of certain Commission authorized programs), or from the Clean Energy Fund (CEF) ratemaking collections held by the electric utilities, an approach known as “Bill As You Go” (BAYG). As of March 31, 2020, total ratemaking funded capitalization provided to NYGB was $618.8 million, resulting in an unfunded amount of $381.2 million that will be subsequently provided through BAYG.

Since inception, NYGB has received $4.1 billion in investment proposals and $989.9 million overall investments to date. It has stimulated clean energy investments with project costs up to $2.6 billion and has maintained self-sufficiency by generating revenues of $86.6 million.

**Montgomery County (Maryland) Green Bank:** The Montgomery County Green Bank is a publicly chartered nonprofit dedicated to accelerating affordable energy efficiency and clean energy investment. The Bank partners with the private sector to build a more inclusively prosperous, resilient, sustainable and healthy community.

In FY 2017, the Bank accounted for $3.13 million in assets and $3.3 million in revenues. The Green Bank’s balance sheet grew from $5.8 million (FY 2018) to $23.8 million (FY 2019) and generated $18.6 million in revenues. For FY 2019 it secured nearly $1 million in operational support from several national foundations. Funding also came from Montgomery County, completing its initial investments of $14.1 million and adding $11 million more to support additional County priorities in clean energy.

To conclude, we first must preface our finding and note that energy infrastructure banks will vary in size, functionality, and funding amount and sources. Both Connecticut Green Bank and the Montgomery Green Bank first fiscal year accounted for approximately $3 million in assets to attract private investments. The green banks grew exponential in available capital and private investment acquisition.

Currently, this avenue of funding is not available to a potential Missouri energy infrastructure bank. But we believe by working with private entities and other sources of capital, an initial cost of capital in the low seven figures is realistic and pragmatic.
Beyond low-interest loans, what financing mechanisms could facilitate intermediate-term (i.e., within three to five years) private capital investment in the underserved sectors identified in response to Question 1?

Response: While certain types of short-term loans and generalized products are outlined in our response to Question 2, there are intermediate options that can assist an energy infrastructure bank in providing assistance to private institutions. In fact, the state of Missouri already offers such an enhancement and this can be used in conjunction or additionally to services provided by the energy infrastructure bank. They are as follows:

Credit enhancements: Public funds can be used as credit enhancements—including loan loss reserves and loan guarantees—to reduce the default risk for private lenders. These can be quite useful when offering loans to credit-constrained consumers or when the financial terms are nonstandard (i.e., longer than the useful life of the asset). While the return on these types of investment are lower (typically a fee charged to the participating lender), the leveraging effect in the short term can be quite large—sometimes up to ten times the amount of the enhancement.

In fact, the State of Missouri’s Treasurer’s Office offers something in line with this concept that could work with a state-administered energy infrastructure bank. The Missouri Linked Deposit Program invests in Missouri-based companies that includes projects for “alternative energy.” Under these programs, the State Treasurer's Office places State funds at a reduced interest rate with local financial institutions, thus allowing eligible borrowers to obtain low-interest loans from the same institution. Savings to the borrower are generally 25%-30% of their interest costs, and there are only a few administrative requirements for borrowers and their financial institution.

The State Treasurer's Office operates five main Linked Deposit Programs. The total allocation of the Linked Deposit Program is $720 million.

Warehouse and aggregation loans: For smaller loans that can be standardized (e.g., residential energy efficiency loans), a green bank can aggregate loans for sale on the secondary market. This offers a way to reduce the costs per loan and achieve a reasonable return on investment. A green bank would finance a standardized set of projects directly, then warehouse the portfolio until a sufficient scale is reached to attract a private investor. In this type of lending scenario, the green bank receives 100% of its investment back, which can be used for the next tranche of funding.

Bridge loans: New York created bridge loan facilities for three developers to finance interconnection advance payments due to utilities under the Standardized Interconnection Requirements (“SIR”). The SIR requires advance deposits by interconnection applicants of 25% of estimated interconnection upgrade expenses. Interconnection applicants have 120 business days to deposit the remaining 75% of interconnection upgrade expense to the utility. NYGB provides bridge loans to finance the initial 25% deposit, which facilitates project development to the point that construction lending can be underwritten. In the absence of a bridge loan, a developer would need to use equity for the deposits, which would slow the overall pace of project development and tie up expensive financial resources.
5. What financing mechanisms could facilitate longer-term (i.e., more than five years) leveraging of private capital investment in the underserved sectors identified in response to Question 1? Please explain.

Response: One of the greatest benefits of an energy infrastructure bank is the transformation of a one-time expendable grant or incentive into a long-term energy investment vehicle. With a sustainable repayment strategy, an energy infrastructure bank can operate indefinitely without additional capital infusion. This “recycling effect” enables a state to maintain its commitment to clean energy without repeatedly seeking additional public funding. Organizational documents should explicitly outline the sustainable levels of return on investment that will replenish the fund and cover operating costs including any risk of default or nonpayment.

Revenue from lending activity: Energy infrastructure banks are designed to achieve a reasonable financial return on investment (ROI) that exceeds the estimated operating and administrative costs plus a margin for potential defaults. The target ROI will depend on the type of program, the associated risk, and the customer’s sensitivity to fees. For direct loan programs, the bank should set goals for loan originations at an interest rate sufficient to cover its costs. In some cases, the interest rate is standard for all loans (e.g., Connecticut’s Smart-E loan energy efficiency program), while larger capital investments base the interest rate on established credit, financial considerations, and risk/return considerations for each transaction. In specified cases, a fund’s disbursement and repayment policies can be flexible to better realize investment priorities.

For instance, the RIIB Efficient Buildings Fund is designed to provide below-market interest rates and subsidies to government entities for state-defined priority projects. At the discretion of the RIIB board, financially distressed local government units can receive additional subsidies or assistance for these projects as long as this does not have an adverse effect on the fund or the partnering financial institutions.

The North Carolina Clean Water Fund can increase loan commitments by up to 10 percent, so long as adequate funds are available. For credit enhancements and loan loss guarantees, revenue is obtained via servicing or administration fees that are directly charged to the borrowers. In a warehousing loan program, revenue is received after the sale of the loans on the secondary market.

Operating costs: Because of the lag in revenue from loan repayment or origination fees, most energy infrastructure banks are not self-sufficient from the outset and must lay out a timeline for establishing how and when the programs will be self-sustaining. The administrative budget for the Hawaii GEMS program was originally $1 million; the Hawaii Green Infrastructure Authority requested a $500,000 increase in 2017 to facilitate the additional deployment of $145 million in loans. The Authority anticipates future administrative costs (FY18 and beyond) will be paid by revenue from loan repayments. In addition to administrative costs, a bank’s operating costs can include an allowance for loan losses. Most energy infrastructure banks establish an allowance for loan losses that covers the possible defaults or uncollectable accounts. This reduces the risk to the bank and ensures long-term sustainability.
Investment of funds: Energy infrastructure banks invest undischarged cash to generate additional revenue to cover annual operating expenses. The New York Green Bank investments are subject to an investment policy approved by its parent company, NYSERDA. It invests its excess cash primarily in U.S. Treasury bills. Montgomery County’s Green Bank may generate and spend earnings from investments in “clean energy technologies backed by the Green Bank. Other banks authorized to hold rights in intellectual property may generate revenues from these holdings as well.

Parting Thoughts

While this information should be responsive to the RFI, Renew Missouri also see the energy infrastructure bank serving necessary with regards to education and awareness. Public trust is a critical component to any financing program’s success, particularly with low to moderate income customers, who often do not trust large financial institutions. It appears, for the most part, that customers are not aware of existing energy finance programs or are unfamiliar or uncomfortable with the concept of financing improvements. Proper education and awareness about upfront costs are important to increasing market adoption. Some customers don’t always anticipate the magnitude of upfront costs and think upgrades should be cheaper, not necessarily understanding the payback and savings gained from increase efficiency. Education is critical to implementation success and it will take a focused, coordinated effort to overcome this barrier.

Outreach will be necessary in addition to these financing opportunities.

Further, there can often be a lack of technical expertise and capacity building presents a significant barrier to development of an energy financing bank. Small communities as well as customers with limited knowledge and time (such as small businesses and residential customers) need information and project-level technical expertise from a green bank or similar entity to assist with various steps of project implementation. Having a single point of contact that can help with a bevy of incentives, financing programs, and technical assistance is important. The energy infrastructure bank can offer this service as well.

I may be reached at james@renewmo.org or by phone at 417-496-1924 to discuss this further. It is my hope Renew Missouri can be a force to help this infrastructure bank become a reality and to help drive economic growth and development for our state.

Cordially,

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