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Via Electronic Mail
New Jersey Energy Master Plan Committee
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**Written Comments to New Jersey Energy Master Plan Committee
In Response to Draft New Jersey Energy Master Plan**

Submitted by Coalition for Green Capital

The Coalition for Green Capital (CGC) submits these written comments to the New Jersey Energy Master Plan (EMP) Committee in strong support of the Draft EMP, with particular focus and enthusiasm for the proposal to form a New Jersey Green Bank.

New Jersey can and should take a national leadership role to address climate change and reduce its greenhouse gas emissions, and the new EMP appropriately sets ambitious goals and targets. These range from an increased Renewable Portfolio Standard to offshore wind to building efficiency to electrified transportation. Collectively these goals will drive the wholesale transformation of the State's energy platform. But they can only be achieved with a massive flood of investment to actually construct this new clean energy platform.

A New Jersey Green Bank will be the key tool for driving this investment. Large-scale and innovative financing is essential for the State to meet its goals while also lowering energy costs for homeowners and businesses. Public capital can be deployed through a Green Bank to maximize greenhouse gas emissions reductions, lower energy costs for New Jersey citizens and catalyze private capital to maximize total investment.

The need for increased clean energy investment

The draft EMP sets an appropriately aggressive set of clean energy and climate-related targets. To decarbonize the power sector, the EMP includes a proposed 50% Renewable Portfolio Standard (RPS) by 2030 and the exploration of a pathway to 100% renewables by 2050. It aims to boost offshore wind, setting a target of 3500 MW by 2030, and to expand energy storage with a target of 2000 MW by 2030. And it discusses the need to remove barriers to distributed energy in the interconnection process, in permitting and siting processes, and in the availability of financing.

To electrify the transportation sector, it sets a target of 330,000 electric vehicles on the road by 2025, and the rollover of the state's passenger fleet to electric vehicles. In buildings and energy efficiency, it will implement the Clean Energy Act requirement that electric and gas utilities reduce consumption by at least 2% and .75%, respectively.

The plan also appropriately calls out the needs of low- and moderate-income communities, as well as environmental justice communities. These communities should be supported in reaping the benefits of

the clean energy transition through the creation of new jobs, improvements to public health, and savings on energy bills.

In order to achieve the ambitious goals laid out in the EMP, a significant increase energy-related investment will be required to build the new clean energy platform. This has been recognized and called for by many previous commenters.

For example, NRDC has called for scaling up investment in energy efficiency, renewable energy, and electrification of buildings and transportation,¹ and EDF has similarly called for investment in grid modernization.² Nationwide estimates of investment needs for full decarbonization of the power sector range into the trillions, with Wood Mackenzie finding investment needs of \$4.5 trillion to effect the transition within 20 years.³ An investment need of billions of dollars is a reasonable estimate for New Jersey alone.

Existing tools and incentives provide real benefits in that they help to shift the point of economic viability for renewable energy, but leave a gap in that they do not directly connect investment to specific projects. For example, New Jersey's participation in the RGGI program will help to raise the relative cost of fossil-fueled power and increase the dispatch of renewable energy, while generating proceeds which can be used to fund additional programs. Renewable portfolio standards help to reduce the net cost of renewable energy, providing revenue stream for a project through the sale of RECs or SRECs. But in order to realize these benefits, a renewable energy project must first be built, and many projects still face significant obstacles at early stages. High capital costs and/or an inability to access commercial financing can prevent a project from getting off the ground.

Green Banks are built to focus specifically on clearing away these obstacles, enabling investments that will ultimately increase the buildout of renewable energy and reduce greenhouse gases from the power sector.

Using State funds efficiently

Public capital should be used to catalyze the necessary investment in a way that also ensures households and businesses are not harmed with higher energy costs. Public funding is always limited, and is particularly so today in New Jersey. That is why public funding devoted to achieving the EMP goals must be used efficiently.

New Jersey has long recognized this need in previous EMPs. The state's 2011 EMP established the goal to, "consider new ways to provide capital for renewable energy and energy efficiency to eventually eliminate the need for cost incurrence through the [system benefit charge]."⁴ The Energy Resilience Bank (ERB) was

¹ "State of New Jersey Energy Master Plan, Comments of the Natural Resources Defense Council."

<https://nj.gov/emp/pdf/general/comment2/Dale%20Bryk%20NRDC%20NJ%20Energy%20Master%20Plan%20Comments.pdf>

² Environmental Defense Fund Comments re: Energy Master Plan. Oct. 12, 2018.

<https://nj.gov/emp/pdf/cleanrenewablepower/Mary%20Barber%20EDF%202019%20EMP%20Comments.pdf>

³ "Decarbonizing US Power Grid May Cost US\$4.5 Trillion." Wood Mackenzie. June 27, 2019.

[https://www.woodmac.com/press-releases/decarbonising-us-power-grid-may-cost-us\\$4.5-trillion/](https://www.woodmac.com/press-releases/decarbonising-us-power-grid-may-cost-us$4.5-trillion/)

⁴ "New Jersey Energy Master Plan—Update." December 2015. Pgs. 33-34.

https://nj.gov/emp/docs/pdf/New_Jersey_Energy_Master_Plan_Update.pdf

originally designed to use its public funds to leverage private capital so that, “this financing program can serve as a model for the transition of the NJCEP to other incentive models that advance this EMP goal.”

A New Jersey Green Bank can use public dollars efficiently because it can increase the total investment impact far beyond its public capital base. It can do this by lending money to be repaid, with interest, to the Green Bank, allowing each dollar deployed to be recycled and re-lent again. It also can mobilize private capital at the project level through co-investment and credit enhancements, ensuring that each Green bank dollar draws in multiple private dollars of investment.

Taken together, these mechanisms have a powerful effect to increase total investment far beyond the initial public capital put toward the Green Bank.

The role for a New Jersey Green Bank

In the current EMP, New Jersey recognizes the need to provide financing or low-cost loans to support clean energy deployment using a vehicle such as a Green Bank. The plan states:

“We must also explore the establishment of a New Jersey Green Bank that would leverage public dollars to grow private sector investment and provide low-cost financing, and develop financial protocols to support New Jersey’s clean energy economy and the goals of the EMP, such as lowering the cost of capital for renewables and energy efficiency projects.”⁵

A Green Bank finance institution would establish a dedicated framework to draw in private investment, connect dollars to projects, and make the most out of each public dollar towards reducing greenhouse gases. And, it would centralize this capability into a venue with the necessary legal authority, flexibility, and expertise.

In New Jersey, CGC has worked with market participants and government actors over the last two years to study the potential for a state Green Bank. This includes partnering with the Environmental Defense Fund to author the report, “Financing New Jersey’s Clean Energy Economy,” which describes in detail what role a Green Bank could play in the state and structures the Green Bank could take.⁶

Based on its unique and extensive experience in Green Bank formation and support (including supporting the successful establishment of Green Banks in Connecticut and New York), CGC recommends that a New Jersey Green Bank could fill important needs and help meet the state’s ambitious climate goals.

A New Jersey Green Bank would also be consistent with the state’s environmental justice goals. By investing in economically viable projects that can attract private investment while competing with grid power, it would ensure that each project provides cheaper power than consumers are currently using. This would be especially important to low- and moderate-income households, which are disproportionately burdened by energy costs.

⁵ “Draft 2019 New Jersey Energy Master Plan.” June 10, 2019.
<https://nj.gov/emp/pdf/Draft%202019%20EMP%20Final.pdf>

⁶ “Financing New Jersey’s Clean Energy Economy: Pathways for Leadership.” Dec. 2017. Published by EDF, co-written by EDF, CGC, and Quantified Ventures. <http://coalitionforgreencapital.com/2017/12/06/new-jerseys-green-bank-opportunity/>

Value added by a Green Bank relative to existing programs

CGC's previous analysis finds that a Green Bank would add unique value and work in a complementary manner to New Jersey's existing programs and institutions.

The NJ Clean Energy Program (CEP) is the primary mechanism in place today to support clean energy deployment. The CEP used more than \$7 billion in ratepayer funds to incentivize clean energy, but has been almost entirely dedicated to providing rebates rather than financing.⁷ Programs that provide financing resolve a different set of barriers than those providing rebates, as many entities are unable to pay the up-front cost of a project. At the same time, many economically viable, low-risk clean energy projects are unable to afford or access private financing. Green Banks address this gap.

No comprehensive financing program or initiative exists in New Jersey to complement the CEP and meet the targets laid out in the EMP. The ERB⁸, Economic Development Agency (EDA), New Jersey Infrastructure Bank (NJIB), the Board of Public Utilities (BPU), and CEP are all designed to address different market sectors or needs with different tools. And none of them have the clear and necessary mandate to drive deep market penetration of clean energy and to reduce GHG emissions. A new Green Bank financing capacity needs to be formed, and done so in coordination with existing programs.

Recommended structure and governance of a New Jersey Green Bank

CGC recommends that a New Jersey Green Bank (NJGB) be formed as a government-adjacent, independent 501c3 non-profit corporation. Creating a nonprofit (as opposed to a quasi-public entity) avoids the need for the passage of legislation, which is not a desirable, necessary, or likely path in New Jersey.⁹ Non-profits are also far better positioned to receive and blend public, philanthropic, and private capital on their balance sheets.

CGC has found that the most successful Green Bank formation efforts are those where a single entity is clearly assigned the role of managing the process from within government. In New Jersey, the New Jersey Economic Development Authority (EDA) is best suited to guide that non-profit's formation. The EDA has a long track record of market-oriented financing activity and engaging with private actors. It has also already published a robust economic development plan that specifically includes the formation of a NJGB.

⁷ "Financing New Jersey's Clean Energy Economy: Pathways for Leadership." Dec. 2017. Published by EDF, co-written by EDF, CGC, and Quantified Ventures. <http://coalitionforgreencapital.com/2017/12/06/new-jerseys-green-bank-opportunity/>

⁸ The New Jersey Energy Resilience Bank was initially envisioned to operate like other states' Green Banks, but the urgency of deploying funds to mitigate the effects of Hurricane Sandy led to its taking a different form. In its current form, it exists until all federal funds are expended. It is not designed to operate, or even exist, beyond the completion of that mandate.

⁹ Though at first glance the NJIB may appear a logical home for a Green Bank, numerous barriers make it ill-suited to the role. The NJIB runs municipal finance programs, meaning it primarily lends to water, public transportation infrastructure, and other municipal activity. At present, it does not have the legal authority to finance most kinds of clean energy projects, or to lend to projects in the residential or commercial sector. The NJIB also does not have a balance sheet for general lending purposes. Turning the NJIB into a Green Bank would require comprehensive legislation to entirely redesign its financing authority and capital structure. And then the NJIB would need to develop new expertise and capacities to address markets, technologies and customers that are new. A standalone Green Bank could be created much more simply.

The EDA could oversee business planning, corporate formation and governance. It could also serve as the liaison to other government actors to coordinate information sharing and develop a capitalization strategy.

The new institution's Board of Directors should be a combination of private actors and ex-officio public sector appointees. Through its incorporation documents and bylaws, the non-profit should be established with the mandate to operate in alignment with the state's clean energy and climate policy objectives.

This structure ensures the Green Bank is fully integrated and overseen by government, but still has the independence to operate as a market actor free of political influence in its decision making. If the Green Bank is perceived by market actors to be operating like a government agency or to be influenced by political factors, it will entirely undermine the institution.

The non-profit Green Bank could be linked to government in key final way, which is capital. If the Green Bank receives public capital from the state of New Jersey, the legal mechanism by which that capital is granted to the Green Bank could define the parameters of its usage. This could be as broad or constrained as the state requires, though track record has shown that broad flexibility in capital usage is a key ingredient for Green Bank success.

This non-profit Green Bank would also be well positioned to work in close coordination with other Green Banks around the country that are now organizing to achieving collective scale. Green Banks in Connecticut, New York and New York City are seeking to expand in ways that could directly benefit New Jersey. A non-profit Green Bank would be ideally structured to join the American Green Bank Consortium and engage in capital and product partnerships with its fellow Green Banks. It could also collaborate and work closely with all Green Banks to learn best practices in order to scale its operations more quickly.

Appendix: The Green Bank Model

Green Banks are specialized financial institutions that drive investment in clean energy and accelerate the decarbonization of the power sector. Green Banks can take multiple legal forms, including non-profit or quasi-public. They are typically capitalized with public funds, which can then be leveraged to maximize total investment capacity of the organization.

Core attributes

The Green Bank model is already in use in states across the US and in countries around the world. The flexibility afforded within the Green Bank framework is one of its strengths, and these institutions vary in their structure and focus. At the same time, they share a set of core attributes that contribute to their unique effectiveness.

- Reduce consumer energy costs and increase consumer access to clean energy.
- Use financial tools and expertise to draw private investment into carbon-reducing projects.
- Accelerate the reduction of greenhouse gas emissions.

Amplification of impact

One of the advantages of Green Banks is their ability to multiply their investment impact beyond the amount of capital initially provided. Methods to accomplish this include:

- Recycling capital: Lending money to be repaid, with interest, to the Green Bank, allowing each dollar deployed to be recycled and re-lent again.
- Project-level leverage: Mobilizing private capital at the project level through co-investment and credit enhancements, ensuring that each Green bank dollar draws in multiple private dollars of investment.
- Balance sheet leverage: Borrowing against existing assets, increasing lending capacity beyond the public capitalization. This method has not been used by existing Green Banks at the state level, but is used by other entities like commercial banks and development banks, and could be an effective approach for a large enough Green Bank.

Financial methods

Green Banks use financial tools to achieve project-level leverage, addressing barriers that prevent private capital providers from fully investing in the target market opportunities. They seek to expand markets and create new opportunities for private investment.

- Addressing perceived project risks with credit enhancements: If private investors see an investment as risky (perhaps because it is based on an unfamiliar technology, or because it serves a customer base seen as a credit risk) they may be unwilling to offer capital at rates that are feasible for a project to move forward. Green Banks can offer credit enhancements, such as loan loss reserves or loan guarantees, that help de-risk investments for private investors.
- Addressing inefficiencies of scale with aggregation: Small and geographically dispersed projects like residential or small business energy efficiency are often not cost-effective for private investors to underwrite. Green Banks can bundle together and projects that are not cost-effective to underwrite on their own. Pooling these loans diversifies risk and achieves scale, making them far more attractive to lenders.
- Addressing resistance to first-of-kind transactions: Transactions that have never been done before are more labor-intensive than typical standardized transactions. Green Banks can put in the technical legwork to develop frameworks for new types of transactions. As the new transaction types become more common, processes become more standardized and friction is reduced.

Proven track record

Green Banks are a cutting-edge idea, but they have a proven track record. There are now 14 existing Green Banks in the US that have driven \$3.67 billion of investment to date.¹⁰ National Green Banks in other countries like the UK and Australia have also already financed billions of dollars of clean energy.¹¹ These investments have reduced greenhouse gas emissions while also reducing consumer costs and

¹⁰ <https://greenbankconsortium.org/annual-industry-report>

¹¹ <https://unfccc.int/news/green-bank-network-mobilizes-us41-billion-for-clean-energy-projects-around-the-globe>

generating returns for private co-investors. Specific examples can help showcase Green Banks' achievements.

- Catalyzing new markets: Supporting new technology markets helps demonstrate their potential and overcome initial barriers. For example, fuel cell technology has the potential to facilitate clean energy storage and zero emission propulsion. However, private capital providers are often hesitant to lend to the industry because at commercial scale its use is relatively new. In August 2017, the New York Green Bank committed \$45 million to a fuel cell technology company that provides hydrogen-based propulsion systems for industrial and commercial vehicles. This investment lessened the burden of cash collateral accounts and brought the technology into wider use, smoothing the path for future deployment and expansion.¹²
- Mobilizing private capital: Another strategy for accelerating investments in clean energy is through business models that address private capital markets constraints and risk perceptions. Since 2010, Michigan Saves has mobilized \$200 million in private investments from just \$7 million in public capital. Michigan Saves uses a credit enhancement in the form of a loan loss reserve to attract private capital. The program's method of driving private investment ultimately means that many more consumers can be served, lowering both their carbon footprint and energy bills.¹³
- Assisting low-and-moderate-income communities: Green Banks can help low and moderate income consumers overcome the upfront capital costs of relatively expensive upgrades. For example, the Connecticut Green Bank launched a "Solar for All" program targeting low-to-moderate income (LMI) households.¹⁴ The program offers combined residential solar PV and energy efficiency measures, and has reached thousands of homes, expanded solar and energy efficiency measures, and reduced the energy burden on LMI families. Connecticut is now a "solar parity" state where LMI households are demanding solar PV the same as non-LMI households.

¹² "Enabling Growth & Expanding Financing Opportunities for Hydrogen Fuel Cell Projects." New York Green Bank. Aug. 2017. https://greenbank.ny.gov/-/media/greenbanknew/files/NYGB-Transaction-Profile_Plug-Power.pdf

¹³ "2018 Annual Report." Michigan Saves. <https://annualreport.michigansaves.org/by-the-numbers/>

¹⁴ "Connecticut Green Bank Receives 2018 State Leadership in Clean Energy Award for Connecticut 'Solar for All' Program." <https://ctgreenbank.com/2018-slice-award-solar-for-all/>.