It's Not Easy Being Green: Assessing Racial Equity and Social Justice in Montgomery County Green Bank Programs

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Executive Summary

In 2015, Montgomery County created the first county-level green bank in the U.S. to encourage greater investment in clean energy projects.[1] A few years later, in February 2022, the County Council passed Bill 44-21, which appropriates 10% of the fuel-energy tax revenue collected by the County to the Montgomery County Green Bank (MCGB) each year, allowing the bank to scale up its operations.[2] As a condition for receiving this funding, the bill requires that MCGB use a minimum of 20% of the funds in County Equity Emphasis Areas and a minimum of 15% of the funds to reduce the cost of energy projects undertaken by property owners.[3]

However, Bill 44-21 does not specify precisely how the Council will determine if MCGB is successfully achieving the new funding requirements or their more general goal of providing accessible, affordable clean energy and climate-resilient solutions for all County residents. As a result, MCGB must now work with the County's Department of Finance to create reporting requirements to ensure they are meeting Bill 44-21's requirements, as well as reporting additional metrics to assess the environmental and racial equity and social justice (RESJ) impacts of their programs as they scale up.

This report relies on research of best practices from other existing green banks, like those of Connecticut and New York, to provide recommended additional metrics for the Montgomery County Green Bank to report beyond those required by Bill 44-21. The full list of recommended metrics can be found in Appendix C of this report.

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About the Fellow

Nathalie Kirsch is currently a Master of Public Policy student at Georgetown University's McCourt School, where she is focusing on environmental policy and education policy. Prior to graduate school, Nathalie worked as an analyst at Analysis Group's Denver office where she supported case teams on a variety of economic litigation cases. In college, she worked at Let's Get Ready, a non-profit organization that provides free college application assistance and ongoing support to students from traditionally underrepresented backgrounds. Nathalie holds a bachelor's degree from Colby College with a double major in economics and history.

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Disclaimer

The analysis, opinions, and recommendations contained in this report reflect only the views of the Summer Fellow and do not necessarily represent the views of the Montgomery County Council, the Montgomery County Green Bank, or any other parties referenced in this report.

Definitions

Bill 18-15 – Enacted on June 30, 2015, this Montgomery County Council bill created the Montgomery County Green Bank.[4]

Bill 44-21 – Enacted on February 1, 2022, this Montgomery County Council bill established a dedicated funding source for the Montgomery County Green Bank in the form of annual appropriations of 10% of the fuel-energy tax revenue. The bill also provided two restrictions for the use of these funds, namely, that 20% of the funds must support the bank's activities in Equity Emphasis Areas in the County and that 15% of the funds must be used to reduce the cost of energy projects undertaken by property owners.[5]

Climate Gap – The disproportionately higher risk of climate change impacts that black, indigenous, people of color (BIPOC) and low- and moderate-income (LMI) communities face due to a greater likelihood of experiencing the consequences of climate change combined with fewer resources to adapt to those consequences.[6]

Community Development Financial Institution – A lending institution aiming to provide fair, responsible financing to communities that are traditionally underserved by mainstream finance. Unlike traditional banks, these institutions focus on lending to individuals, organizations, and businesses in underserved communities by offering financial education, business coaching, and low-interest rate loans to increase economic potential and help build wealth in these communities. Common types include community development banks, credit unions, loan funds, and venture capital funds.[7]

Credit Enhancement – Any financial method that offsets at least some risk for a financier.[8]

Environmental Equity – The equal distribution of benefits and burdens relating to the environment.[9]

Equity Emphasis Areas – Areas defined by the Metropolitan Washington Council of Governments and the National Capital Region Transportation Planning Board that represent 350 of the DC region's 1,222 census tracts identified as having high concentrations of low-income individuals and communities of color.[10]

Green Bank – A mission-driven public, quasi-public, or nonprofit entity that addresses barriers faced by consumers and lenders in financing clean and renewable energy projects by leveraging its limited funding to partner with private institutions to stimulate such investments.[11]

Interest Rate Buydown – An arrangement in which a third party provides payments to a lender to provide a borrower with a lower interest rate.[12]

Leverage Ratio – Connecticut Green Bank defines leverage ratio as "private sector US$ contributed to the gross investment (system costs) of projects for every US$ of CT Green Bank funds committed or deployed as of the time of calculation."[13] New York Green bank, on the other hand, uses a "mobilization ratio," which they define as the "amount of total project costs mobilized for each US$ committed to investments by NYGB since inception."[14]

Loan Guarantee – A type of credit enhancement where one entity agrees to repay the original lender if a borrower defaults on their loan.[15]

Loan loss reserve – A type of credit enhancement where funds are set aside to cover some or all of the losses on defaulted loans.[16]

Racial Equity – Achieved when race can no longer be used to predict life outcomes, like education, employment, and involvement with the criminal justice system.[17]

Racial Inequity – Present when race can be used to predict life outcomes, like education, employment, and involvement with the criminal justice system.[18]

Racial Equity and Social Justice – Achieved through a process centering the needs of communities of color and low-income communities with the goal of eliminating racial and social inequities. Achieving racial equity and social justice usually requires seeing, thinking, and working differently to address the racial and social harms that have caused racial and social inequities throughout history.[19]

Social Justice – Fairness as it manifests in society, dependent on the following essential goals: human rights, access, participation, and equity.[20]

Abbreviations

AMI – area median income

BIPOC – black, indigenous, people of color

CAEATFA – California Alternative Energy and Advanced Transportation Financing Authority

CDFI – community development financial institution

CDFI Fund – U.S. Department of the Treasury's Community Development Financial Institutions Fund

CGB – Connecticut Green Bank

CRA – Community Reinvestment Act

EJ – environmental justice

GBN – Green Bank Network

LMI – low- and moderate-income

MCGB – Montgomery County Green Bank

NYGB – New York Green Bank

RESJ – racial equity and social justice

Background

Overview of Green Banks

In 2011, Connecticut became the first state to launch a green bank, with New York and Michigan following soon after.[21] Green banks are mission-driven institutions that leverage their limited funding to create credit enhancements, like loan reserves, to encourage private institutions to invest in clean and renewable energy projects.[22] Such banks are growing in popularity as state and local governments throughout the U.S. make aggressive plans to combat climate change, requiring greater investments in clean and renewable energy projects than traditional private institutions are currently willing and able to fund. Michelle Vigen Ralston, who was formerly a Senior Energy Planner with the Montgomery County Department of Environmental Protection, described the motivation for green banks in an interview with Aquicore, an environmental, social, and governance data platform for real estate, stating:

> Right now, you can maybe use a home equity line of credit [to finance a green investment], but then you can't use that for other things. You can take out general consumer loans, but those can be expensive. Generally, there's not an obvious option for a lot of small businesses or homeowners that need financing for an energy efficiency project. The green bank model, by offering some type of incentive like a loan loss reserve or a guarantee, can 'crowd in' funding to those targeted projects.[23]

As Vigen Ralston describes, green banks partner with private investors to provide financing for projects, expecting that the capital they loan will eventually be repaid with interest, so that it can be used again to support new projects.[24] One popular mechanism green banks use to crowd in private funds is a loan loss reserve, which Vigen Ralston mentioned in her description above. With these reserves, green banks guarantee a small portion of loans needed for projects (typically 5 to 10%) to reduce the project's risk to within a lender's acceptable range, thus encouraging them to fund projects they might otherwise be unwilling to fund.[25]

Loan loss reserves, however, are far from the only way green banks incentivize more traditional private lenders to invest in clean energy. Green banks also underwrite loans for varying small and geographically dispersed projects themselves and bundle them for primary lenders, provide technical assistance to primary lenders through establishing standardized frameworks for underwriting and contract language, and co-invest in projects with primary lenders to close the gap in financing between what they are willing to contribute to a project and what the project requires.[26] Green banks also provide tools to address barriers to customer adoption of clean energy projects through on-bill financing, which allows customers to repay their energy upgrade loans using their utility bills, and through coordinating information sharing to serve as a single point of contact for customers.[27]

Number of Green Banks

Since 2011, 21 green banks or green bank-like entities have been established in the U.S. alone, with more currently being planned (see Appendix A).[28] Collectively, American Green Banks' leverage ratio in 2020 was 3.7 to 1, meaning that every dollar green banks invested in clean energy resulted in $3.70 in overall investments in clean energy.[29] Including MCGB, Maryland has two other green bank-like entities: The Climate Access Fund in Baltimore, which reduces the energy burden for low-income households by providing access to discounted solar power, and the state-created Maryland Clean Energy Center, which is not technically a green bank but has a similar aim of advancing clean energy projects, services, and technologies.[30]

Many green banks across the world are members of The Green Bank Network (GBN), which is "a membership organization formed to foster collaboration and knowledge exchange among Green Banks, enabling them to share best practices and lessons learned."[31] In addition to facilitating collaboration and knowledge sharing among current members, GBN also "aims to serve as a source of knowledge and a network for jurisdictions that seek to establish a Green Bank."[32] GBN was formed at the Paris COP21 conference in December 2015 as a collaboration between Australian Clean Energy Finance Corporation, Japan Green Fund, Malaysian Green Technology and Climate Change Centre, Connecticut Green Bank, New York Green Bank, and Green Investment Group, with support from two

non-profits, the Natural Resource Defense Council and the Coalition for Green Capital, and funding from ClimateWorks Foundation.[33]

How MCGB Fits In

On the local level, Montgomery County is paving the way, having created the first county-level green bank in the U.S. with the passing of Bill 18-15 in 2015.[34] MCGB is a publicly chartered 501(c)(3) non-profit corporation and, like other green banks, partners with private investors to leverage funds to boost clean and renewable energy investments.[35] By promoting equitable financing for projects that help to lower greenhouse gas emissions, MCGB has the power to help Montgomery County to reach its sweeping climate goals, like their aim of curbing greenhouse gas emissions 80% by 2027 and 100% by 2035 compared to 2005 levels, while also incorporating racial equity and social justice (RESJ).[36] With Montgomery County's climate initiatives in mind, MCGB created the following mission and vision:

> **Mission**: To help Montgomery County achieve its climate goals by leveraging capital and innovative partnerships to make clean energy and climate-resilient solutions more accessible and affordable for all residents and businesses.
>
> **Vision**: A prospering, sustainable, and healthy Montgomery County where everyone participates in and benefits from clean energy and climate-resilient solutions.[37]

As stated in its mission, MCGB leverages public capital by forming partnerships with the private sector to amplify their investments. As of 2021, MCGB has partnered with seven financial institutions and three philanthropic partners.[38] Through these partnerships, MCGB leverages their capital to attract greater amounts of private financing to support clean energy investments in the County. In their 2018 annual report, MCGB describes this leveraging process, explaining, "Our capital provides a kind of 'insurance' to private lenders, allowing us to lower the risk for these lenders to enter new and/or underserved markets and to offer better loan terms."[39] For instance, as part of their pilot program for commercial loans for energy efficiency and renewables (CLEER), MCGB provided $1

million in loan capital while partners Ascentium Capital and Revere Bank provided an additional $20 million.[40] Across all projects, MCGB's leverage ratio was 7 to 1 as of 2020, meaning that for each dollar of MCGB capital provided for project loans, MCGB was able to attract enough outside capital to support $7 of overall investment.[41] This is a strong leverage ratio, since, as mentioned above, the average leverage ratio for all U.S. green banks in 2020 was only 3.7 to 1.[42]

As of 2021, MCGB projects valuing $9.8 million have contributed to 1,044 metrics tons in annual greenhouse gas reductions and benefitted 742 households, including 550 LMI households.[43] MCGB offers financing options for Montgomery County residents and businesses for a variety of projects, including renewable energy financing for installation of solar panels and for indoor air quality improvements.[44]

MCGB's Funding and Requirements

In 2015, Montgomery County Council's Bill 18-15 created MCGB with the aim of promoting investments in clean energy technologies in the County.[45] Four years later, in 2019, MCGB became fully operational after receiving $20 million in initial funding from a 2016 settlement with Exelon Corporation as compensation for likely increases in energy costs after their acquisition of Pepco Holdings, Inc.[46]

On February 11, 2022, the Council passed Bill 44-21, which mandates that they appropriate 10% of the fuel-energy tax revenue to MCGB on an annual basis and provides several restrictions on the use of those funds.[47] For FY22, 10% of the fuel-energy tax revenue is budgeted at $17.6 million.[48] In Bill 44-21, the Council also included the following restrictions with the aim of phasing out fossil fuels and ensuring green bank projects reach the County's most climate-vulnerable populations:

> After July 1, 2023, the Green Bank must not use the annual direct appropriations from the County to fund new mechanical energy equipment that uses fossil fuels or the equipment that upgrades the efficiency of existing mechanical energy equipment that uses fossil fuels. The Green Bank must use the annual direct appropriations from the County as follows:

1. 20% of the funds must be used to support the Bank's activities in Equity Emphasis Areas in the County as defined by the Metropolitan Washington Council of Governments; and
2. 15% of the funds must be used to reduce the cost of energy projects undertaken by property owners by a loan subsidy, interest rate buydown, technical assistance, pre-development, blended capital, or other similar tools.[49]

To verify that MCGB is meeting the requirements for their County-provided funds, Bill 44-21 requires MCGB's Board of Directors to include details on the use and remaining balance of their appropriated funds in their annual reports to the Executive and Council.[50]

Why RESJ Matters for MCGB

In Montgomery County, wide racial disparities exist despite current efforts to alleviate them. As of 2017, the median household income for White households was $119,000, compared to $109,000 for Asian households, $73,000 for Black households, $72,000 for Latino households, and $76,000 for other households.[51] Historically, inequities in housing, income, employment, and health have created a climate gap, or a disproportionately higher risk of climate change impacts among BIPOC and LMI households.[52] In addition to higher climate risk, BIPOC and LMI households in the County are also more likely to be rent-burdened and energy-burdened, defined as spending more than thirty percent of income on rent and more than six percent of income on energy bills.[53] Furthermore, communities with high concentrations of BIPOC and LMI households also tend to be located in parts of the County with greater levels of traffic and air pollution, resulting in an increased risk of negative health outcomes.[54] For the County to achieve both its climate and RESJ goals, it is imperative that environmental efforts like MCGB incorporate environmental justice concerns.

MCGB's mission and vison currently address RESJ, emphasizing a desire to make clean energy and climate-resilient solutions "more accessible and affordable for all residents and businesses." [55] Additionally, Tom Deyo, MCGB's Chief Executive Officer, said that MCGB is planning to use some of

the additional funding from the County's new annual appropriations to hire additional staff members focusing on communications and collaboration with affordable and multifamily properties.[56]

Despite these efforts, MCGB's focus on financing loans for home and business owners means a disproportionate amount of the benefits from their services may accrue to White and/or high-income individuals, who are more likely to own homes and businesses than BIPOC and/or LMI individuals. Specifically, in 2017, White and Asian homeownership rates in the County were 73.2% and 74.3%, compared with 42.5% and 49.1% for Black and Latino households.[57] While renters and other County residents can certainly benefit from MCGB projects that reduce pollution, improve air quality, and reduce energy costs, it is unclear if they will see the same level of benefits as home and business owners. Therefore, it is crucial that MCGB systematically examine and encourage benefits that accrue directly to BIPOC and LMI households in the County.

Problem Definition

Both MCGB's initial funding from the Pepco-Exelon merger and new funding from the fuel-energy tax were accompanied by requirements to ensure progress towards their vision of "[a] prospering, sustainable, and healthy Montgomery County where everyone participates in and benefits from clean energy and climate-resilient solutions."[58] Presently, MCGB's reporting will need to include additional metrics to ensure compliance with Bill 44-21's requirements, as well as provide a clearer picture of their contributions to County environmental and RESJ goals as they scale up their programs. While MCGB currently informally incorporates RESJ through their programs, as well as formally through meeting the Council's initial spending requirements, it is important that their future reporting expands to allow them to clearly understand if their programs are equitably benefitting the health and well-being of BIPOC and LMI communities throughout the County.

Methods

The purpose of this report is to suggest metrics that MCGB should consider providing to the Council, the Department of Finance, and the public to ensure they are meeting both requirements from Bill 44-21 and supporting the County's environmental goals in a way that incorporates RESJ. To achieve this aim, this report relies on research of public filings like annual reports and focuses on Connecticut Green Bank as a case study, with additional examples from New York Green Bank and similar financial institutions.

Research

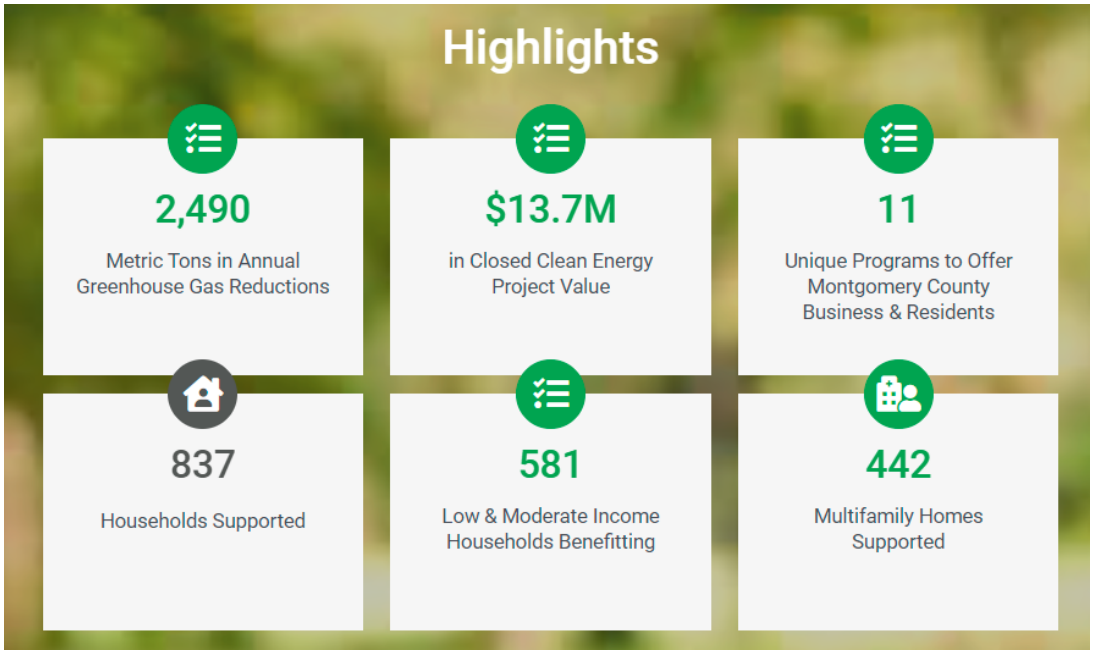
Metrics and Programs at MCGB

Currently, MCGB tracks the following metrics, which are published on their website and in annual reports:

- Metric tons in annual greenhouse gas emissions avoided
- Total value of closed clean energy projects
- Number of unique program offerings
- Number of households supported by their programs
- Number of LMI households benefitting from their programs
- Number of multifamily homes supported by their programs
- Number of financial partners, philanthropic partners, and contractors
- Leverage ratio for funds[59]

An example of their current reporting can be seen in Figure 1 below. [60]

Figure 1. *Montgomery County Green Bank impact highlights.*



MCGB's annual reports also provide an overview of specific projects, including ones geared towards LMI households. For example, in their 2021 annual report, MCGB mentions The Community Solar at Paddington Square Project, which is the County's first community solar project serving LMI households. According to the annual report, this solar project "is providing approximately 90 households with access to locally generated clean energy, with 30% for LMI households."[61]

While MCGB's current reported metrics provide a useful overview of their work on a broad scale, these metrics are limited in scope and do not provide a clear picture of the depth of impact of their programs. For example, it would be useful to know how much energy cost savings and greenhouse gas emissions reductions accrue to LMI households, not just the number of them served. This is something MCGB tracks, but it is not currently included in their public reporting.[62] Similarly, it would be useful to have a listing or map of where all funded projects are located, as an indication for where the greatest improvements to environmental quality may be felt. The following sections of this report provide examples from other green banks of metrics that MCGB could begin reporting to offer the public a better understanding of their projects' environmental impacts and incorporation of RESJ.

Metrics and Programs at Other Green Banks

It is essential that green banks report general metrics to provide an overview of their investments' environmental and equity impacts. While the bulk of this report focuses specifically on measures related to RESJ impacts of green bank projects, Appendix B provides a table of selected metrics green banks use to report their general impacts, including capital committed to clean energy projects, energy savings, and greenhouse gas emissions reductions. This table is adapted from a February 2018 issue brief from the Green Bank Network titled, "How Green Banks Assess and Report Impacts."[63]

Beyond providing an overview of investments and their impacts, it is useful for green banks to connect the metrics they provide to stakeholders, governments, and the public at large to their own goals and the goals of the entities they represent (i.e., state or local governments). Accordingly, the remainder of this section is organized into case studies of green banks that are effectively reporting

metrics that reveal progress toward their own goals, which are in turn connected to the goals of the governments that created them.

Connecticut Green Bank

The Connecticut Green Bank (CBG) became the first green bank in the U.S. in 2011 when the Connecticut General Assembly established it to support Connecticut's goals for cleaner, cheaper, and more reliable energy sources while creating jobs and supporting local economic development.[64] As of the 2021 fiscal year, CGB and its private partners have deployed over $2.1 billion in capital for clean energy projects, raising an additional $7.40 in private capital for every $1 of public funds they committed to projects.[65] The follow sections provide illustrative examples of effective reporting that CGB uses to assess their programs.

Mission-Based Reporting

A Green Bank Network issue brief from February 2018 celebrated CGB for providing specific mission-based reporting in their annual financial reports.[66] In 2018, CGB's mission and vision were as follows:

> **Mission**: To achieve cleaner, cheaper, and more reliable sources of energy while creating jobs and supporting local economic development.
>
> **Vision**: To lead the green bank movement by accelerating private investment in clean energy deployment for Connecticut to achieve economic prosperity, create jobs, promote energy security, and address climate.[67]

To achieve this mission and vision, CGB clearly laid out four aims in their 2018 annual report:

1. To attract and deploy private capital investment to finance the clean energy policy goals for Connecticut.
2. To leverage limited public funds to attract multiples of private capital investment while returning and reinvesting public funds in clean energy deployed over time.
3. To develop and implement strategies that bring down the cost of clean energy in order to make it more accessible and to consumers.

4. To support affordable and healthy buildings in low-to-moderate income and distressed communities by reducing the energy burden and addressing health and safety issues in their homes, businesses, and institutions.[68]

In their annual reporting, CGB includes metrics that align with their mission, such as:

- Residential clean energy deployment by income level
- Credit quality of residential borrowers by product
- Amount of lending to small and minority-owned businesses
- Direct job-years created
- Indirect and induced job-years supported[69]

With these metrics, CGB directly connects their reporting to their mission. For example, by providing information on direct job-years created, CGB provided a means to assess their progress towards their mission-stated goal of creating jobs and supporting local economic development.

Goals-Based Reporting

As of fiscal year 2021, CGB added investment in vulnerable communities, or communities disproportionately harmed by climate change, as a target for its Incentive Programs like the Residential Solar Investment Program. The programs are incentive (or grant) programs that the Governor and the Connecticut General Assembly require CGB to administer to help advance their policy objectives. With this addition, CGB now faces the goal of spending 40% or more of investment and benefits from their Incentive Programs on vulnerable communities by 2025.[70] To ensure progress towards this goal, CGB annual reports track investment and benefits in vulnerable communities, like the number of project units.[71] For example, in their 2021 annual report, CGB reported the following metrics examining progress towards their goal of 40% investment in vulnerable communities:

- 46% investment in LMI Communities, defined as census tracts where households are at or below 100% of area median income (AMI)
- 32% investment in Community Reinvestment Act (CRA)-Eligible Communities, defined as households at or below 80% of AMI

- 37% investment in EJ (Environmental Justice) Communities, defined as municipalities designated as distressed by the Connecticut Department of Economic and Community Development or census block groups for which 30% or more of the population have an income below 200% of the federal poverty level
- 51% investment in combined communities (i.e., LMI, CRA, and/or EJ communities)[72]

In 2021, CGB also published an issue brief specifically looking at their investments in vulnerable communities, including the following information which they reported in various tables (e.g., see Figure 2 below):

- Green bank commercial and residential activity in vulnerable and not vulnerable communities by fiscal year closed
- Green bank commercial and residential activity in metropolitan statistical area AMI bands above or below 100% by fiscal year closed
- Green bank commercial and residential activity in metropolitan statistical area AMI bands above or below 80% by fiscal year closed
- Green bank commercial and residential activity in distressed and not distressed communities by fiscal year closed
- Green bank commercial and residential activity in environmental justice communities by fiscal year closed[73]

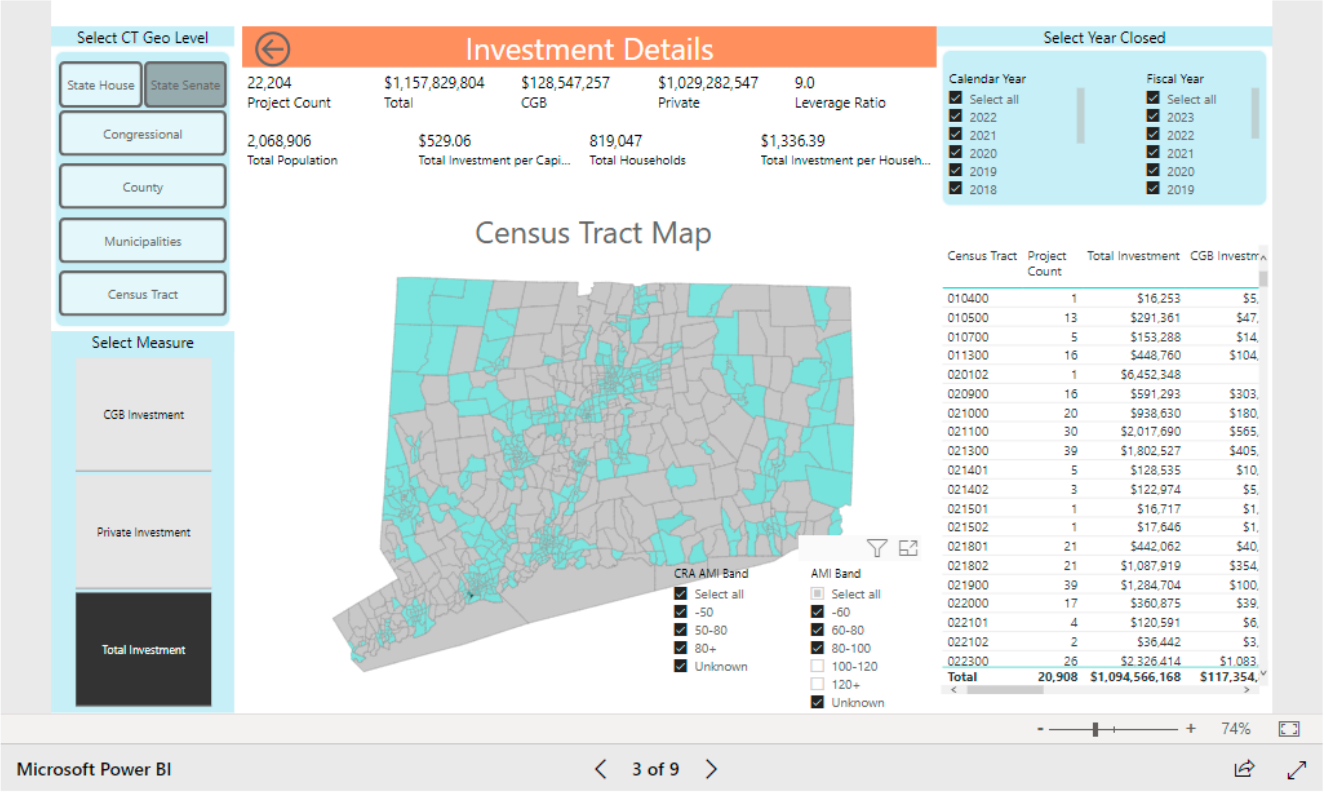
Figure 2. *Connecticut Green Bank commercial and residential activity in "vulnerable" and "not vulnerable" communities by fiscal year closed.*

	# Project Units				MW				Total Investment			
Fiscal Year	Total	Not Vulnerable	Vulnerable	% Vulnerable	Total	Not Vulnerable	Vulnerable	% Vulnerable	Total	Not Vulnerable	Vulnerable	% Vulnerable
2012	288	215	73	25%	1.9	1.5	0.5	23%	$9,901,511	$7,675,503	$2,226,008	22%
2013	1,114	844	270	24%	23.5	6.2	17.3	74%	$111,093,950	$27,482,896	$83,611,054	75%
2014	2,566	1,612	954	37%	23.4	12.5	10.9	46%	$104,381,638	$60,609,916	$43,771,721	42%
2015	6,745	4,059	2,686	40%	62.2	39.8	22.4	36%	$314,705,958	$177,737,418	$136,968,540	44%
2016	8,316	3,860	4,456	54%	65.9	34.5	31.4	48%	$317,268,066	$147,706,494	$169,561,572	53%
2017	6,135	2,131	4,004	65%	49.9	20.2	29.7	59%	$177,326,879	$69,135,109	$108,191,770	61%
2018	8,392	2,913	5,479	65%	56.4	24.8	31.6	56%	$218,276,725	$94,774,677	$123,502,048	57%
2019	13,596	7,608	5,988	44%	64.4	29.5	34.9	54%	$317,257,425	$156,396,465	$160,860,960	51%
2020	9,264	4,225	5,039	54%	75.3	41.3	34.0	45%	$287,441,536	$153,085,833	$134,355,704	47%
2021	7,519	4,011	3,508	47%	71.8	44.9	26.9	37%	$280,468,043	$153,362,899	$127,105,144	45%

Data Visualization

To better understand green energy projects and their impacts, including avoided emissions and public health benefits, CGB created an interactive digital tool called Mapping Analysis of Your Area (MAYA). This tool allows users to sort data across municipalities, counties, and census tracts and allows for filtering by AMI.[74] MAYA provides a vital service to the public, making it relatively simple to access and visualize data on their projects' impacts throughout the state, like total investments by census tract and AMI band as seen in Figure 3 below.

***Figure 3**. Investment details by census tract and AMI band using Connecticut Green Bank's MAYA tool.*



Partnerships

In addition to collecting its own data, CGB also relies on partnerships with other public and private entities. For instance, CGB has a long-standing partnership with the Connecticut Housing Finance Authority, Connecticut's affordable housing lender. The two entities worked collaboratively with the private company WegoWise to launch BenchmarkCT, a platform to collect and analyze energy

consumption data for multifamily affordable housing properties. With this data in hand, it is easier for CGB to identify buildings where energy improvements would be the most beneficial for residents.[75]

Programs

By tracking metrics on programs' environmental and RESJ considerations, CGB has the necessary data to identify programs that are not meeting their target goals and need adjustment. For example, when CGB found that its main solar installation loan program was underperforming goals to reach LMI households, CGB tweaked it to provide greater cash incentives to LMI households and created a new third-party leasing program to make solar installations more financially accessible.[76]

New York Green Bank

Like CGB, NYGB effectively connects their reported metrics to their personal goals, which in turn reflect alignment with state goals. The examples below illustrate how NYGB aligns its goals and reporting with New York state's.

Energy Storage

As part of its path to reach net-zero electricity emissions by 2040, the state of New York set goals to deploy 3,000 MW of energy storage by 2030. To support this goal, NYGB set its own personal commitment of investing $200 million in storage-related projects and revealed in its first quarterly report from 2022 that it is 24% of the way toward reaching this goal.[77]

Investment in Disadvantaged Communities

As with energy storage, NYGB aligns its goals to invest in disadvantaged communities with New York state goals. For example, in their Impact Report for the year ended March 31, 2021, NYGB wrote, "In line with New York State's 2019 Climate Leadership and Community Protection Act, NY Green Bank will commit at least 35% of its capital to projects that create benefits for disadvantaged communities, such as building retrofitting and electrification, on a cumulative basis from January 1, 2020 through the end of 2025."[78] As of March 31, 2021, NYGB had made 21% of their investments in disadvantaged

communities, defined as census block groups under 50% AMI or located in state-designated environmental justice areas or opportunity zones.[79]

California Alternative Energy and Advanced Transportation Financing Authority

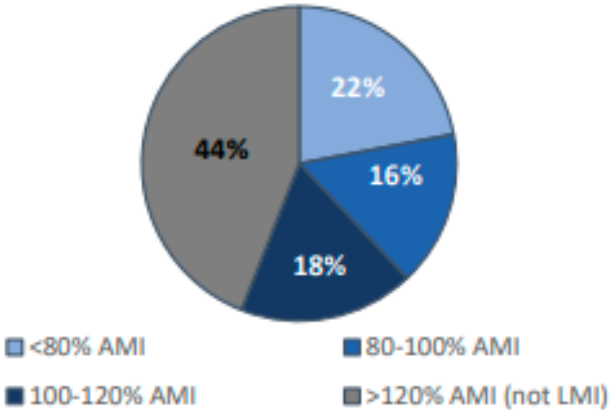
California Alternative Energy and Advanced Transportation Financing Authority (CAEATFA) incorporates RESJ concerns into their programs by consciously addressing the needs of underserved borrows, defined as borrowers with properties in LMI census tracts, whose households are LMI (defined as having income levels of 120% or less of AMI), or who have a credit score below 640.[80] Under their GoGreen Home Energy Financing program, CAEATFA provides financing options to owners and renters for a variety of energy efficiency measures intended to reduce energy consumption.[81] To encourage investment from private lenders, CAEATFA mitigates lenders' risk by providing a loan loss reserve to cover claims of up to 90% of remaining loan value in the case of default, which is set at a higher amount for underserved borrowers. Specifically, the loan loss reserve is set at 11% of the claim eligible amount for general borrowers and 20% for underserved borrowers.[82] In exchange for this risk mitigation, CAEATFA says its lenders offer lower interest rates, longer terms, and broader underwriting criteria to borrowers than they otherwise would. In their 2021 annual report, CAEATFA reported the following to examine if their GoGreen Home program is reaching underserved borrowers:

Slightly more than half (54%) of loans enrolled and 50% of dollars financed in 2021 were made to upgrade properties in LMI census tracts. Of those loans:

- 20% of property upgrades were made in census tracts with an average income of <80% of AMI
- 16% of upgrades were made in census tracts with an average income 80-100% of AMI; and
- 18% of upgrades were made in census tracts with an average income 100-120% of AMI[83]

CAEATFA also provided a snapshot of loans they made to upgrade properties by census tract income across all years of the program (see Figure 4).[84]

***Figure 4**. California Alternative Energy and Advanced Transportation Financing Authority loans made to upgrade properties by census tract income over all-time for the GoGreen Home Energy Financing program.*



Community Development Financial Institutions

Community development financial institutions (CDFIs) are lenders who aim to provide fair, responsible financing to communities that are traditionally underserved by mainstream finance, and can take the form of community development banks, credit unions, loan funds, or venture capital funds.[85] Certified CDFIs are required to provide Annual Certification and Data Collection Reports, which provide detailed information regarding their impacts on underserved populations.[86] While CDFIs serve a distinct purpose compared to green banks, many of their reporting requirements are nonetheless relevant for green banks looking to better understand RESJ impacts of their programs.

In a recent presentation, the U.S. Department of the Treasury's Community Development Financial Institutions Fund (CDFI Fund), which certifies CDFIs throughout the county, provided statistics on certified CDFIs' impact on various marginalized groups.[87] For example, the presentation reported:

- The percent of CDFIs' lending portfolio in distressed areas and to underserved populations (71%), compared to CDFI certification threshold requirement of 60%
- The percent of CDFIs' lending in persistent poverty counties (17.5%), defined as counties with 20% or more of its population living in poverty over the past 30 years, compared to the overall population of those areas (8%)

- The percent of CDFIs' lending in high poverty areas (32.5%), defined as census tracts with poverty rates of at least 20%, compared to the overall population of those areas (29%)
- CDFI loans' average interest rates (4-9%) and origination fees (0.4-2.4%)[88]

The U.S. Department of Treasury's CDFI Fund also provides data documentation requirements which make it easier to study racial and economic equity in CDFIs' lending practices. For each loan, certified CDFIs are required to report the following information in addition to basic loan details like origin date, original loan/investment amount, and interest type:

- Interest rate
- Whether a business is minority owned or controlled
- Whether a business is woman owned or controlled
- Whether a business is low-income owned or controlled
- Race of borrower
- First-time home buyer status of borrower
- Whether a borrower was banked at the time of intake
- Income status of borrower (e.g., high or low income) [89]

Recommendations

As of 2022, MCGB must begin reporting the following metrics to ensure compliance with the requirements set forth in Bill 44-21:

- The percent of funds used to support their activities in Equity Emphasis Areas
- The percent of funds used to reduce the cost of energy projects undertaken by property owners[90]

MCGB should consider reporting metrics beyond those required by Bill 44-21 to better assess the environmental and RESJ impacts of their programs as they scale up their operations. Such additional reporting is essential given that BIPOC and LMI households live throughout the county—not just in Equity Emphasis Areas—and that such households tend to be secondary, rather than primary, beneficiaries of MCGB projects. While determining the best metrics for MCGB to report requires more in-depth analysis and goal alignment than is provided in this report, Appendix C provides a starting point. Specifically, Appendix C provides a list of recommended metrics based on public filings from American green banks and CDFIs that effectively incorporate RESJ in their reporting. Beyond reporting additional metrics, MCGB should also consider creating an interactive data visualization tool like CGB's MAYA and release spreadsheets of loan data like CDFIs to make their data more accessible to the public.

By reporting additional metrics beyond those they currently report and those required by Bill 44-21, MCGB will be able to better understand the RESJ impacts of their programs and tweak them as needed to better serve BIPOC and LMI households in the County. Further, strong public reporting on RESJ metrics would enable MCGB to serve as leader, both locally and nationally, in effectively integrating RESJ in green bank activities.

Limitations and Opportunities for Future Research

This paper's research findings are limited due to time constraints. For instance, provided examples of best practices for reporting RESJ metrics are limited to what other green banks and CDFIs in the U.S. have been doing, but there may be many more great practices from international banks and CDFIs or other industries that are not captured here. Further, while this report provides examples of metrics MCGB could begin reporting in the future, it does not provide specific details on how to incorporate them or calculate them. Future research on MCGB reporting should also include:

- A broader set of recommended metrics beyond RESJ-related metrics to enable a fuller understanding of the environmental and health impacts of MCGB programs
- More detailed best practices for goal setting, and example goals for MCGB in particular
- Analysis of the past effectiveness of MCGB programs, including measures of their greenhouse gas reductions and impacts on community health outcomes and energy cost savings
- Analysis of how the federal Inflation Reduction Act of 2022's incentives for renewable power sources and home energy efficiency upgrades could impact green bank activities broadly, and MCGB specifically

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Appendix A
Current Green Banks in the U.S. Beyond the Montgomery County Green Bank

	Green Bank	Mission	Vision
[1]	California Alternative Energy and Advanced Transportation Financing Authority	To provide innovative and effective financing solutions for California's industries, assisting in reducing the state's greenhouse gas emissions by increasing the development and deployment of renewable energy sources, energy efficiency, and advanced transportation and manufacturing technologies to reduce air pollution, conserve energy, and promote economic development and jobs.	NA
[2]	California Pollution Control Financing Authority	As public servants, we are committed to promoting access to capital through the delivery of diverse financing options to California business and environmental industries by being the driving force of public and private partnerships, leader in offering customized risk mitigation tools, and forefront of projects that protect and restore the environment.	The California Pollution Control Financing Authority is attracting capital to make California economically prosperous and environmentally clean.
[3]	Colorado Clean Energy Fund	To fill existing financing gaps in clean energy and pollution-reduction projects to lower the barriers of entry, help accelerate the equitable adoption of clean energy across the state, and to achieve Colorado's climate goals.	NA
[4]	Connecticut Green Bank	To confront climate change and provide all of society a healthier and more prosperous future by increasing and accelerating the flow of private capital into markets that energize the green economy.	A world empowered by the renewable energy of community.
[5]	DC Green Bank	To provide access to capital, growing the clean economy to develop a more equitable, resilient, and sustainable DC.	A thriving clean economy for all DC
[6]	Energize Delaware	Inspiring sustainable energy solutions for a thriving environment and economy.	Powering tomorrow with clean, efficient and affordable energy.
[7]	Finance New Orleans	To improve the quality of life in New Orleans by directly investing in the creation of affordable housing and economic development projects that produce quality jobs and wealth for residents.	NA
[8]	Florida Solar and Energy Loan Fund	To rebuild and empower underserved communities by providing access to affordable and innovative financing for sustainable property improvements, with the primary focus on energy efficiency, renewable energy, and climate resilience in low- and moderate-income (LMI) neighborhoods.	NA
[9]	Growth Opportunity Partners (Ohio)	At Growth Opportunity Partners (“Growth Opps”), we offer community development capital, services and solutions to growing small businesses, primarily located in underserved, low and moderate income (LMI) communities in Ohio.	NA
[10]	Hawaii Green Energy Market Securitization	To create a sustainable financing structure through market driven public-private partnerships that will open access to financing for more Hawaii customers and democratize access to clean energy.	NA
[11]	Inclusive Prosperity Capital	We provide a gateway to inclusive prosperity by engaging with communities impacted most by climate change. We invest in clean energy and resilience in partnership with local initiatives and organizations to provide energy security, climate justice, and economic growth.	We believe everyone should have access to the benefits of clean energy and resilience. Together, we can create change in underinvested neighborhoods and underserved markets to achieve inclusive prosperity.
[12]	Maryland Clean Energy Center	To advance clean energy and energy efficiency products, services, and technologies as part of a specific economic development strategy.	NA
[13]	Michigan Saves	To stimulate and support investment in energy-efficiency and renewable energy systems and measures in Michigan homes, businesses, and public buildings.	NA
[14]	Nevada Clean Energy Fund	To provide innovative financing and market solutions to accelerate the growth of affordable and accessible clean energy in Nevada.	NA
[15]	New York City Energy Efficiency Corporation	To deliver financing solutions and advance markets for energy efficiency and clean energy in buildings.	NA
[16]	New York Green Bank	To accelerate clean energy deployment in New York State by working in collaboration with the private sector to transform financing markets.	NA
[17]	North Carolina Clean Energy Fund	To accelerate investment in clean and efficient energy solutions and increase climate resilience in North Carolina, particularly to the benefit of underserved populations.	NA
[18]	Philadelphia Green Capital Corp.	To provide low-cost financing options for energy efficiency and renewable energy projects in the Philadelphia region.	To spur the growth of a thriving, clean energy market that serves all Philadelphians.
[19]	Rhode Island Infrastructure Bank	To actively support and finance investments in the State’s infrastructure.	NA
[20]	The Climate Access Fund (Baltimore)	To reduce the energy burden of low-income households through access to discounted clean energy.	All Marylanders, regardless of level of wealth or income, will have equitable access to the social, economic, and environmental benefits of clean energy through discounted solar electricity, shared ownership of solar projects, and job participation.

Notes:
[1] Green Banks described in this figure are members of the American Green Bank Consortium, as identified in the following source:
“Green Banks in the United States: 2021 U.S. Green Bank Annual Industry Report with Data from Calendar Year 2020.” American Green Bank Consortium.
[2] Visions are described as "NA" if they cannot be found publicly on a green bank's website.

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Appendix B
Select Metrics Green Bank Network Members Use to Report Direct Impacts

Metric	Who Reports It?
Investments and Pipeline	
Cumulative green bank capital committed to clean energy projects since inception	All members
Cumulative green bank capital deployed to clean energy projects since inception	CEFC and NYGB
Total non-green bank investment in green bank supported projects	All members
Total value of projects supported	All members
Leverage or mobilization ratio	All members
Value of pipeline (investments in approval process)	CEFC, GTM, NYGB, and GIG
Number of transactions closed/projects completed	All members
Percent of total investment by financial product (loans/leases, credit enhancements, subsidies)	CGB
Self-sufficiency	CEFC, NYGB, and GIG
Building Industry Capacity	
Dissemination of information to industry stakeholders	CEFC and NYGB
Total number of investment counterparties	GTM and NYGB
Energy	
Clean energy capacity installed	CGB, GFO, NYGB, and GIG
Clean energy production	CGB, NYGB, and GIG
Energy savings	CGB, NYGB, and GIG
Environment	
CO_2eq emissions reduction	All members
NO_x emissions reduction	CGB
Impacts on the natural environment	GIG
Impacts on biodiversity	GIG
Waste diverted from landfills	GIG
Materials recycled	GIG

Notes:
[1] This table was adapted from Table 1 in "How Green Banks Assess and Report Impacts."
[2] Green banks listed are members of the Green Bank Network as of 2018 and include: Australia's Clean Energy Finance Corporation (CEFC), Connecticut Green Bank (CGB), Japan's Green Finance Organisation (GFO), GreenTech Malaysia (GTM), New York Green Bank (NYGB), and Green Investment Group (GIG).

Source:
"How Green Banks Assess and Report Impacts." Green Bank Network.

Appendix C
Recommended Additional Metrics and Which Green Banks Report Them

Recommended Metric	Who Reports It?[1]
Total funds	
Used to reduce the cost of energy projects undertaken by property owners	Similar to Bill 44-21 Requirements
By loan recipient race and income level	CGB
By loan beneficiary race and income level	CGB
By location in Equity Emphasis Area[2]	Similar to Bill 44-21 Requirements CGB, NYGB, CAEATFA
Total number of projects	
Used to reduce the cost of energy projects undertaken by property owners	Similar to Bill 44-21 Requirements
By loan recipient race and income level	CGB
By loan beneficiary race and income level	CGB
By location in Equity Emphasis Area[2]	Similar to Bill 44-21 Requirements CGB, NYGB, CAEATFA
Percent of total funds	
Used to reduce the cost of energy projects undertaken by property owners	Required by Bill 44-21
By loan recipient race and income level	CGB, CAEATFA
By loan beneficiary race and income level	CGB, CAEATFA
By location in Equity Emphasis Area[2]	Required by Bill 44-21 CGB, NYGB, CAEATFA, CDFIs
Percent of total projects[3]	
Used to reduce the cost of energy projects undertaken by property owners	Similar to Bill 44-21 Requirements
By loan recipient race and income level	CGB, CAEATFA
By loan beneficiary race and income level	CGB, CAEATFA
By location in Equity Emphasis Area[2]	Similar to Bill 44-21 Requirements CGB, NYGB, CAEATFA
Average interest rate of loans[4]	
By type of loan	CDFIs
By loan recipient race, income, FICO score, location in Equity Emphasis Area[2]	CDFIs
Total energy savings (MW, $)	
By loan recipient race and income level	CGB
By loan beneficiary race and income level	CGB
By location in Equity Emphasis Area[2]	CGB
Specific program/project funds	
By loan recipient race and income level	CAEATFA, CDFIs
By loan beneficiary race and income level	CAEATFA, CDFIs
By location in Equity Emphasis Area[2]	CAEATFA, CDFIs
Energy savings from specific programs/projects (MW, $)	
By loan recipient race and income level	CGB
By loan beneficiary race and income level	CGB
By location in Equity Emphasis Area[2]	CGB

Notes:

[1] Green banks examined in this report include: Connecticut Green Bank (CGB), New York Green Bank (NYGB), and California Alternative Energy and Advanced Transportation Financing Authority (CAEATFA). Community development financial institutions (CDFIs) are also examined.

[2] Green banks examined in this report use similar area designations to Equity Emphasis Areas despite different terminology (e.g., CGB refers to "distressed communities").

[3] It would also be useful to compare the percent of funds/projects MCGB is spending on each category (e.g., racial groups, location within an Equity Emphasis Area) to the percent of the total population of Montgomery County belonging to each category.

[4] It would also be useful to compare the average interest rates of MCGB loans to that of other green banks and commercial lenders.

[5] Green banks examined in this report do not clearly distinguish between loan recipients and beneficiaries. I am suggesting that distinction here as a way to differentiate between impacts on loan recipients (i.e., home and business owners) and loan beneficiaries (i.e., people who live in or use properties that may or may not be the owners).

[6] The information contained in this table is for illustrative purposes only based on information examined. Thus, this table may not be comprehensive of all metrics reported by the green banks examined in this report.

Sources:

See report citations.