Green Banks: An Overview for Governors

State green banks are often administered by public, quasi-public, or 501(c)3 nonprofit entities that use public funds to facilitate and incentivize private capital investment in clean energy projects. Since the establishment of the Connecticut Green Bank in 2011, more than ten states have established similar institutions, though the products each green bank offers vary.

As Governors plan to meet their decarbonization, grid resilience and energy affordability policy objectives–and as they implement programs and funding established in the federal *Infrastructure Investment and Jobs Act* and the *Inflation Reduction Act*–innovative financing approaches like state green banks can be leveraged to accelerate investments in energy and infrastructure projects.

Governor-Led Actions to Establish or Support State Green Banks

- Issue an Executive Order or Action: Governors can establish green banks through executive order or can allocate funding to green banks in executive budget recommendations.
- Convene a working group or study on the benefits of establishing a state green bank.
- Leverage gubernatorial influence to champion green banks and convene parties to plan their implementation.
- Expand an existing state entity to house a green financing authority or grant a state agency enhanced financing capabilities through executive action or legislation.
- Support legislation establishing a green bank; Governors can publicly support or endorse legislation that would create and/or fund a state green bank.
- Appoint green bank leadership: in certain states, the Governor has the authority to appoint green bank leadership, which can provide an opportunity for Governors' offices to implement policy goals.

Green Bank Financing Mechanisms

Also referred to as Energy Investment Partnerships (EIPs), Infrastructure or Resilience Banks, and Clean Energy Funds, green banks provide financing and incentivize investment opportunities to large private capital investors and smaller-scale consumer investors through the following types of financial instruments:

Ways that State Green Banks Work with Large-scale Private Capital Investors:

- **Direct, Market-Based Lending:** Market-based lending occurs when a green bank invests directly, typically at the project level, in the deployment of clean energy and sustainable infrastructure. Market-based lending enables the stimulation of private sector participation by demonstrating the ability of clean energy and sustainable infrastructure asset classes to generate attractive risk-adjusted returns, and by creating financial structures that are standardized, commercially replicable and able to be scaled by private sector investors. Over time, this closes the funding gap and reduces the need for public sector intervention. NY Green Bank offers direct lending programs to facilitate project development.[1]
- **Co-lending:** Co-lending, or co-investment, occurs when a green bank invests in a clean energy project alongside a private investor. The capital contributions can vary (50-50, 80-20, etc.) but can fill financing gaps and reduce the risk for a private lender. The Connecticut Green Bank[2], D.C. Green Bank[3], NY Green Bank[4] and the Hawai'i Green Infrastructure Authority[5] offer co-lending programs.
- **Loan Guarantees:** Mitigating risk through loan guarantees reduces risk for private investors because the green bank assumes the obligation of payment in the event of a borrower default. In 2013, the New York State Energy Research and Development Authority, of which NY Green Bank is a division, issued a guarantee on the principal and interest of $24.3 million in Qualified Energy Conservation Bonds. The Rhode Island Infrastructure Bank offers guarantees on eligible projects through the Drinking Water Revolving Fund.
- **Favorable Lending Rates & Credit Enhancement:** Offering favorable lending rates, such as low-cost and long-term financing, and credit enhancement increases the credit worthiness of a deal through guarantees, collateral or insurance. The Colorado Clean Energy Fund's Residential Energy Upgrade (RENU) Loan program is an example of a credit enhancement program.[6]
- **Warehousing & Securitization:** Warehousing and securitization occur in instances where no private lender is willing to underwrite loans because a project is perceived as too risky, too new or not cost-effective. If a green bank elects to underwrite 100% of a loan and warehouse the loans itself, it can pool the loans to diversify risk and eventually attract private capital.[7] NY Green Bank has engaged in this practice.[8]

Ways that State Green Banks Work with Smaller-scale Consumer Investors:

- **Green Bonds:** Green bonds are similar to traditional bonds. In Connecticut, individuals can invest as little as $100 in green notes issued by the Connecticut Green Bank that are used to finance clean energy projects. With an A-bond rating, the bonds carry a relatively low risk for investors.[9]
- **C-PACE:** C-PACE is an acronym for Commercial Property Assessed Clean Energy, a financing option offered by some state and local governments that uses capital to pay for the upfront costs associated with energy efficiency or renewable energy improvements for residential, commercial, industrial, nonprofit and multifamily property owners. Unlike other project financing, the borrowed capital is repaid over time by the property owner via a voluntary tax assessment that allows for long term financing and transferability of repayment obligations if the property changes ownership.[10] The Maryland Clean Energy Center offers MD-PACE, which works through partnerships with local jurisdictions, offers no upfront costs to participants: C-PACE pays for 100% of a project and is repaid by the surcharge over a 20+ year period.[11] Currently 38 states, many of which have not yet established a green bank, have enacted PACE-enabling legislation.[12]
- **On-Bill Repayment:** On-bill repayment plans allow consumers, businesses, and nonprofits to finance clean energy projects with no upfront costs and repayments through their utility meter. The Hawaiʻi Green Infrastructure Authority offers the Green Energy Money $aver (GEM$) On-Bill program that allows customers to pay back the cost of installing solar PV, solar water heaters and other eligible clean energy upgrades through their monthly utility bill.[13]
- **Renewable Energy PPAs:** Renewable Energy PPAs, or purchase power agreements, are long-term contracts to buy renewable energy at agreed upon prices and amounts. A Solar PPA program connects a consumer with a solar developer to fit solar panels on a home or business, then establishes an agreement between the consumer and developer on the price to buy generated solar energy, which would be lower than the cost of energy charged by local utilities. The solar panels would be installed with no upfront costs, and the green bank would offer capital and investment tax credit incentives to the business and developer. The Montgomery County Green Bank in Maryland offers a Commercial Solar PPA program to small businesses and nonprofits.[14]

These offerings can encourage and allow for private capital investment in clean energy projects that would otherwise be avoided by the private sector due to risk, lack of interest by the traditional finance sector, or other barriers to entry. In addition to these program offerings, Green Banks provide valuable technical assistance and resources to consumers as they plan clean energy projects and navigate the financing process.

State Green Bank Examples

Establishment Authority

Unlike conventional banks, green banks are generally established with both public and private dollars or a combination of the two. As a result, most are either public or quasi-public. Existing state green banks have been established in a variety of ways, but often have been borne out of a joint effort between a Governor and legislature. Typically, this occurs through a Governor proposing or championing legislation that would create a green bank or expand an existing state entity into a green bank which is taken up and passed by the legislature.

Examples of Existing State Green Banks and financing product offerings

There is long-standing bipartisan support for green banks across the country.[15] More than ten states and territories[16] have established green banks, including Connecticut, Colorado, Hawai'i, Maryland, New York, Nevada and Rhode Island.

Bank	Establishing Authority	Role of Governor	Funding Mechanism	Financing Program Examples
Connecticut Green Bank	Established as a quasi-public agency in 2011 under Public Act 11-80 codified in CGS 16-245n	Board members and the Chairperson of the Board are appointed by the Governor and legislature	Funded through a consumer electric bill surcharge, the Regional Greenhouse Gas Initiative, federal funding and private capital Raised $25 million through sale of bonds in "Green Liberty Bonds Program"	Programs include: ○ Green Liberty Bonds ○ C-PACE (Commercial Property Assessed Clean Energy Program long-term financing for green upgrades) ○ Solar projects (residential Smart-E loans, solar power purchase agreements, solar roof leases) ○ Environmental infrastructure (e.g., agriculture, land conservation, waste and recycling, climate adaptation, and resilience)

Bank	Establishing Authority	Role of Governor	Funding Mechanism	Financing Program Examples
Colorado Clean Energy Fund (CCEF)	Established as non-profit entity in 2018	Announced by former Governor Hickenlooper after bank was developed by Colorado Energy Office, U.S. Department of Energy, and Coalition for Green Capital. Initial funding signed into law by Governor Polis in 2021	Received $30 million in 2021 for loan projects after the passage of Senate Bill 21-230	Programs include: o Colorado Residential Energy Upgrade (RENU) Loan program o Commercial loans to borrowers in affordable housing, industrial, agricultural, municipal, nonprofit sector to finance clean energy improvements
Hawai'i Green Infrastructure Authority (HGIA)	Established in 2013 by the Hawai'ian legislature (Act 211; 2013 Session)	Governor appoints two of five members of HGIA. The other three statutorily appointed members include the director of the Department of Business, Economic Development & Tourism, the director of finance, and the chief energy officer of the Hawai'i state energy office.	Act 211 provided a framework to establish a state administered clean energy financing authority and authorized the issuance of the $150.0 million Green Energy Market Securitization bonds to capitalize the Authority. Further capitalization is permissible and encouraged under the authorizing law. Act 107, SLH 2021 expanded the scope of HGIA and Act 183, SLH 2022 authorized HGIA to administer Hawai'i's C-PACER financing program.	Programs include: o Green Energy Money Saver (GEM$) on-bill financing program, an innovative financing program for solar and energy efficiency projects o HI-CAP, capital assistance programs that provide loans directly to businesses and organizations or provide credit enhancements in the form of cash collateral to incentivize private lenders In Development: o C-PACER – commercial property assessed financing for water, clean energy, energy efficiency and resiliency projects.

Bank	Establishing Authority	Role of Governor	Funding Mechanism	Financing Program Examples
Maryland Clean Energy Center (MCEC)	Established in 2008 by the Maryland General Assembly (H.B. 1337)	MCEC is managed by a board of directors who are appointed by the Governor	In 2017, Senate Bill 0313 was enacted requiring the MCEC to become self-sustaining after five years	Programs include: o Financing through the Clean Energy Advantage (CEA) Loan Program o Maryland Clean Energy Capital Program (MCAP) o Maryland Commercial Property Assessed Clean Energy (MDPACE) Program
NY Green Bank	Formalized under New York State Energy Research and Development Authority Mandate expanded in 2019 through Climate Leadership and Community Protection Act	Proposed by former Governor Cuomo in 2013	Funded publicly and through secondary market transactions Initially capitalized with ratepayer and Regional Greenhouse Gas Initiative funds collected from various uncommitted program allocations or auctions. Through a portfolio monetization process with Bank of America in 2021, NY Green Bank successfully enhanced its liquidity by $314 million, currently the largest portfolio monetization by a green bank in the United States	Financing products include: o Warehousing and aggregation credit facilities o Term loans and investments o Credit enhancements o Construction financing o Construction-to-term financing

Bank	Establishing Authority	Role of Governor	Funding Mechanism	Financing Program Examples
Nevada Clean Energy Fund	Established in 2017 by Nevada legislature (Statute NRS 701B.930-995)	Members of the Board are appointed by the Governor	Initial funding provided by the Governor's Office of Energy (GOE) with unused American Recovery and Reinvestment Act funds	Programs Under Development: o Home Energy Upgrade Program o Commercial Clean Energy Loans o Multifamily Housing Clean Energy Loans o Clean Vehicles (including electric school buses) o Community-Scale Renewables + Storage
Rhode Island Infrastructure Bank	Established in 1989 by the General Assembly as the Clean Water Finance Agency and was significantly expanded in 2015 through passage of the state budget (H. 5900Aaa) to provide competitive financing for infrastructure projects.	2015 expansion of Clean Water Finance Agency into Rhode Island Infrastructure Bank was led by Governor and State Treasurer The Board of Directors are appointed by the Governor	Funded through state appropriations, federal grants and revenues or premiums received from bonds and other bank products	Programs include: o Bond issuance o Loans and grants o Revolving funds o Low-to-no rate loans o Grants

Financing Programs Outside of Green Banks

While green banks can bring new capital to states to finance energy projects, Governors can still offer financing assistance without an established green finance authority. Many states offer financing programs to encourage investments in energy efficiency and clean energy through existing agencies, like state energy offices and state departments of commerce.[17] These programs include residential or commercial Property Assessed Clean Energy (PACE) programs, revolving loan funds and loan loss reserve funds, as well as direct funding through grants and state tax credits. Examples include the New Hampshire Clean Energy Fund, which provides low-interest loans for energy efficiency and renewable energy projects. Missouri offers PACE funding statewide to residential, commercial, industrial, agricultural, multi-family, not-for-profit and public facilities.

Federal Funding Opportunities

Inflation Reduction Act: Greenhouse Gas Reduction Fund

The Inflation Reduction Act (IRA) established a $27 billion fund to mobilize financing and stimulate private capital investment in projects to reduce greenhouse gas emissions and air pollutants and promote clean energy, particularly in disadvantaged communities. The Greenhouse Gas Reduction Fund (GHGRF) will be administered by the Environmental Protection Agency (EPA). It will provide grants to state, local, tribal and nonprofit entities that are funded by public or charitable donations and are designed to provide funding and leverage private capital for emissions reducing projects.

Opportunities for Funding

On April 19, 2023, the EPA announced plans to hold three grant competitions for funding:

- $14 billion for the National Clean Investment Fund Competitions: this competition will award two to three national nonprofits with funding to partner with private capital providers to deliver financing at scale to businesses, communities and community lenders for clean energy technology projects.
- $6 billion for the Clean Communities Investment Accelerator Competition: this competition will award two to seven nonprofit hubs with the plans and capabilities to rapidly build the clean financing capacity of specific networks of public, quasi-public and non-profit community lenders—including community development financial institutions (such as Native CDFIs), credit unions, green banks, housing finance agencies, and minority depository institutions—to ensure that households, small businesses, schools, and community institutions in low-income and disadvantaged communities have access to financing for cost-saving and pollution-reducing clean technology projects.
- $7 billion for the Solar for All Competition: this competition will award up to 60 grants to state, local, and tribal governments and nonprofit entities to invest in the deployment of residential, community and storage solar projects in low-income and disadvantaged communities.

Notice of Funding Opportunities for these competitions will be released in early summer 2023.

Additional Resources

- Green Bank Resources and Research Papers
  - Coalition for Green Capital: Resources on Green Banks
  - American Council for an Energy-Efficient Economy:
    - 2022 State Energy Efficiency Scorecard
    - 2016 Report on U.S. Green Banks
  - National Association of State Energy Offices: Information about Energy Investment Partnerships & Green Banks
  - National Renewable Energy Laboratory Green Banks Overview
  - Department of Energy 2015 Report: Energy Investment Partnerships: How State and Local Governments are Engaging Private Capital to Drive Clean Energy Investments
  - American Green Bank Consortium & Coalition for Green Capital 2021 Industry Report
  - Coalition for Green Capital: Bipartisan Efforts to Establish State Green Banks

- Infrastructure Investment and Jobs Act (IIJA)
  - NGA IIJA Implementation Resources

- Inflation Reduction Act (IRA)
  - Greenhouse Gas Reduction Fund EPA Implementation Framework
  - NGA IRA Implementation Resources

This issue brief was written by NGA Policy Analyst Fiona Forrester. For more information, please contact fforrester@nga.org.

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[2] Connecticut Green Bank. "Annual Report 2022." December 27 2022. https://www.ctgreenbank.com/wp-content/uploads/2023/01/Connecticut-Green-Bank-FY22-Annual-Report-Final-12-27-2022.pdf. .
[3] DC Green Bank. "Open Request for Proposals: DC Green Bank." July 2020. https://dcgreenbank.org/wp-content/uploads/2020/07/Initial-DC-Green-Bank-RFP-Draft-Board-review-as-sent-to-Board.pdf.
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[15] Coalition for Green Capital. "The Clean Energy & Sustainability Accelerator: A Record of Bipartisan Support at the State Level." Coalition for Green Capital. 2020. https://coalitionforgreencapital.com/wp-content/uploads/Bipartisan-Support-at-State-Level.pdf.
[16] American Green Bank Consortium; Coalition for Green Capital, GREEN BANKS IN THE UNITED STATES: 2021 U.S. Green Bank Annual Industry Report (Coalition for Green Capital, 2021), https://mcusercontent.com/3e3337737c870aa879b2ef144/files/58657110-26b4-3ee5-a3e4-45fda1bb6594/CGC_Consortium_AnnualReport.01.pdf
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