



## ANNEX L : USA – THE CONNECTICUT GREEN BANK (CGB)

### L.1. BACKGROUND AND ESTABLISHMENT

The CGB is the first US green bank, established by the Connecticut General Assembly on July 1, 2011 as a part of Public Act 11-80.<sup>153</sup> Prior to 2011, the state had the Connecticut Clean Energy Fund and the Clean Energy Finance and Investment Authority, which were given a broader mandate in 2011 to become the Connecticut Green Bank.<sup>154</sup>

The CGB uses public funds to attract private capital into the deployment of clean energy in the state. Since its inception, the bank and its private investment partners have deployed over USD 1 billion in capital for clean energy projects. The CGB indicates that, for every dollar of public funds committed, an additional USD 6 of private investment occurred in the local economy.

### L.2. MANDATE

The bank was set up to support the Governor’s and Legislature’s energy strategy to achieve “cleaner, less expensive and more reliable sources of energy while creating jobs and supporting local economic development.”<sup>155</sup> Importantly, the CGB’s role is to support the implementation of public policy on clean energy in Connecticut by attracting and deploying private capital to finance the achievement of those goals.

The CGB defines “clean energy” as including “financing energy efficiency projects” and “alternative fuel vehicles and associated infrastructure.”

The bank is focused on the residential, commercial, industrial, institutional and infrastructure sectors.

Figure L-1- Connecticut Green Bank Mandate



Source: Connecticut Green Bank Website – About Us.

### L.3. INSTITUTIONAL STRUCTURE

The CGB is divided into three divisions: Investment, Program, and Corporate.

The investment division is responsible for investing public funds into the clean energy market while attracting private capital to finance the clean energy policy goals for Connecticut. This includes the issuance of green bonds.

<sup>153</sup> Connecticut Green Bank Website. About Us. [Online]. <<https://www.ctgreenbank.com/about-us-2017/>>.

<sup>154</sup> Connecticut Green Bank Website. About Us. [Online]. <<https://www.ctgreenbank.com/about-us-2017/>>.

<sup>155</sup> Connecticut Green Bank Website. About Us. [Online]. <<https://www.ctgreenbank.com/about-us-2017/>>.



The program division is responsible for deploying capital to meet the clean energy policy goals for Connecticut. There are three sub-divisions within programs: residential; commercial, industrial, and institutional; and infrastructure.

The corporate division provides administrative, accounting, legal, marketing and operational support services to the overall business.

#### **L.4. GOVERNANCE STRUCTURE**

The CGB is a quasi-public agency created by state legislation and governed by a Board of Directors. The powers of the Green Bank are vested in and exercised by a Board of Directors that is comprised of eleven voting and two non-voting members.

Senior members of the board, including the Chairperson, are political appointees (in this case by the Governor of Connecticut) whilst other board positions are elected by the sitting members of the board. The President (CEO) of the CGB is hired by the board is also one of the non-voting members of the board.

The board has four Standing Committees (Audit, Compliance, and Governance; Budget and Operations; Deployment; and a Joint Committee of the Energy Conservation Management Board and the Connecticut Green Bank) with delegated responsibilities. In particular, the Deployment Committee has responsibility for the CGB's investment functions, although it requires board approval on transactions which are greater than USD 2.5 million in value.

#### **L.5. CAPITAL STRUCTURE AND SOURCES OF FINANCE**

The Green Bank is capitalised through a number of public – state and ratepayer – sources.

Table L-1: Connecticut Green Bank Sources of capital

Source	Description
Systems Benefit Charge	The Green Bank through C.G.S. § 16-245n(b) receives a USD 1 million surcharge called the Clean Energy Fund from customers of Eversource Energy and Avangrid. The fund has been in existence since the late 1990s. On average, the Clean Energy Fund cost households ten USD per year and generates about USD 27 million a year to support the Green Bank.
Regional Greenhouse Gas Emission Allowance Proceeds	The Green Bank receives a portion of Connecticut's funds from the Regional Greenhouse Gas Initiative. The Green Bank receives all of the state the Regional Greenhouse Gas Initiative funds for renewable energy and uses these carbon allowance proceeds to provide financing for energy improvement projects through its Commercial Property Assessed Clean Energy (C-PACE) program.
Special Capital Reserve Fund	As part of C.G.S. § 16-245n(d)(1)(C), the Green Bank has access to the Special Capital Reserve Fund, which allows quasi-public agencies to issue bonds for self-supporting initiatives that are backed by the State. This lowers the cost of capital for the initiative. The Green Bank has received USD 100 million in Special Capital Reserve Fund authorization for bonds issued for clean energy programs.
Connecticut State Treasurer's Office	The Green Bank works with the State Treasurer's Office to explore opportunities to co-invest in projects that can deliver appropriate risk-adjusted returns for Connecticut pension assets, reduce the emissions of greenhouse gases, and contribute to job creation.

Source: Connecticut Green Bank Comprehensive Plan Fiscal Years 2017-2019.

Alongside the funds the CGB receives from the State of Connecticut, it also has access to and/or expects to pursue US federal funds, including stimulus monies, revolving loan funds, and competitive grant solicitations as well as loan guarantees, in order to bring private capital to these sources. The CGB is also able to issue revenue bonds to support its investments and to participate in joint ventures and PPPs.



However, it has been reported in 2018 that the CGB has been undermined in its ability to administrate and deliver clean energy programmes by State government decisions to cut funding which was earmarked for these programmes. The CGB can also borrow to finance its activities, but the withdrawal of key funding streams has reportedly led to concerns amongst potential lenders.<sup>156</sup>

## L.6. FINANCING ACTIVITIES

The CGB runs programs which serve homeowners, building owners, multifamily housing, residential contractors, commercial contractors, towns and cities, as well as partnerships with other capital providers. These programs are summarised in the table below. The combine both the provision of finance and technical assistance. The CGB's financing activities are summarised in the table below.

Table L-2: Program financing activities

Program	Description
<b>Homeowners</b>	
Smart-E Loan	Low interest loans to upgrade home energy performance.
Residential Solar Investment Program	The Residential Solar Investment Program provides rebates that lower the initial out-of-pocket costs to homeowners who wish to install a solar photovoltaic system.
PosiGen Solar + Efficiency for Low-to-Moderate Income Homeowners	In partnership with the Connecticut Green Bank, PosiGen offers to low-to-moderate income homeowners a solar lease that also combines money-saving energy efficiency measures.
<b>Building owners</b>	
C-PACE	Commercial Property Assessed Clean Energy (C-PACE) lets building owners pay for green energy improvements over time through a voluntary benefit assessment on their property tax bill. It is structured so that energy savings more than offset the benefit assessment.
C-PACE New Construction	C-PACE New Construction provides accessible and affordable financing for developers to build higher performing, and more cost-effective and competitive buildings.
<b>Multi-family housing</b>	
<b>Residential contractors</b>	
Smart-E	Long-term, low-interest financing through participating lenders to help Connecticut residents make home energy improvements. It can finance more than 40 different kinds of upgrades, including HVAC improvements, fuel conversions, and solar photovoltaic systems.
Multifamily Energy Financing Programs	The bank has a number of programs to assist multifamily owners save money on operating and energy costs.
Residential Solar Investment Program	Incentive structures to help homeowners invest in solar energy. The two incentives include: <ul style="list-style-type: none"> <li>• The Expected Performance-Based Buydown incentive (Rebate) for homeowners purchasing a solar system from an Eligible Contractor. The Contractor presents the rebate as</li> </ul>

<sup>156</sup> Hartford Business (August 2018) "CT Green Bank takes novel approach to preserve clean-energy mission" available [online]: <http://www.hartfordbusiness.com/article/20180806/PRINTEDITION/308029956/ct-green-bank-takes-novel-approach-to-preserve-clean-energy-mission>





Program	Description
	<p>an upfront cost reduction to the customer and is reimbursed by the Green Bank upon completion of the project.</p> <ul style="list-style-type: none"> <li>The Performance-Based Incentive is designed to allow homeowners to benefit from solar photovoltaic systems for little to no upfront cost. An Eligible Third-Party Photovoltaic System Owner owns the system and enters into a contract with the homeowner. The Performance-Based Incentive is paid to the System Owner based on actual performance over the course of six years and is used to reduce the homeowner's monthly cost.</li> </ul>
Working Capital	The bank offers lines of credit secured by ongoing cash flow, project finance, and accounts receivable.
<b>Commercial contractors</b>	
C-PACE	Commercial Property Assessed Clean Energy (C-PACE) lets building owners pay for green improvements over time through a voluntary benefit assessment. C-PACE enables contractors to offer 100 percent up-front financing with no money down and design comprehensive projects that are immediately cash flow positive.
Multifamily Energy Financing Programs	The bank has a number of programs to assist multifamily owners save money on operating and energy costs.
<b>Towns and cities</b>	
Lead by Example	Energy Savings Performance Contracts. The town/city agree to implement a set of energy efficiency and renewable energy measures and those measures are guaranteed to save enough money to finance their full cost. Connecticut Green Bank assists the Department of Energy and Environmental Protection provide pre-qualified contractors, significant technical support and standardized contract documents help to streamline the process.
Solarize CT	Coordinated outreach, education and marketing, combined with competitive pricing for homeowners, to expand solar in communities across the state.
C-PACE Municipalities	An economic development tool for cities and towns focused on energy upgrades to create a more competitive environment for attracting and retaining businesses through lower energy costs.
<b>Capital providers</b>	Partnership opportunity with local lenders and capital providers to work on green energy.

Source: Connecticut Green Bank website.

## L.7. PROJECT PREPARATION AND TECHNICAL ASSISTANCE

The CGB provides technical assistance to real estate investors, providers of affordable housing and local municipalities on a range of issues including, for example, resources for improving rooftop solar photovoltaic permitting procedures. It can also provide funding for project level technical assistance and feasibility studies.

## L.8. PERFORMANCE MONITORING

The CGB undertakes extensive evaluation and reporting of the impact of its programs. It has established an evaluation framework to guide these assessments, covering (but not limited to): energy savings and clean energy production and the resulting societal impacts or benefits arising from clean energy investment. These studies are available on the CGB website.



## **L.9. KEY LESSONS LEARNED**

In its seven years of operation, the CGB and its private investment partners have deployed over USD 1 billion in capital for clean energy projects across the state, crowding in an additional USD 6 in private investment for every USD 1 of public funding.<sup>157</sup> It is cited by the Green Bank Network as a leading example of effective local green bank initiatives.<sup>158</sup>

As with other NIBs, one of the key lessons from the CGB is the importance of developing internal expertise in clean energy which other commercial investors may not have developed (for example, in fuel cell technology). It is also suggested that the CGB was able to take a more flexible approach to risk than institutional capital which may be constrained by legacy credit policies and regulatory oversight which might constrain innovation. By mitigating certain project risks, the CGB helped to demonstrate emerging technologies and develop the market to a point where private capital is willing to invest.<sup>159</sup>

More so than NIBs, sub-national facilities may have more limited resources which requires greater efficiency. Although the CGB experience is clouded by recent cuts imposed by the State government, which is likely to have resulted in allocating greater priority to the most effective programmes, its efficiency is also likely to have been boosted by the requirement to invest in programmes which generate reasonable returns and allow the institutions to be operationally sustainable over time.

Finally, the CGB demonstrates that state-backed NIBs can play an important role in addressing distributional issues, such as the barriers which prevent low-income homeowners from adopting clean technologies, including the actual or perceived higher risk of default.<sup>160</sup>

---

<sup>157</sup> Connecticut Green Bank Website. About Us. [Online]. <<https://www.ctgreenbank.com/about-us-2017/>>.

<sup>158</sup> Green Bank Network. Connecticut Green Bank. (June 2018). [Online] <<https://greenbanknetwork.org/connecticut-green-bank/>>

<sup>159</sup> Clean Technica. More Than USD 1 Billion Provided By Connecticut Green Bank For Clean Energy Projects. September 2018. [Online] <<https://cleantechnica.com/2018/09/26/more-than-1-billion-provided-by-connecticut-green-bank-for-clean-energy-projects/>>.

<sup>160</sup> Clean Technica. More Than USD 1 Billion Provided By Connecticut Green Bank For Clean Energy Projects. September 2018. [Online] <<https://cleantechnica.com/2018/09/26/more-than-1-billion-provided-by-connecticut-green-bank-for-clean-energy-projects/>>.

