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Public Option Solar for K-12 Schools

A Case Study of Connecticut Green Bank's Solar Marketplace Assistance Program


Manchester Public Schools

CONNECTICUT GREEN BANK℠

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Public Renewables Project

The Climate Reality Project®

Generation180

About

Public Renewables Project

The Public Renewables Project is a new climate advocacy organization calling for publicly financed, publicly developed renewable energy. Our mission is to stand up a public renewable energy developer in all 50 states, to build the renewable energy that for-profit developers are currently not building. We work with labor unions, climate groups, grassroots organizations, and public finance experts to deploy public renewables in a way that reduces inequality and increases worker power.
www.PublicRenewables.org

The Climate Reality Project

Founded by Nobel Laureate and former US Vice President Al Gore, The Climate Reality Project is working to catalyze a global solution to the climate crisis by making urgent action a necessity across every level of society. With a global movement of more than 3.8 million strong and a grassroots network of trained Climate Reality Leaders, we are spreading the truth about the climate crisis and building popular support for clean energy solutions.
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Generation180 is a national nonprofit working to inspire and equip people to take action on clean energy in their homes, schools, and communities. Our Electrify Our Schools program works towards the vision that all of our schools become clean-powered, resilient centers in the community where students, families, and community members can learn about how to help build a brighter future together. Through this program, Generation180 is building the clean energy movement at K-12 schools by elevating the work of school leaders in this space and empowering them to support and inspire others to take action.
www.Generation180.org

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Executive Summary

Federal climate rollbacks under the current administration threaten to derail progress toward science-based climate goals. Achieving 100% clean energy by 2035 would require increasing annual renewable energy buildout by 30-60% above 2024 levels according to some studies. Yet even with increased federal incentives in place from 2023-2025, the U.S. has not been building enough clean energy projects in recent years to stay on track.[1] Meeting ambitious climate targets will demand additional policy interventions to accelerate clean energy deployment.

We wrote this case study to elevate a promising solution to this challenge: public option solar.[2] From a technical standpoint, distributed rooftop solar on larger buildings — such as K-12 schools — is considered low-hanging fruit for expanding community-scale solar deployment. Our case study explains how the unique finance and development challenges faced by K-12 solar projects can be addressed by a public developer, like the Connecticut Green Bank. This public development process results in additional public solar projects that would not have otherwise been built by for-profit developers.

The US has a rich history of using public finance institutions at the federal, state, and local levels to achieve ambitious national missions. For example, state and local public finance institutions supported the large-scale buildout of US drinking water and sewage infrastructure in the Progressive Era and New Deal Era.[3] Local and state development finance institutions gained further support from federal financing programs in the 1970s and 1980s.[4] To this day, around 87% of Americans are served by publicly financed, publicly owned water systems.[5]

Even under hostile federal political conditions, public finance institutions — like the existing 50-state network[6] of development finance agencies (DFAs) and green banks — can continue to finance essential infrastructure. As of July 2025, new legislation and executive actions rolling back major federal climate programs are projected to significantly slow for-profit solar deployment.[7] In this context, new public option solar programs — modeled after Connecticut's successful K-12 solar program — have the potential to help fill the gap.

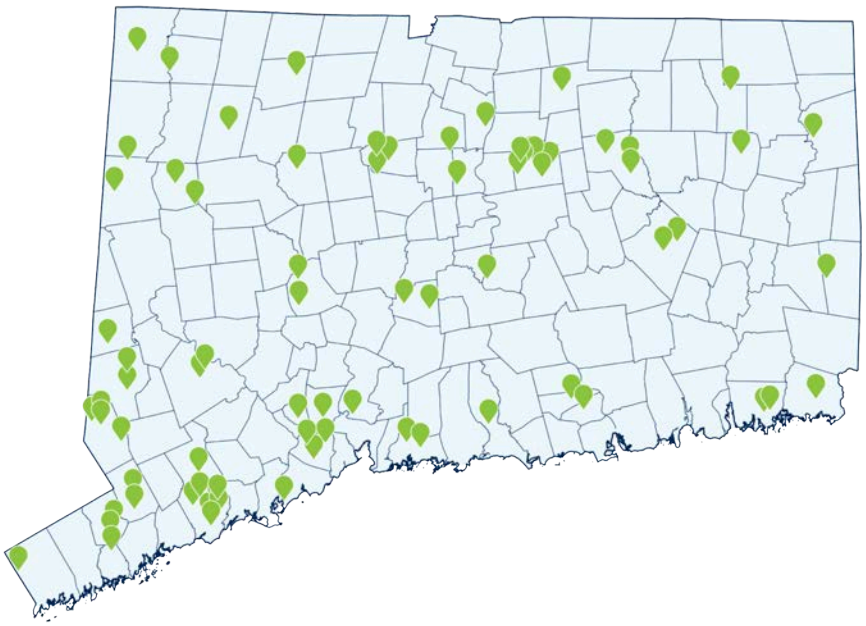
[1] According to WRI, renewable energy buildout needs to grow from current levels of 45GW/year in 2024 to 60-70GW/year 2025-2035, an annual increase of roughly 30-60% https://www.wri.org/insights/clean-energy-progress-united-states
[2] Ganesh Sitaraman and Anne Alstott define public option as "a government-provided social good that exists alongside a similar privately provided good." https://www.cambridge.org/core/books/politics-policy-and-public-options/politics-policy-and-public-options/84D803EF12CF551FBC5F91125ED42D9F
[3] https://www.nber.org/system/files/working_papers/w11096/w11096.pdf
[4] https://www.brookings.edu/articles/exploring-and-improving-how-state-water-funding-flows-amid-a-surge-in-federal-infrastructure-investment/
[5] Our Common Wealth, by Thomas Hanna, page 18 https://manchesteruniversitypress.co.uk/9781526133793/
[6] https://www.cdfa.net/cdfa/cdfaweb.nsf/sfcsearch.html
[7] https://zenodo.org/records/15801701

In the short term, state and local public finance institutions — such as DFAs and green banks — can develop clean energy projects that might otherwise be halted by shifting federal policy. At the same time, they can maximize access to the remaining embattled federal funding streams, including clean energy tax credits and publicly subsidized finance from the Greenhouse Gas Reduction Fund (GGRF). In the medium and long term, state and local public finance institutions that begin building the capacity to publicly develop renewable energy projects right now will be best positioned to fill the coming gaps created by federal rollbacks — and to rapidly and equitably scale decarbonization if and when federal incentives are reinstated.

We chose to focus on Connecticut because it is the **#1 state in the contiguous U.S. for the percentage of K-12 schools with on-site solar projects**.[8] Our case study finds that this achievement would not have been possible without public option solar projects that were financed and developed by the Connecticut Green Bank's Solar Marketplace Assistance Program (Solar MAP).[9] Between 2014 and 2025, the quasi-public[10] Connecticut Green Bank developed and owned **80 solar projects at K-12 schools** throughout the state.[11] Projects developed by the Green Bank accounted for **27% of all K-12 solar projects** installed in the state from 2015-2023.[12] These solar projects resulted in immediate cost savings for school districts and municipalities, with **tens of millions of dollars in savings** projected over the life of the solar systems.[13] In recent years, **50-75% of schools** served by Solar MAP are located **in low-income and disadvantaged communities (LIDAC)**.[14]

FIGURE 1

Map of K-12 Solar Projects Developed by The Connecticut Green Bank



[8] Without the projects developed by Solar MAP, Connecticut would be ranked #5 in the contiguous U.S. behind DC, CA, VT, and NJ. Source: https://generation180.org/resource/brighterfuture-a-study-on-solar-in-us-k12-schools-2024/

[9] This finding is based on Connecticut Green Bank data, from the Solar MAP Program, and Generation180 data from https://generation180.org/resource/brighterfuture-a-study-on-solar-in-us-k12-schools-2024/

[10] Our working definition of public option includes public, quasi-public, and non-profit green banks, modeled after this: https://www.cambridge.org/core/books/politics-policy-and-public-options/politics-policy-and-public-options/84D803EF12CF551FBC5F91125ED42D9F

[11] Data from Connecticut Green Bank

[12] https://generation180.org/resource/brighterfuture-a-study-on-solar-in-us-k12-schools-2024/

[13] Extrapolated from the $120K/MW projected annual savings, based on a Groton, CT school district figures: https://www.ctgreenbank.com/groton-public-schools-solar-installations/

[14] Map here: https://www.bakertilly.com/page/low-income-disadvantaged-communities-mapping-tool

FIGURE 2

The Connecticut Green Bank's Share of Cumulative K-12 Solar Capacity 2015-2023

In the figure above the green area represents cumulative solar capacity developed at K-12 schools by the Connecticut Green Bank. According to the Green Bank, these solar projects would not have been developed without the Green Bank's Solar MAP program.[15]

[15] https://www.cga.ct.gov/2024/etdata/TMY/2024HB-05232-R000227-Garcia,%20Bryan,%20President%20-%20CEO-Connecticut%20Green%20Bank--TMY.PDF

Solar MAP was launched in 2020 as the Connecticut Green Bank's comprehensive program for public option solar development, but the Green Bank has offered some version of public option solar since 2014.[16] Solar MAP represents an embrace of the **public developer model**[17] to drive forward solar deployment on municipal- and state-owned buildings across Connecticut, accomplishing this with a public-public partnership approach that pairs taking on the administrative burden of project development with a unique public financing offering that eliminates upfront costs. The Connecticut Green Bank's public option approach creates an "easy button" for K-12 solar projects that for-profit developers cannot build.[18]

The purpose of this case study is to help other states replicate Solar MAP. We walk through the program's development and finance offerings in detail, including the history of how the program came to be, and opportunities for expanding Solar MAP's impact.

Finally, we list out recommendations for state governments on how to replicate Solar MAP at existing development finance agencies and green banks:

1. **Basic Authority To Develop and Own K-12 Solar Projects**
   Policy changes are often needed to allow public finance agencies to develop and own renewable energy projects or enter into public-public partnerships with K-12 schools.
2. **Publicly Facilitated Access to Capital**
   To consistently develop renewable energy projects, green banks and development finance agencies need some combination of public funding, bonding authority, state credit enhancements, and conduit bond financing.
3. **In-house Personnel To Develop and Finance Projects**
   Developing round-after-round of public renewables requires in-house staff who can lead on: overseeing solar contractors, explaining projects to school boards, underwriting K-12 solar projects, and drafting structured finance agreements.
4. **Political Legitimacy**
   New efforts to publicly develop renewables benefit from political support from aligned labor unions, enthusiastic school districts, and champions in state government. Broad political support can be particularly important when navigating the relationship between public solar developers and private solar developers in the state.
5. **State Clean Energy Policies**
   Some states have policies on the books that are hostile to distributed energy resources like rooftop solar. Action from state legislatures or public utility commissions may be required to allow for swift interconnection to the grid or net metering policies that allow K-12 schools to sell excess solar back to the grid.

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[16] Interview #1 with Connecticut Green Bank staff, and pages 6-7 here: https://cbey.yale.edu/sites/default/files/2019-08/CT%20Solar%20Lease%202.pdf

[17] According to the Center for Public Enterprise, "Publicly supported *finance* helps reduce a project's cost of capital, while public *development* engages with all of the steps in a project development pipeline from planning projects to raising capital to operating and maintaining assets to marketing their outputs, all the while cultivating technical and operational expertise." https://publicenterprise.org/report/public-developers/

[18] The term "easy button" was coined by a solar schools organizer to describe how policy interventions, like Solar MAP, can simplify the solar development process, for K-12 schools themselves, and for community organizers advocating for K-12 solar. Solar MAP's public developer approach does not just address costs, it addresses "easy."

The Case for State-Level Public Renewable Energy Developers

Connecticut Green Bank's K-12 solar work marks a shift from a narrow role for the public sector — using public finance to reduce private capital costs — toward a more comprehensive **public developer model**. This model enables greater speed, scale, and equity in renewable energy deployment. This approach, used in Connecticut, is replicable across states and sectors, unlocking projects that would otherwise remain out of reach for for-profit developers alone.

FIGURE 3

Outcomes Achieved with a Public Developer Model

Outcome	Description
Scale of Renewable Energy Deployment	27% of all K-12 solar projects installed in Connecticut (2015-2023) would not have been built without a public developer.[19]
Equitable Renewable Energy Deployment	50-75% of Connecticut Green Bank's K-12 solar projects in recent years served low-income and disadvantaged communities.
Financial Benefits to Project Partners	Immediate cost savings are directed to project partners, like K-12 schools, with no upfront costs.
Distributed Renewable Energy Deployment	Public developers can prioritize distributed renewable energy projects, like rooftop solar, at locations underserved by for-profit developers.
Worker Power	Public developer procurement rules can set fair labor standards for solar workers. Public sector prioritization can direct financial benefits to public sector workers, such as teachers.
Federal Funding	Additional projects draw down additional federal funds.
Achieving Climate Goals	Public developers can direct renewable energy deployment to particular sectors, like K-12 schools, to achieve climate goals.

[19] According to Connecticut Green Bank: https://www.cga.ct.gov/2024/etdata/TMY/2024HB-05232-R000227-Garcia,%20Bryan,%20President%20-%20CEO-Connecticut%20Green%20Bank--TMY.PDF

Introduction

The Connecticut Green Bank launched the Solar Marketplace Assistance Program (Solar MAP) in the lead up to 2020 with the goal of formalizing a model it had perfected over many years of experimentation. The core function of Solar MAP is to support the deployment of solar on municipal- and state-owned property through a public-public partnership. The majority of these properties are K-12 public schools. Since 2014, the Green Bank has facilitated the deployment of solar at 80 K-12 schools in the state.[20] These projects have advanced the state's climate goals, as well as saved money for school districts and municipal governments.

Power Purchase Agreements (PPAs)

PPAs are financing arrangements in which a third party owns and finances the energy system, and the customer agrees to purchase the electricity it generates at a predetermined rate over a fixed term — typically 15 to 25 years.[21] This model is attractive to schools because the third party covers upfront installation costs — a major barrier to solar adoption — and often handles system maintenance over the course of the agreement. By reducing financial barriers and administrative burdens, PPAs have enabled many school districts with limited resources and competing priorities to adopt solar more easily.

Solar MAP offers an "easy button" for municipalities and school districts to develop and finance solar. The Green Bank provides their staff expertise and capacity to guide municipalities through a process that includes contracting for an evaluation of the municipal building stock, filing for the state and federal incentives, contracting for a solar installer, and directly providing the financing for the project through a **Power Purchase Agreement (PPA)**.

The technical assistance and administrative support pieces of Solar MAP are crucial to the program's success, but the key innovation that differentiates Solar MAP is the Green Bank's PPA offering. The PPA appears to be a first-of-its-kind public option in the sector. While PPAs from private developers have been key to solar deployment around the country, a PPA from a quasi-public entity to another public entity represents a different and exciting opportunity for a just transition to clean energy.

[20] Data from Connecticut Green Bank
[21] Footnote for 15-25 years in the box: https://docs.nrel.gov/docs/fy10osti/46668.pdf

For public sector decision makers across the country looking to save money on energy by adding solar to their building stock, navigating solicitations from private solar developers may be a daunting task. The alternative offered by a green bank can be an attractive opportunity to work with a trusted and experienced partner, while creating new opportunities for in-state clean energy developers through design and installation contracts.

K-12 Solar in the US: Benefits and Barriers

According to data from Generation180, nearly 10% of K-12 public schools in the U.S. have an on-site solar project. Nationwide, 20% of K-12 solar capacity is owned directly by school districts, and 80% of K-12 solar capacity is owned by third parties — typically for-profit developers — and paid for over time through Power Purchase Agreements (PPAs) or leases.[22]

Benefits of K-12 Solar

Rooftop solar is incredibly popular, with 86% of Americans saying they want to see rooftop solar installed in their community.[23] Developing solar projects at K-12 schools delivers a variety of benefits to schools, communities, and the public.[24]

- **Financial Benefits for Schools**: Saving money is the most common reason for pursuing K-12 solar projects, and projects are often announced alongside cost savings estimates. Energy consumption is the second-highest operational cost for schools.[25] Financial benefits associated with solar can be redirected toward teacher salaries or facilities upgrades. Fiscal responsibility arguments give solar a broad appeal across the political spectrum.
- **Educational Benefits**: Solar installations can become hands-on STEM teaching tools that support science curricula. Hands-on exposure to solar panels helps prepare students for careers in engineering, sustainability, and construction trades.[26]
- **Community Visibility**: One in six Americans visits a school every day.[27] K-12 schools are cherished community institutions, and K-12 solar projects are seen as signs of equitable investment in the community as a whole. K-12 solar offers students and community members a sense of pride and shared ownership. Research from National Renewable Energy Laboratory (NREL) found that visible K-12 school-scale projects increase residential solar adoption in the surrounding neighborhoods.[28]

[22] Page 11: https://generation180.org/resource/brighterfuture-a-study-on-solar-in-us-k12-schools-2024/ for more details about ownership data analysis, see page 22.
[23] https://heatmap.news/americans-love-solar-and-want-it-on-their-roofs
[24] https://generation180.org/resource/brighter-future-a-study-on-solar-in-us-schools-2020/
[25] U.S. Department of Energy, https://www.energy.gov/articles/biden-harris-administration-announces-500-million-program-better-school-infrastructure
[26] Page 22: https://generation180.org/wp-content/uploads/Brighter-Future_-A-Study-on-Solar-in-U.S.-Schools-2020.pdf
[27] https://www.usgbc.org/resources/state-our-schools-report-2016
[28] https://www.nrel.gov/docs/fy24osti/85800.pdf ; https://generation180.org/resource/your-influence-matters-peer-influence-and-electric-vehicle-adoption/

- **Large Flat Roofs**: K-12 schools often have large building footprints with flat unobstructed roofs that receive ample sunlight, making them prime candidates for lower-cost, commercial-scale projects.[29] School districts who follow regular capital improvement cycles are likely to have roofs that are new or well-maintained, allowing them to host solar panels immediately without costly structural upgrades.[30] In cases where rooftop installation is not suitable, solar carports and ground-based solar arrays on school property are also common.

- **Grid Benefits**: Schools use the most electricity during the day when solar panels produce the most electricity.[31] Furthermore, having on-site electricity generation avoids the costs and delays associated with off-site transmission development and permitting processes. K-12 schools are often located in residential neighborhoods with lower-capacity distribution infrastructure, so adding local electricity generation that reduces grid demand during high-demand periods can help alleviate stress on the system, particularly when paired with battery storage.[32, 33]

- **Rapid Decarbonization**: Through intentional public planning, successive short-cycle rounds of K-12 solar deployment can move forward at speed and scale. Unlike larger utility-scale solar projects, K-12 solar projects do not require land acquisition or new transmission permits, enabling significantly faster development timelines.[34] Similarities across K-12 solar projects leads to streamlined procurement and installation processes and design replication across sites. Bundling projects into large portfolios unlocks economies of scale that lowers per-site costs, simplifies access to credit, and accelerates planning timelines. K-12 solar can offset schools' high midday electricity demand on the grid, which can immediately reduce the local utility companies' relative reliance on dirtier gas and diesel "peaker" plants to supply power during those hours.

[29] Solar development is typically categorized into three market segments: residential-scale, commercial-scale, and utility scale. K-12 school solar is considered to be commercial-scale.

[30] School districts may also be forced to defer regularly scheduled facilities maintenance due to budget cuts or recessions, making some school roofs less suitable for solar. We recommend bundling roof repair and solar as a package later in the report to make sure all school districts can access the benefits of on-site solar projects. Page 17: https://www.gao.gov/assets/gao-20-494.pdf

[31] Schools are often dubbed "reliable offtakers" due to this daytime load-matching dynamic. Page 27: https://www2.deloitte.com/content/dam/Deloitte/us/Documents/financial-services/us-financing-the-green-energy-transition.pdf

[32] https://insideclimatenews.org/news/27062024/inside-clean-energy-rooftop-solar-grid-benefits/

[33] To achieve deeper decarbonization in residential neighborhoods, more comprehensive upgrades to local distribution grid infrastructure will be necessary – otherwise, additional solar could eventually *increase* stress on the system. Publicly developed solar and battery storage at K–12 schools can serve as an early step toward a broader public investment strategy—one that upgrades local distribution grids to support two-way power flows and enable higher levels of distributed renewable energy.

[34] Analysis from Roosevelt Institute and Climate and Community Institute suggests that "high benefit low harm" solar sites like rooftops should be prioritized over less socially beneficial sites like productive agricultural land, or empty lots that could be used for housing or parks. Their analysis also shows that 100% of nationwide rooftop surface area is less than the total surface area needed for solar deployment in line with 2050 climate targets. This suggests that planners should anticipate putting solar on every single available rooftop nationwide within the next 25 years. Given that ambition, sites like K-12 schools are a natural place to start. https://rooseveltinstitute.org/publications/planning-to-build-faster-a-solar-energy-case-study/

Barriers to K-12 Solar

After new federal climate laws went into effect, installed capacity of commercial-scale solar rose by 19% in 2023 alone.[35] Despite this jump, K-12 school solar projects of comparable size lagged behind the rest of the commercial-scale sector, growing by just 4% in the same time period.[36] Here are some barriers to K-12 solar that account for this gap, all of which are addressed by the Connecticut Green Bank's Solar MAP.

- **Access to Flexible Project-Scale Capital:** Most public school districts lack access to the flexible project-scale capital needed to invest in a solar project. Public schools can access capital at very favorable rates when they issue general obligation bonds (GO bonds). Bond issuance is usually no more than once every 5-10 years, often aligned with planning cycles that include new school buildings or major renovations.[37] Borrowing money outside of bond cycles is often legally prohibited or constrained by local and state governments, and comes with interest rates much less favorable than general obligation bonds.[38]

- **Upfront Procurement Process Costs:** Many school districts operate under statutory lowest-bid procurement requirements, which can require them to commission technical solar feasibility studies, write detailed requests for proposals (RFPs), and then execute highly technical solar contractor negotiations — often with limited in-house legal and industry-specific knowledge. A best practice recommended by K-12 solar advocates like Generation180 is to hire technical external contractors for independent feasibility studies and procurement support, which requires cash on hand that may be difficult for schools to access, even if the projects themselves have no upfront costs and will start saving the school money the very next year.[39]

- **Staff Bandwidth:** School administrators are primarily focused on education. Each of the two most common K-12 solar ownership models — direct ownership and PPAs[40] — require significant staff time to execute. Independently issuing a solar RFP, or even overseeing external pre-development contractors who can draft an RFP, often requires more staff time than school district administrators can spare. In some cases, governance fragmentation where facilities management is split between school districts and municipalities can further strain limited staff bandwidth. Successfully moving a project forward, even with an external private sector developer, can require considerable staff time for planning and coordination across multiple layers of public decision making.

- **Lower Profits for Developers**: Private sector solar developers prioritize projects based on profit margins. School roofs may be excellent sites for solar panels, but "getting to yes" with a school requires formal bidding procedure and interactions with democratic decision-making processes,

[35] SEIA, Solar Market Insight Report 2023, Year in Review, https://seia.org/research-resources/solar-market-insight-report-2023-year-review/
[36] Page 5, and page 7: https://generation180.org/resource/brighterfuture-a-study-on-solar-in-us-k12-schools-2024/
[37] https://www.brookings.edu/wp-content/uploads/2024/05/Boyson-Liu.pdf
[38] https://direct.mit.edu/edfp/article-abstract/19/4/634/117490/School-District-Borrowing-and-Capital-Spending-The
[39] Page 11: https://generation180.org/wp-content/uploads/Brighter-Future_-How-To-Guide.pdf ; Also, see Pennsylvania EDP's Solar Schools Toolkit, page 13: https://dced.pa.gov/download/solar-for-schools-toolkit/
[40] Source here: https://generation180.org/wp-content/uploads/BrighterFutureReport_2024.pdf For a more detailed comparison of K-12 solar ownership models, see this report from the Building Power Resource Center (BPRC): https://climateandcommunity.org/wp-content/uploads/2024/12/School-Solar-Ownership-Models-Summary-12-9-24_2.pdf

like school board meetings. These steps require extra staff time for school districts and developers, causing delays that can ultimately reduce profitability for private developers. For many commercial-scale solar developers, installing solar on comparable private sector buildings, like big-box stores, can yield higher profit margins more quickly.

- **Distrust of For-Profit Outsourcing:** Public schools can be wary of partial privatization, especially the outsourcing of essential school functions like cleaning and food service.[41] In the case of solar, the inherent mismatch between mission-driven public schools and profit-seeking developers can lead to distrust. This distrust can be amplified by long PPA contract terms (often 15-25 years)[42] and the lack of in-house technical, legal, and finance expertise at most school districts. In some cases, aggressive or opaque sales tactics, developer bankruptcies, or particularly extractive contracting practices can lead to reputational problems for the entire sector. Facilities managers responsible for maintaining school buildings and grounds need to be able to trust that regular maintenance and troubleshooting will happen for many years to come.

- **Legal Restrictions**: Some state and local governments do not permit PPAs and other third-party ownership arrangements that finance the vast majority of K-12 solar projects. Generation180's research found that states allowing PPAs account for 92% of nationwide K-12 solar capacity.[43] Some states also have policies that intentionally block distributed renewables, like net metering[44] restrictions and interconnection processes that favor large fossil fuel power plants (discussed further in the Recommendations section).[45]

The Inflation Reduction Act, Green Banks, and K-12 Solar

The Inflation Reduction Act (IRA), former President Joe Biden's signature climate law, transformed the set of incentives driving the clean energy transition. The core of the law is an expanded set of technology-neutral tax credits incentivizing adoption of emissions-reduction technologies across the economy. The tax credits can cover between 30% and 70% of a solar project's costs, depending on eligibility for bonuses, like the Domestic Content Bonus, which incentivizes use of materials sourced or manufactured in the United States. For the potential of solar on schools, a tweak to the structure of the tax credits changed everything. Before the IRA, clean energy tax credits had to be claimed by a tax-liable entity, like a private solar developer. This excluded public sector and nonprofit entities, including state and local governments, schools, and green banks. With the IRA's introduction of direct pay, these entities can now claim the same tax credits as private sector entities in the form of a cash payment from the federal government.[46] This has helped even the playing field for public and nonprofit sector development of clean energy and offers great potential for schools to adopt clean technologies.

[41] Factsheet from AFSCME about how privatization harms public schools: https://afscmestaff.org/wp-content/uploads/2020/03/Privatizing-School-Support-Services-The-Wrong-Choice-6-Schools-Factsheet.pdf
[42] https://docs.nrel.gov/docs/fy10osti/46668.pdf
[43] https://generation180.org/resource/brighterfuture-a-study-on-solar-in-us-k12-schools-2024/
[44] Net metering allows K-12 schools to achieve cost savings on their electricity bills if they produce their own solar, selling surplus solar electricity back to the grid at the same rate they would pay for electricity.
[45] An illustrative example from southwest Virginia: https://appvoices.org/2020/09/16/appalachian-power-solar-restrictions/
[46] Direct pay is also referred to as elective pay.

In July 2025, new budget reconciliation legislation and executive actions rolled back much of the IRA. While direct pay remains in place, the solar and wind tax credits now face an accelerated end date and additional restrictions, making them more difficult to access. In the short term, potential public developers — like green banks and DFAs — can play an important role in developing projects that leverage the remaining credits before they expire. In the longer term, public developers are essential to the resilience of state and local climate and economic development strategies amid an unstable federal policy environment and shifting market conditions. Because federal clean energy tax credits have been historically inconsistent, public renewable developers provide stability — filling market gaps in lean years and capturing maximum benefits when credits are generous.

The embattled[47] $27B Greenhouse Gas Reduction Fund (GGRF), another important program signed into law as part of the 2022 IRA, set out to scale up the financing of clean technology deployment around the country. Significant portions of the GGRF have been dedicated to boosting a growing ecosystem of green financing entities, including DFAs, Community Development Financing Institutions (CDFIs), and green banks. These entities take several different forms, but all have experience with financing community projects.

Green Banks

Green banks are mission-driven financial institutions — typically public or quasi-public — that use innovative financing tools to accelerate investment in clean energy, energy efficiency, and other climate-friendly infrastructure. Their goal is to reduce greenhouse gas emissions, improve environmental outcomes, and address market gaps unfilled by for-profit financial institutions.

Green banks receive their initial capital primarily from state legislatures and philanthropic sources. Green banks offer financial products aimed at supporting deployment of clean technologies. They specialize in bringing financing to projects that struggle to attract necessary support from the private sector due to private investor hesitance to accept lower profit margins, take credit risk in disadvantaged communities, and invest in newer technologies. Their financial products allow them to invest in mission-aligned projects while also sustaining or growing their balance sheet, and are also often aimed at making sources of private capital more comfortable with these lending areas.

Over the past fifteen years, dozens of green banks have been created across the country. Most are created as either quasi-public or nonprofit entities, and each differs in size, financial product offerings, and sectoral focus. As green banks grow their balance sheets with potentially significant support from GGRF, a key question is what they will do with their additional capacity. For green banks searching for a roadmap to impact at scale, the Connecticut Green Bank should be the first place to look.

[47] https://www.cbpp.org/blog/continued-freeze-of-greenhouse-gas-reduction-fund-threatens-climate-investments-in-vulnerable

At the time of this writing, the Trump Administration is attempting to claw back $20B already awarded from the GGRF. Regardless of how the fight over the program resolves in court, green banks have existing models to learn from, and opportunities to build capacity with or without significant injections of new capital.

Connecticut Green Bank

The Connecticut Green Bank was the first green bank in the United States, created in 2011 by an act of the state legislature. The Green Bank is charged with helping realize the clean energy goals of the state's political leadership, with an eye toward economic development, lowering costs, and creating good jobs.[48] Initial capital was provided by the state, and additional annual revenue sources have come from utility surcharges and the Regional Greenhouse Gas Initiative (RGGI) — a cooperative effort amongst states in the Northeast to reduce emissions.[49] The Green Bank claims its activities have mobilized close to $3B into clean energy investment into the state over time.[50]

Mystic River Magnet School / Credit: Connecticut Green Bank

[48] https://www.ctgreenbank.com/about-us/

[49] https://www.aceee.org/sites/default/files/publications/researchreports/f1602.pdf ; https://www.rggi.org/sites/default/files/Uploads/Proceeds/RGGI_Proceeds_Report_2021.pdf

[50] https://www.ctgreenbank.com/about-us/#:~:text=Since%20its%20inception%2C%20the%20Connecticut,energy%20projects%20across%20the%20state.

Case Study Part 1: How Solar MAP Currently Works

In its current iteration, the Connecticut Green Bank's Solar MAP enters into public-public partnerships with municipalities and school districts to move a solar project forward, with minimal effort on the part of the school. School districts and municipalities enter into PPAs with the Green Bank directly, and start saving money as soon as the solar is online, with no down payment.

The Solar MAP program has two major components:

1. **Green bank-led project development, and**
2. **Green-bank-led project finance**

Taken together, these two component parts create an "**easy button**" for K-12 solar development. The Green Bank provides everything a school district would need to get from the decision to look into solar, to panels installed on the roof, all with minimal school district staff time, and at no upfront costs to the school district. The complexity of the solar development process is taken on by the Green Bank, while the financial benefits from solar can flow directly to the schools.

The turnkey product offered by the Connecticut Green Bank, Solar MAP, is not comparable to any option offered by the private sector for schools, which enables projects to be built that were unable to be built by for-profit developers.

Highland Park Elementary School
Credit: Connecticut Green Bank

FIGURE 4

Comparing Solar Development Responsibilities Across Solar Ownership Models

Step in the Solar Development Process	Responsible Party Across Solar Ownership Models		
	Direct Ownership	Private Developer PPA with Procurement Best Practices	Connecticut Green Bank Solar MAP
Deciding to pursue solar	School District	School District	School District
Pre-RFP feasibility study	School District	School District*	Public Developer
Competitive RFP process for PPA provider or solar Installer	School District	School District*	Public Developer
Contract negotiation for PPA provider or solar installer	School District	School District	Public Developer
Project finance (equity, debt, etc.)	School District	Public Developer	Public Developer
Bridge loan for IRS tax credit	School District	Public Developer	Public Developer
Filing for IRS tax credit/direct pay	School District	Public Developer	Public Developer
Oversight of solar installation contracts and maintenance	School District	Public Developer	Public Developer

**Note: Many states and school districts legally require the procurement best practices outlined above. However, some school districts do issue RFPs without first commissioning feasibility studies or contracting technical consultants to draft the RFP — both of which are considered best practices. In some cases, districts even forgo competitive bidding altogether by partnering with a developer that has already met statutory procurement requirements, such as winning a competitive bidding process in a neighboring school district.*

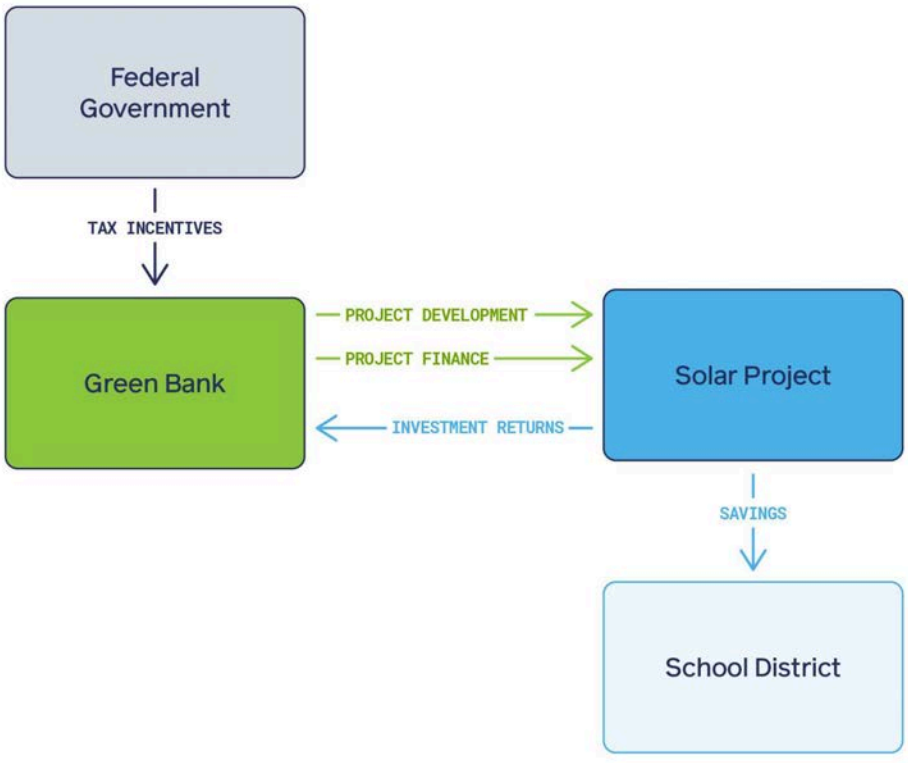
Bringing Federal Money Home

The public option development model develops solar projects that otherwise would not have happened, which makes federal tax incentives more accessible to state economies that otherwise would have gone unclaimed. A self-sustaining virtuous cycle of publicly developed solar projects allows the state of Connecticut to draw down federal resources directly to school districts while increasing public development capacity at the Green Bank itself.

The Connecticut Green Bank's solar development assistance services are provided to the school districts and municipalities at no upfront cost to schools, and are paid for by the projects themselves. Because the Green Bank owns the projects, and owns similar projects, they are able to centralize public development capacity, and distribute risks across projects, resulting in more total projects moving forward. Over time, the Green Bank draws down increasing amounts of federal funds and applies that funding to solar projects; the value created by this growing portfolio remains in the public sphere, with financial benefits passed onto school as savings, or back to the Green Bank as returns to cover the cost of capital, operations costs, or be reinvested into future projects.

FIGURE 5

How the Green Bank Draws Down Federal Tax Incentives and Passes on Savings To School Districts



Solar MAP's Project Development Component

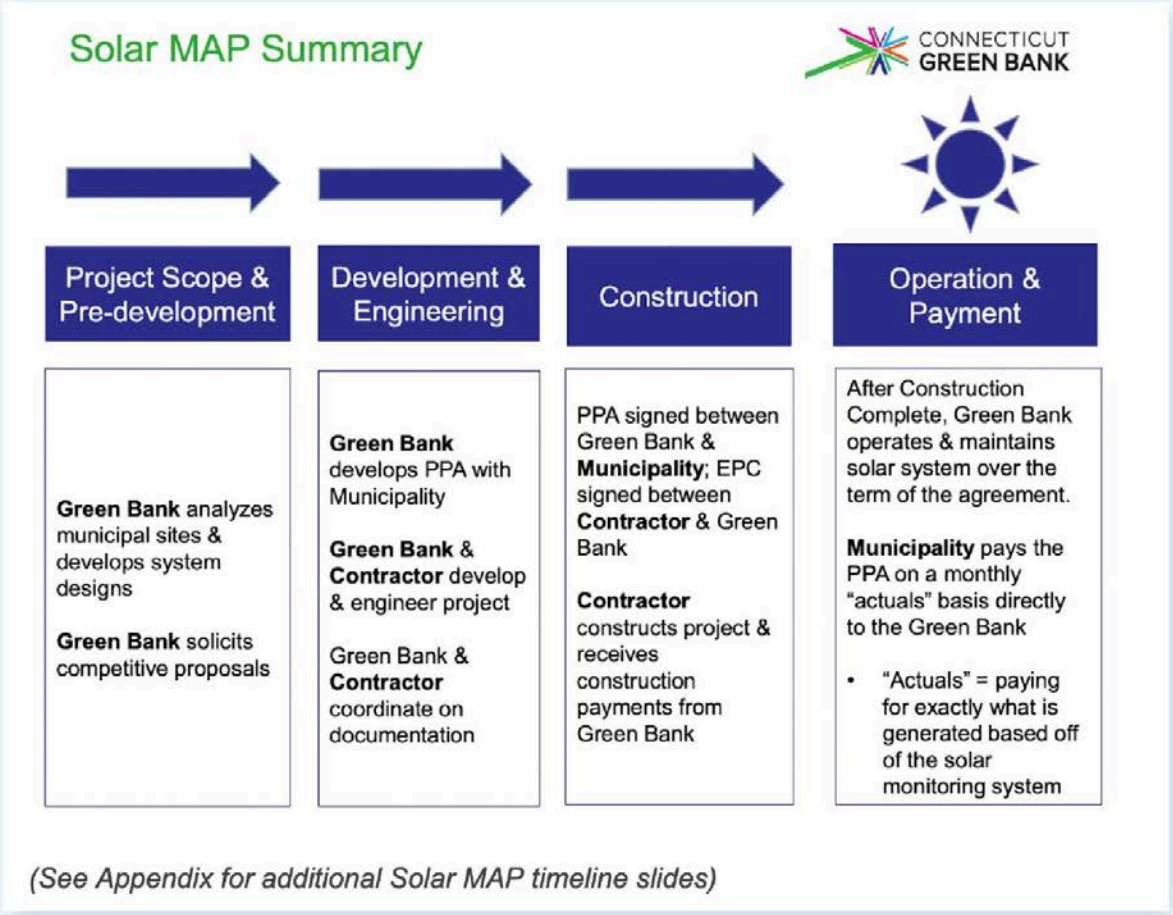
Through its turnkey development model the Connecticut Green Bank provides schools boards and other democratic decision-making bodies with tangible ready-to-vote proposals that require minimal school district staff time and no upfront costs. **Here are Solar MAP's project development steps for municipalities and school districts:**

Step 1 Public-Public Origination[51]	The Green Bank initiates contact with municipalities to propose solar projects, prioritizing disadvantaged communities. School districts and municipalities send the Green Bank a list of potential solar sites.
Step 2 Feasibility Study	The Green Bank works with a contractor to perform feasibility studies for solar projects on publicly owned buildings, and develop solar designs.
Step 3 LOI Process	Each school district and municipality signs a letter of intent (LOI) with the Green Bank, making a non-binding commitment to move forward with a set of solar projects, based on detailed annual cost savings estimates.
Step 4 Competitive EPC contract RFP Process	The Green Bank oversees a competitive bidding process and selects an EPC (Engineering, Procurement, and Construction) contractor to install and maintain multiple solar projects (8-20 total projects per annual round).[52]
Step 5 Public-Public PPA	A final PPA agreement is signed between the school district and the Green Bank.
Step 6 Construction	The selected EPC contractor oversees system acquisition and installation, in partnership with a set of Green Bank-approved vendors.[53]

[51] Origination is the process of sourcing, initiating, and structuring a project concept, usually at the earliest stages. This could include: site identification, community outreach, pre-permitting assessments, or preliminary financial modeling. In the solar development context, project origination is associated with an "origination fee" paid by the developer or long-term owner to the originator.
[52] Data from Connecticut Green Bank. Available from authors upon request.
[53] Connecticut Green Bank's approved solar vendor list here: https://www.ctgreenbank.com/wp-content/uploads/2024/12/Exhibit-B-CGB-Approved-Vendor-List-11-14-2024.pdf

FIGURE 6

Solar MAP Summary Slide from a 2019 Town Council Presentation[54]



[54] Page 17: https://ctgreenbank.com/wp-content/uploads/2019/11/Solar-MAP-11.13-webinar_11072019-002.pdf

Key Elements of the Development Process Worth Explaining Further

1. **Origination and LIDAC Targeting**
   In 2023 and 2024, **50%-75%** of K-12 solar projects were located in low-income and disadvantaged communities (LIDAC).[55] The Green Bank achieves these results by pursuing what they describe as **"a very active cataloguing of all 169 towns in the state,"** and engaging in **"very proactive outreach"** town by town and school district by school district.[56] The Green Bank uses metrics like LIDAC status, population size, and local sustainability goals to inform their prioritization. For years, senior leaders of the Green Bank's Solar MAP program have spent nights and weekends joining school board and town council meetings to explain the program to democratically elected community representatives. This public-to-public approach to engaging democratic decision making bodies unlocks projects that the private sector is unable or unwilling to develop, resulting in more equitable and more democratic solar deployment in the state.

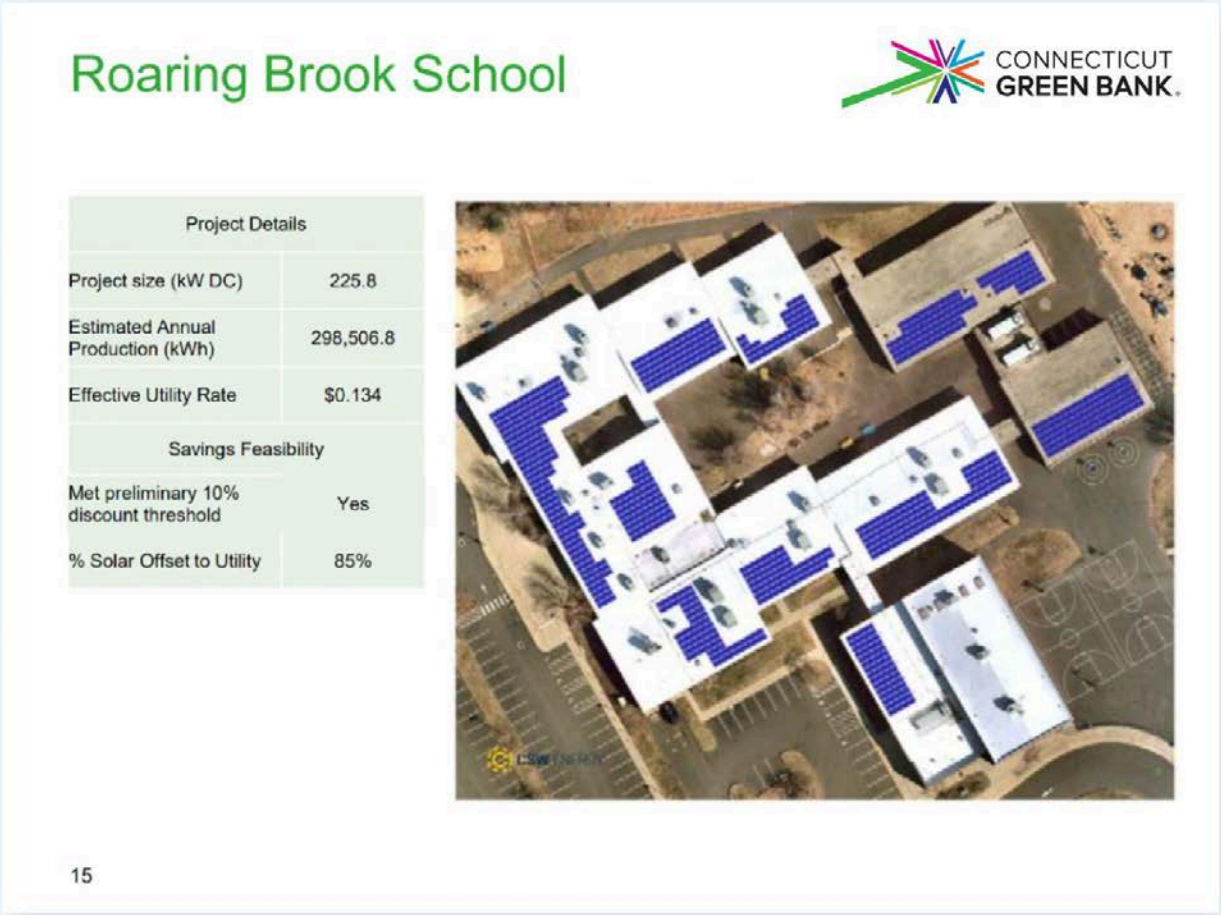
2. **Development in Rounds**
   The Green Bank is able to pass on additional savings to schools by bundling many similar tasks like design, feasibility studies, equipment procurement, installation, and financing into rounds. Instead of bidding projects one by one, the Green Bank aggregates the purchasing power of multiple schools; this "bulk order" of solar projects makes each individual project cheaper for each school, and allows in-state renewable energy companies to bid on a few large contracts rather than on multiple smaller contracts. The Connecticut Green Bank typically does one Solar MAP round per year .

3. **Free Feasibility Study**
   The staff time and upfront cost of commissioning a solar feasibility study can be a major barrier to developing K-12 solar projects. Connecticut Green Bank addresses this barrier by offering free feasibility studies and design proposals to schools. This makes the decision making process more clear to the local elected officials and facilities managers ultimately tasked with making these decisions. As part of the first round of Solar MAP in 2019, the Green Bank initiated an RFP process to select one design contractor, which further cut costs and standardized how projects would be built and how they would operate.[57] Other states, like Minnesota[58] and Pennsylvania[59] have recently initiated grant programs to help schools pay for solar feasibility studies.

[55] Data from Connecticut Green Bank, map from EPA. Available from authors upon request.
[56] Interview #1 with Connecticut Green Bank staff
[57] https://www.ctgreenbank.com/wp-content/uploads/2019/03/REQUEST-FOR-PROPOSALS-FOR-MUNICIPAL-AND-STATE-SOLAR-DEVELOPMENT-ASSISTANCE-2nd-release.pdf
[58] https://www.pahouse.com/InTheNews/NewsRelease/?id=136430
[59] https://dced.pa.gov/programs/solar-for-schools-grant-program-s4s/

FIGURE 7

Sample Feasibility Study output prepared by CSW Energy for the Town of Avon Connecticut's Roaring Brook Elementary School.[60]



CSW Energy's study estimates that this solar array will save this LIDAC elementary school $236,670 over 20 years.[61]

4. **EPC Contract RFP Process**
   The Connecticut Green Bank currently develops the project, owns the projects, and hires contractors to procure, install, and connect solar equipment at schools. These major contracts, called EPC (Engineering Procurement and Construction) contracts, are lower cost if they are aggregated across schools (akin to buying food in bulk rather than in individual packages). An RFP process led by the Green Bank allows a group of schools to receive solar at a lower cost than they each could have negotiated alone. The Green Bank's RFP process also satisfies

[60] Page 18: https://www.avonct.gov/sites/g/files/vyhlif151/f/minutes/tc_05_06_21_mtg_web.pdf
[61] Page 19: https://www.avonct.gov/sites/g/files/vyhlif151/f/minutes/tc_05_06_21_mtg_web.pdf

statutory competitive procurement requirements for school districts, so the Green Bank's process saves school districts a considerable amount of staff time. Because these solar projects would otherwise not have been developed, the Green Bank says that this contracting process is generating additional business for in-state solar installers, "growing the pie for everyone."[62]

5. **Contractor Standards**

The Connecticut Green Bank has successfully prioritized in-state contractors for recent K-12 solar design contracts and EPC contracts (see table below). Recent EPC RFPs[63] for K-12 solar projects have explicitly prioritized developers with a history of work with Connecticut municipalities and Connecticut state incentive programs; doing so selects for a group of existing in-state developers who have existing relationships with the Green Bank.[64] The most recent RFP includes "education requirements," requiring that solar installers invite high school students to "observe active construction" at each project site, in an effort to familiarize students with solar industry careers.[65] The Green Bank also maintains a relatively short "approved equipment vendors list" to ensure that high-stakes items like solar modules, inverters, and racking systems come from trusted sources with a history of quality long-term equipment performance.[66] Receiving federal GGRF awards, like Solar For All, has required the bank to strengthen contractor standards for recent EPC RFPs.[67]

Solar MAP Contractor	Contract Year	Contractor HQ Location
CSW Energy (Design)	2019	Meriden, Connecticut
Greenskies (EPC)	2021	North Haven, Connecticut
Verogy (EPC)	2022, 2023	Hartford, Connecticut

[62] Interview #1 with Connecticut Green Bank staff
[63] 2019 design RFP: https://www.ctgreenbank.com/wp-content/uploads/2019/03/REQUEST-FOR-PROPOSALS-FOR-MUNICIPAL-AND-STATE-SOLAR-DEVELOPMENT-ASSISTANCE-2nd-release.pdf
Round 1 EPC RFP: https://www.ctgreenbank.com/wp-content/uploads/2020/10/SolarMAP-EPC-RFP-FINAL-3.docx
Round 2 EPC RFP: https://www.ctgreenbank.com/wp-content/uploads/2022/07/Solar-MAP-Round-2-EPC-RFP-2021.pdf
Round 3 EPC RFP: https://www.ctgreenbank.com/wp-content/uploads/2022/07/CGB-2021-State-Solar-EPC-RFP.pdf
[64] A handwritten sign-in sheet from a site visit associated with a multifamily housing solar EPC RFP lists 6 prospective bidders, from 6 Connecticut-based solar installers https://www.ctgreenbank.com/wp-content/uploads/2024/12/CGB-AMFH-Site-Visit-Day-1.pdf
[65] Page 5: https://www.ctgreenbank.com/wp-content/uploads/2022/07/CGB-2021-State-Solar-EPC-RFP.pdf
[66] https://www.ctgreenbank.com/wp-content/uploads/2024/12/Exhibit-B-CGB-Approved-Vendor-List-11-14-2024.pdf
[67] https://www.ctgreenbank.com/wp-content/uploads/2024/12/CGB-Solar-MAP-EPC-RFP-AMFH-Round-1-Final.pdf

Solar MAP's Project Finance Component

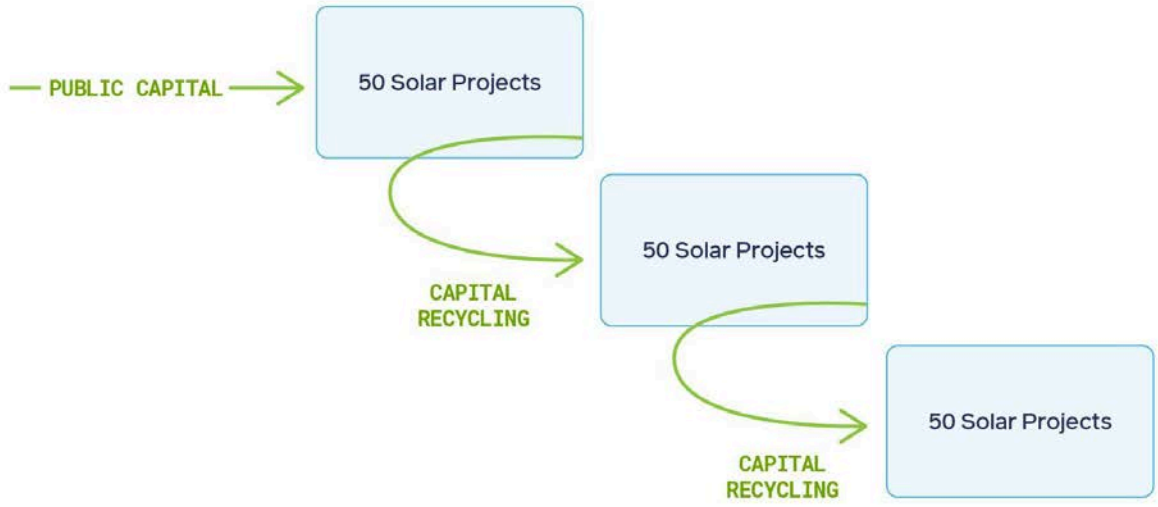
The finance side of Connecticut Green Bank's Solar MAP program delivers the funds (capital) needed to pay the solar installers on time, at the lowest possible cost to the bank.

Capital Recycling Basics

The concept of **capital recycling** is central to how all green banks operate. Connecticut Green Bank uses public capital to invest in a project, and then "recycles" that capital many times over, leveraging the value created by building one set of renewable energy projects to finance an additional set of renewable energy projects, and then another, et cetera. In order to fulfill their mission, green banks aim to recycle public capital many times over, at the quickest possible turnaround pace, while also ensuring quality control over the renewable energy assets they develop.

FIGURE 8

Simplified Capital Recycling at a Self-Sustaining Green Bank



At any given time, Connecticut Green Bank owns a number of renewable energy assets, sometimes as a portfolio of renewable energy project loans (debt), and sometimes as a portfolio of renewable energy projects like solar panels that they own directly (equity). Capital recycling allows Connecticut Green Bank to leverage the value of revenue-generating assets that they own as collateral or financial backing to invest in additional assets, thereby "recycling" their initial public capital multiple times over.

At the Connecticut Green Bank, K-12 solar projects were part of a bank-wide asset portfolio of comparable renewable energy assets, all contributing to the Green Bank's mission, and all tied to capital recycling strategies designed to free up funds to invest in the next set of projects. The value of revenue-generating assets like residential solar PPAs, commercial energy efficiency loans, and K-12 solar PPAs were all being leveraged to secure additional capital to fund additional projects, thus "recycling" their initial public capital. In this way, the Green Bank's K-12 solar investments benefitted from comparable investments across the bank's asset portfolio.

Connecticut Green Bank's Solar Project Finance Cycle

The table below shows how capital recycling fits into the Green Bank's overall solar project finance cycle.

Step 1 Public Capitalization	The vast majority of state green banks were initially capitalized with public funds from state governments.
Step 2 Project-level Capital Investments	Financing a solar project with some combination of existing liquid capital and loans, with the expectation of earning recurring returns. Green banks become self-sustaining if their average returns are equal to or greater than their average cost of capital.
Step 3 Monetize Tax Incentives	Typically a tax equity partnership structure is used, because until direct pay, only private entities could monetize federal renewable energy tax credits. With direct pay available through the IRA, this process is cheaper and simpler, because certain federal tax credits for nonprofit and public sector entities can now be monetized directly through the IRS.
Step 4 Capital Recycling	Once projects are fully complete, and producing regular returns (revenue), their increased value allows a green bank to receive asset returns, refinance loans, sell assets, or sell the cash flow from assets (through a process called securitization, often as bond sales). Capital recycling allows green banks to reduce their cost of capital and free up capital (liquidity) that can then be used for reinvestment.
Step 5 Reinvestment	Repeat Step 2, with an additional round of projects. Rinse/repeat. The initial public capital creates a self-sustaining cycle of decarbonization.

Key Elements of Connecticut Green Bank's Finance Process

1. **Public Capitalization**
   In addition to an initial capitalization,[68] Connecticut Green Bank has received additional public capital annually since 2011 from utility surcharges and auction proceeds from the Regional Greenhouse Gas Initiative (RGGI).

   - **$24-$27 million annually** from ratepayer surcharge on electric bills, about $10 per household each year.[69]
   - **$5-$9 million annually** from RGGI proceeds.[70]

   Once the Green Bank was capitalized with public money they could then deploy that capital to develop productive assets like K-12 solar projects. The Green Bank's public capital has been maintained over time, with revenue from projects covering the cost of operating expenses. For example, between 2011 and 2016, the Green Bank received $186 million in public funding, and by 2016 owned total assets worth $202 million, all while continuously financing renewable energy projects.[71] This self-sustaining quality allows the Connecticut Green Bank and similar public finance institutions to continue ambitious decarbonization efforts in spite of shifting political control at the federal level.[72]

2. **Project-level Investments**
   Connecticut Green Bank develops and owns K-12 school solar projects with financing in mind. For example, the round-by-round development process described in the previous section is able to leverage economies of scale because multiple comparable K-12 projects are being developed at once. A similar logic applies to the finance side of the program. Standard **underwriting**[73] criteria can be used to assess the financial viability of comparable projects, and then standard PPA contracts can be used across projects. By facilitating collaboration across multiple public school solar projects, the Green Bank is able to access cheaper capital (lower interest rate capital) than any one school could access individually. Access to cheaper capital allows the Green Bank to pass on more savings to individual K-12 schools.

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[68] Connecticut Green Bank had an initial capitalization of $60 million in 2011 when it became the successor agency of the Connecticut Clean Energy Fund. However, because the bank inherited grantmaking obligations, it also had to distribute $60 million in grants 2011-2013 while it transitioned from a grantmaking model to a financing model. Sources: Page 9 here: https://www.ctgreenbank.com/wp-content/uploads/2015/12/CEFIA-FY12-Audited-Financial-Statements.pdf ; See financial reports from 2011, 2012, and 2013 here: https://www.ctgreenbank.com/strategy-impact/reporting-and-transparency/

[69] https://insideinvestigator.org/unplugged-the-7-billion-tax-in-your-electric-bill/

[70] https://www.aceee.org/sites/default/files/publications/researchreports/f1602.pdf ; https://www.rggi.org/sites/default/files/Uploads/Proceeds/RGGI_Proceeds_Report_2021.pdf

[71] https://coalitionforgreencapital.com/wp-content/uploads/2017/04/CT-Green-Bank-Org-Fact-Sheet.pdf

[72] Andrew Cumbers finds that the decentralized democratic public ownership model developed in the US during the Progressive Era and New Deal Era is more resistant to privatization than national ownership models developed in the UK after World War II: https://pop-umbrella.s3.amazonaws.com/uploads/46eece06-63d9-4c0a-8324-42ea5f8408f5_Cumbers%20Diversifying%20Public%20Ownership%20EN.pdf ; More evidence from Joe Guinan here: https://www.opendemocracy.net/en/opendemocracyuk/democracy-and-decentralisation-are-their-watchwords-for-corbyn-and-mcdonn/

[73] Underwriting is the process of assessing the risk and viability of a potential investment. According to the Center for Public Enterprise, underwriting in the public enterprise context involves evaluating project risks while also designing transaction structures that align with public goals – as the Connecticut Green Bank did with Solar MAP. https://publicenterprise.org/overreading-into-underwriting/

Like other green banks, the Connecticut Green Bank's primary purpose is to rapidly deploy clean energy. To repeatedly finance clean energy projects on an ongoing basis, most green banks aspire to become financially self-sustaining, which requires them to earn an average return on investment equal to or greater than their average cost of capital, by a large enough margin to cover operating expenses, like staff salaries or office rent.

For example, in March 2020 Green Bank staff explained to their board that they can access capital at 3-3.5% interest by issuing bonds backed by investment returns (revenue) from solar project portfolios.[74] Between 2017 and 2024, Green Bank staff consistently told their board that their investments are targeting a 5% "weighted average return over 10 years."[75] If the Green Bank's investment returns (5%) are higher than their cost of capital (3-3.5%), by enough to cover the bank's operating expenses, then the bank can be self-sustaining. Instead of making a profit that is pocketed by shareholders, as a private developer would,[76] additional savings are either passed onto consumers like K-12 schools who host solar panels, or used to invest in additional clean energy projects developed by the bank.[77]

Here is an illustrative quote from a conversation with Green Bank staff about how they handled an unexpected bonus federal tax credit tied to a municipal solar project PPA:

> *"We went back, told the town, and amended the PPA to a lower rate because we're not trying to make the most money. We were already going to meet our return on the project. But when things happen that just put money on the table, well that money will go back to the customer because as long as we meet our return, we're not trying to eke out any more."*[78]

Additionally, Connecticut Green Bank will vary their target rates of return by end user, allowing them to offer lower rates to municipal projects like K-12 solar and higher rates to similar projects for private sector businesses.[79] This practice of "cross-subsidization" allows the bank to take on socially beneficial projects with lower returns, so long as they are cross-subsidized by projects with higher returns elsewhere in the bank's investment portfolio. Cross-subsidization is a common feature of public banks with a social mission around the world.[80]

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[74] Page 31 here: https://ctgreenbank.com/wp-content/uploads/2020/05/board-of-directors-of-the-connecticut-green-bank_032520-redacted.pdf

[75] 2017, page 11: https://www.ctgreenbank.com/wp-content/uploads/2018/01/CGB_BOD_Final_Meeting-Minutes_121517.pdf
2018, page 5: https://www.ctgreenbank.com/wp-content/uploads/2018/06/CGB_Stakeholder-Webinar_Q4_FY-2018.pdf
2019, page 102: https://ctgreenbank.com/wp-content/uploads/2019/08/board-of-directors-of-the-connecticut-green-bank_062819-redacted.pdf
2024, page 155: https://www.ctgreenbank.com/wp-content/uploads/2024/07/Board-of-Directors-of-the-Connecticut-Green-Bank_062124.pdf

[76] Profit margins of 10%-25% per project are a typical target for a for-profit solar developer. https://arka360.com/ros/why-solar-companies-go-out-of-business/

[77] Interview #1 with Connecticut Green Bank staff

[78] Interview #1 with Connecticut Green Bank staff

[79] Connecticut Green Bank board meeting, 12/15/2023 at 1:03:18, here: https://youtu.be/B4Er_otnyGQ?si=IvxhtyYxtXKXElfs&t=3798

[80] Banco Popular in Costa Rica uses high-return activities to cross-subsidize the bank's low-return social lending activities, and Halk Bank in Turkey uses high-return activities to cross-subsidize public services. Public Banks: Decarbonization, Definancialization, Democratisation, by Tom Marois, page 239: https://www.cambridge.org/core/books/public-banks/0EC8E41F837E1F10BE53FC31DA83D012

3. **Monetize Tax Incentives**
   Some form of federal tax incentive for solar has been in place since 1978.[81] These federal tax incentives make renewable energy cheaper, but require significant legwork to monetize. Renewable energy developers enter into complex legal partnerships with large private entities, usually big banks, to arrange tax equity partnership structures that are used to monetize federal tax incentives.

   Before 2023, when direct pay was not available, K-12 schools pursuing solar projects could only access federal tax incentives by working with third-party solar project owners, like private developers or green banks that arranged tax equity partnerships on their behalf.[82]

   Now, schools can access tax credits directly, and so can nonprofit and public solar developers, like green banks.

   In addition to federal incentives, the state of Connecticut offered a significant small- and medium-scale incentive program, which the Green Bank also monetized on behalf of school districts and municipalities for K-12 school installations.[83]

4. **Capital Recycling**
   Capital recycling means that dollars that are deployed by the Green Bank are able to be deployed again, multiple times.[84] Capital recycling is the essential functionality that allows green banks and development finance agencies to become self-sustaining and increase in scale as they continuously deploy renewable energy projects.

   Once a number of similar solar projects are online, that "portfolio" of assets becomes more valuable as it earns revenues from selling electricity. Owning a portfolio of projects with stable financial returns makes it easier for the bank to access additional low-cost capital, or possibly sell the portfolio of assets all together for more money than they initially spent. Leveraging projects with a positive cash flow to access additional capital is a common practice in renewable energy development,[85] and an essential tool for green banks and development finance agencies which want to finance multiple rounds of solar on K-12 schools.

The following table provides an overview of capital recycling methods used by Connecticut Green Bank over the course of its K-12 solar development work.

[81] https://nccleantech.ncsu.edu/2024/11/19/the-past-present-and-future-of-federal-tax-credits-for-renewable-energy/
[82] See "Public Option PPA Offering" for more detail
[83] ZREC program background here: https://www.eversource.com/content/residential/save-money-energy/clean-energy-options/renewable-energy-credits/status-overview
[84] Definition from Coalition for Green Capital, page 22 here: https://coalitionforgreencapital.com/wp-content/uploads/Policy-Analysis-of-the-Clean-Energy.pdf
[85] https://www.dnv.com/cases/securitization-of-solar-projects-86650/#:~:text=Securitization%20refers%20to%20the%20process,portfolio%20of%20underlying%20cash%20flows.

Capital Recycling Method[86]	Hypothetical Public Option K-12 Solar Example	Connecticut Green Bank Example	Benefit for K-12 Schools
Investment Returns	Public developer invests in 10 solar projects, signs PPAs with schools. 5% returns per year, they recycle 100% of their initial capital in 20 years.	K-12 solar projects developed 2014-2018 are still owned by Connecticut Green Bank, yielding continuous returns.[87]	Regular investment returns are then used to invest in additional K-12 solar projects.
Refinancing	Public developer invests in 10 solar projects, signs PPAs with schools. Uses the signed PPA to negotiate a 20-year loan at 5% interest to pay off a 10% interest construction loan.	In 2014 Connecticut Green Bank pooled K-12 solar projects tied to PPAs in order to secure low-interest commercial bank loans, which were used to refinance higher-interest loans used to purchase solar equipment.[88]	Lower cost of capital means a green bank can offer schools a better deal for subsequent K-12 solar projects.
Asset Sales	Public developer invests in 10 solar projects, signs PPAs with schools. Sells assets tied to PPAs for a net financial gain, with unmodified PPA contracts.	Connecticut Green Bank sold K-12 solar project PPAs to a nonprofit asset manager, Inclusive Prosperity Capital (IPC), 2020-2024.[89]	Proceeds from asset sales can be used to invest in additional K-12 solar projects.
Securitization	Public developer invests in 10 solar projects, signs PPAs with schools. Green bank aggregates these similar assets and pools their cash flows. Green bank issues revenue bonds at 3% interest to private investors, paid out from the pooled cash flows of those aggregated assets.	In 2019 Connecticut Green Bank sold $38 million in securities backed by returns from 14,000 residential solar projects.[90]	Proceeds from the sale of securities can be used to invest in additional K-12 solar projects.

[86] Adapted from CGC capital recycling framework. Page 23 here: https://coalitionforgreencapital.com/wp-content/uploads/Policy-Analysis-of-the-Clean-Energy.pdf

[87] Interview #2 with Connecticut Green Bank staff, regarding the commercial solar portions of the SL2 and SL3 special purpose vehicles (SPVs) owned by the bank.

[88] https://cbey.yale.edu/research/ct-solar-lease-2

[89] Connecticut Green Bank initially just sold the assets, to recycle capital. Then, the bank decided to sell the assets, then underwrite loans for those assets, then securitize the loans, to further leverage their initial capital and access additional low-interest credit. The underwriting for the loans was little additional work, because it was already done for the initial project development investment. Sources: 1 - initial PPA sales to IPC https://www.ctgreenbank.com/solar-projects-sold-to-ipc/ ; 2 - asset sales + loans to IPC, page 29: https://ctgreenbank.com/wp-content/uploads/2020/05/board-of-directors-of-the-connecticut-green-bank_032520-redacted.pdf

[90] Securities sold via private placement https://www.ctgreenbank.com/cgb-sells-38m-in-shrecs/

Tradeoffs Across Capital Recycling Methods for Connecticut Green Bank-Owned Assets

Connecticut Green Bank uses multiple capital recycling methods to achieve its social mission. Securitization is seen as a particularly desirable capital recycling method because it allows green banks to access low-cost capital without losing control over assets.

Capital Recycling Method	Access to Low- Cost Capital	Capital Recycling Speed	Control Over Assets
Investment Returns	Limited Capital Access	Slower	High
Refinancing	Low rates, but higher than securitization	Medium, once project is online	High
Asset Sales	Lowest rates, no interest	Fast, PPA must be sold by the end of the construction phase to claim tax credits	Low, reliant on strong PPA contracts
Securitization	Lowest rates, bond rates	Medium, once project is online	High

Ox Ridge Elementary School
Credit: Verogy

How Asset-Backed Bonds Expand the Pie for States

Owning revenue-producing assets, like K-12 school solar arrays, allows the Connecticut Green Bank to borrow at a low cost of capital, without competing directly with other public finance priorities.

States and municipalities access low-cost capital primarily through general obligation bonds (GO bonds). These bonds are "backed" by the tax base of the issuing government, which makes them appear safe to investors, and therefore well-rated by credit agencies. Governments and school districts with higher bond ratings can issue new bonds at a lower cost of capital. However, if a state issues too many GO bonds, credit rating agencies will eventually downgrade the state's credit ratings, because they worry the state will not be able to raise enough taxes to repay bondholders.

Source of Public Sector Capital	Examples	Backing	Limits	Who Buys the Bonds/ Securities?
General Obligation Bonds (GO bonds)	School bonds, municipal bonds	Backed by taxation ability (i.e. property tax revenue)	Limited. Breaching the issuer's debt limit harms the issuer's credit rating. A downgraded credit rating increases costs for taxpayers.	Private investors, mostly
Asset-Backed Bonds (or structural equivalents)	Revenue bonds, asset-backed securities (ABS), securities sold via private placement	Backed by project revenue	Unlimited. Additional bonds can be backed by additional renewable energy projects. Economies of scale and asset diversification further reduce risk.	Private investors, mostly

Solar MAP in Action: Manchester Public Schools – from “Never” to Leader

Manchester’s Journey to Yes

Located in the greater Hartford region, Manchester Public Schools is a large suburban district of 17 schools—four of which are Title I schools serving low-income communities. By the time round one of Solar MAP was starting in the lead up to 2020, private solar developers in the state had concluded that Manchester would “never do a project.” The state solar incentive program had been around for ten years, private developers had made proposals to take advantage, but a deal had not been reached.[91]

Those assumptions were upended when the Connecticut Green Bank came to the town with their new program designed to put solar on municipal buildings. Previous barriers to Manchester installing solar on its buildings included limited municipal staff capacity and sectoral expertise to lead the planning and contracting processes required.[92] Solar MAP offered a route to solar that would take the administrative burden off the municipality and put it in the hands of a trusted, experienced institution set up by the state.

The town’s Deputy General Manager and Director of Public Works made the advantages of Solar MAP clear in a memo to Manchester’s Board of Directors, the town’s elected governing body. The memo recommended that the town sign a letter of intent with the Green Bank to move forward with 11 solar projects through Solar MAP, the majority of which were for K-12 schools.

[91] Interview #1 with Connecticut Green Bank staff
[92] https://www.cga.ct.gov/2024/ETdata/TMY/2024HB-05232-R000227-Garcia,%20Bryan,%20President%20-%20CEO-Connecticut%20Green%20Bank--TMY.PDF

Senior Manchester municipal staff cited three primary reasons for recommending that the town partner with the Green Bank to develop solar projects:

1. **The Green Bank's legitimacy as a quasi-state institution.**

   "*Given the Connecticut Green Bank's role as a quasi-state institution, with a governing Board appointed by a bi-partisan group of elected state officials (Governor, Majority and Minority Leaders), there is a level of legitimacy and accountability with CGB that is not available from any other provider of solar energy. In a relative [sic] new field, this is especially important as most PPAs are for 20-25 years; and the reliability and long-term solvency of the institution with which we enter into a long term contract is critical."*[93]

2. **The Green Bank's transparency and track record.**

   "*As a quasi-state institution created by the Connecticut Legislature, there is a level of transparency and required disclosures from the CGB that would not be found with other potential solar energy firms. Listed on its website are detailed financial reports, operating procedures, ethics statements, and comprehensive plans.*[94]

   For a relatively new industry, the importance of a successful track record working with other municipalities such as the work CGB have done…is essential."

3. **The timing of the projects,** which would help the town take advantage of state-level incentive programs.[95]

The excerpts from the report indicate clearly that the quasi-public status and democratic governance structure of the Green Bank made the difference in getting Manchester from "never" to yes. Trust appeared to be just as significant as the financial calculation.

The letter of intent was signed with bipartisan support from the Board of Directors and the Power Purchase Agreement was unanimously approved six months later.[96] [97]

[93] https://ecode360.com/documents/MA2034/public/575167355.pdf
[94] https://ecode360.com/documents/MA2034/public/575167355.pdf
[95] https://ecode360.com/documents/MA2034/public/575167355.pdf
[96] https://ecode360.com/documents/MA2034/public/575167641.pdf
[97] https://ecode360.com/documents/MA2034/public/595241437.pdf

Execution and Results

In 2022, solar panels were installed at 6 of Manchester's 17 public schools, adding 1.6 MW to the town's solar energy capacity.[98] With guidance and support from the Connecticut Green Bank, this initiative has not only reduced energy costs but also reinforced the Town's prioritization of sustainability. Since the initiation of the Solar MAP projects, Manchester has established itself as a national leader in the sustainability space, with three net-zero energy school buildings and adoption of cutting-edge technologies like ground source heat pumps.[99] Manchester also has additional ongoing investments in net-zero buildings, including a new library, and plans to use IRA tax credits for further clean energy projects.

Solar installations are projected to save the Town of Manchester approximately $100,000 annually.[100] Federal tax credits further improved the affordability of the projects. Beyond financial savings, these renewable energy systems are now valuable educational tools, sparking curiosity and environmental awareness among students.

The Connecticut Green Bank's approach benefits every school in Connecticut, but it's especially impactful for smaller towns and municipalities. Smaller towns face limited resources, which can strain their ability to pursue other initiatives.

The Green Bank was instrumental in the success of the Town of Manchester's school solar projects.[101]

Chris Till
Facilities Manager
Town of Manchester, Connecticut

[98] https://www.ctgreenbank.com/manchester-announces-solar-installations-at-seven-municipal-buildings/ capacity data is from connecticut green bank. Available from authors upon request.
[99] Undaunted K-12 published an overview of Manchester's ground source heat pump investments here: https://www.undauntedk12.org/playbook-for-state-leaders
[100] https://www.ctgreenbank.com/the-town-of-manchester-will-save-more-than-100000-annually-through-seven-solar-systems/
[101] Interview with Chris Till

Case Study Part 2: How Solar MAP Came to Be and Future Opportunities

Key Factors (According to Connecticut Green Bank Staff)

In our conversations with Green Bank staff,[102] here are some key factors they identified that led to the evolution of the program:

1. **Undersubscribed State Incentive Programs**
   The State of Connecticut's ZREC program, established in 2011, helped grow the number of solar schools in the state but remained undersubscribed for school-scale solar projects.[103] For the Green Bank, this was the single most salient justification for the need to enter the space as a public option solar developer, partnering with public schools to do what private developers were not capable of doing, even with incentives in place.[104]

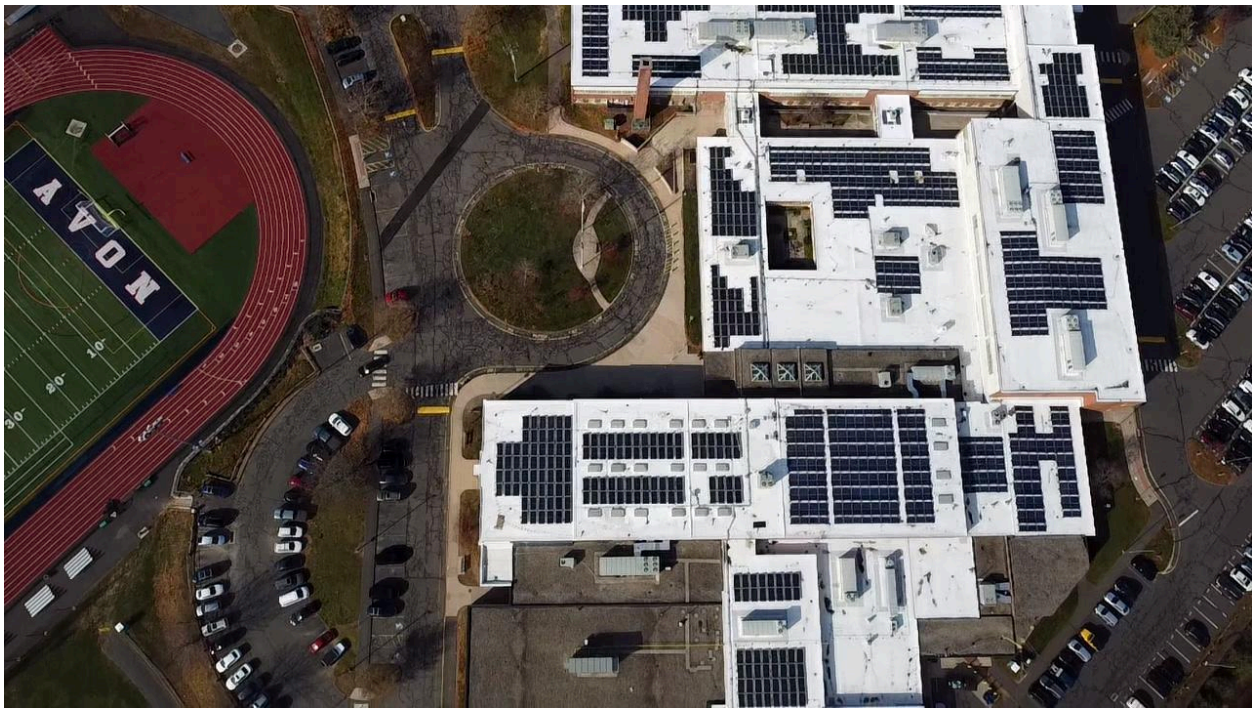
2. **A Proposal from the Green Bank Staff**
   According to Green Bank staff, the decision to offer public PPAs to K-12 schools in 2014, and the decision to target solar development capacity to K-12 schools in 2019 came from members of the team at the Green Bank itself. Green Bank staff were quick to note that their proposal was met with immediate support from state and municipal allies because of the trust the bank had built over time, as a public partner eager to collaborate with others in the public sector. The staff who proposed this expanded work were the same people who became responsible for that work, which expanded the scope of their roles at the Green Bank.

3. **Requests from Municipal Governments and School Districts**
   School districts and towns were eager to partner with Connecticut Green Bank in 2014 when their public option PPA was launched and continue calling for the program to be expanded. The PPA alone was not enough for some school projects to move forward, which prompted the bank to offer turnkey development support, including competitive RFPs for design, feasibility, and installation starting in 2020.

[102] Interviews #1 and #2 with Connecticut Green Bank staff
[103] ZREC program background here: https://www.eversource.com/content/residential/save-money-energy/clean-energy-options/renewable-energy-credits/status-overview
[104] See Connecticut Green Bank testimony on how undersubscribed the program was for school-scale projects, page 9: https://www.cga.ct.gov/2024/etdata/TMY/2024HB-05232-R000227-Garcia,%20Bryan,%20President%20-%20CEO-Connecticut%20Green%20Bank--TMY.PDF

4. **State Government Support**
   Bank partners at the governor's office, and state-level agencies supported the shift to turnkey development support in 2020, in part because they wanted the Green Bank to apply the same turnkey development approach to state-owned projects.

5. **Democratic Board Support**
   New Green Bank programs require board approval of written proposals, transparently voted on at publicly accessible recorded board meetings. Members of the board representing the governor's office, the state environmental community, labor unions, and community-based economic development all supported the staff's proposals to expand public development offerings to schools and other public buildings.



Avon High School / Credit: Verogy

Phases of Public Option K-12 Solar at Connecticut Green Bank (2014-2025)

The Connecticut Green Bank's Solar PPA programs evolved in phases, from 2014 to the present. According to Green Bank staff, these programs iterated off of one another, and evolved to fill market gaps based on the Green Bank's assessment of needs in the state. The programs were not modeled after other public ownership or public developer experiences in other sectors or other countries.

FIGURE 9

Phases of Connecticut Green Bank Solar Development at K-12 Schools

Phase	Years	Project Originator	Developer	Mode of Financing*	Public Ownership Duration	Asset Manager, Tax Equity Sponsor	Capital Recycling
Phase 1 Public Asset Management with Tax Equity Partners	2014-2018	Private	Green Bank	Blended Financing (Balance Sheet Financing and Debt Financing)	Long Term Public Ownership	Green Bank	Investment returns, refinancing, securitization
Phase 2 Asset Sale to Private Asset Managers	2017-2020	Private	Green Bank	Balance Sheet Financing	Temporary Public Ownership	Private	Asset sales, Securitization
Phase 3 Asset Sale to Nonprofit Asset Manager	2020-2024	Green Bank	Green Bank	Balance Sheet Financing	Temporary Public Ownership	Non- profit	Asset Sales, Securitization
Phase 4 IRA-enabled Public Asset Management	2025-	Green Bank	Green Bank	Balance Sheet Financing	Long Term Public Ownership	Green Bank	Investment Returns, Refinancing, Asset Sales, Securitization

**Note: In the "Mode of Financing" column, "balance sheet financing" means the Green Bank uses its own funds to pay for solar projects, whereas "debt financing" means the Green Bank took out a loan to pay for solar projects. "Blended financing" is a combination of balance sheet financing and debt financing. Connecticut Green Bank's ability to pursue balance sheet financing is enabled by public capitalization.*

Here is a more detailed account of each phase:

- **Phase 1: Public Asset Management with Tax Equity Partners, 2014-2018**
  Connecticut Green Bank's very first PPA offering to K-12 schools was publicly owned solar panels for projects originated by in-state solar installers, who initiated conversations with schools, and led installation work. The Green Bank owned the panels, directly negotiated PPA contracts with school districts and municipalities, and arranged a tax equity partnership to monetize the credits. Private banks provided 45% of the financing through loans.[105] The Green Bank still owns and manages these projects.

- **Phase 2: Asset Sale to Private Asset Managers, 2017-2020**
  Because of the burdens associated with tax equity partnership, the Green Bank looked for an outside partner who could buy and manage projects developed by the Green Bank, thus outsourcing the process of arranging the complex partnership needed to monetize federal tax credits. The Green Bank intended this arrangement to be a short-term stopgap measure until a nonprofit asset manager could be established.[106] Thanks to recurring public capitalization and capital recycling, the Green Bank was able to begin financing K–12 solar projects entirely through balance sheet financing by 2017.[107]

- **Phase 3: Asset Sale to Nonprofit Asset Manager, 2020-2024**
  By 2020, Green Bank staff spun out a new 501c3 nonprofit asset manager called Inclusive Prosperity Capital to buy and manage solar PPAs that were originally developed and owned by the Green Bank. The nonprofit model allows solar asset ownership to remain entirely in public and nonprofit hands for the lifespan of the projects.

- **Phase 4: IRA-enabled Public Asset Management, 2025**
  Once the IRA was enacted, Connecticut Green Bank no longer required a private tax equity partner to monetize federal tax incentives because they could file for direct pay from the IRS themselves. Now that a private sector tax equity partner is no longer needed, the Green Bank is no longer planning on selling newly developed K-12 solar PPAs.[108]

Public Development as the Common Denominator

The common factor across each phase of solar was the Green Bank's role as a public developer, negotiating public-public partnerships with school districts and municipalities. The tipping point investment decision that ultimately made these projects move forward was made by the Green Bank, not a for-profit actor. Our analysis zeroes in on this particular function as the single most consequential element of the program. A report from Common Wealth, a UK think tank, calls this "socialising the investment decision function."[109] Getting more renewable energy projects to "yes," a core goal of renewable energy policy, is frequently accomplished by subsidizing privately-developed

[105] Page 7: https://cbey.yale.edu/research/ct-solar-lease-2
[106] The Connecticut Green Bank's asset sale practice is tied to a public-public PPA, making this private asset management relationship far less predatory than other examples of clean energy infrastructure being bought up by private asset managers. Because of the publicly negotiated PPA, the private asset manager's returns are directly tied to consistent solar production. More on the role or private asset managers in the clean energy space here: https://www.nytimes.com/2023/05/08/opinion/inflation-reduction-act-global-asset-managers.html
[107] Page 52: https://ctgreenbank.com/wp-content/uploads/2020/03/deployment-committee-of-the-connecticut-green-bank_022720-redacted-1.pdf
[108] However, because current IRS rules do not allow public sector developers to monetize asset depreciation without a private sector tax equity partner, Connecticut Green Bank staff said that they do not want to rule out tax equity partnerships entirely.
[109] Page 26, here: https://www.common-wealth.org/publications/the-greatest-generation-how-public-power-can-deliver-net-zero-faster-fairer-and-cheaper

renewable energy projects, in hopes of shifting these investment decisions toward renewables. Detailed modeling is often used to help policymakers predict the most likely investment decisions of for-profit actors under varying policy scenarios. Connecticut Green Bank's publicly-developed K-12 solar work removes the guesswork from this equation, resulting in consistent renewable energy development. Private developers are built to make project-by-project investment decisions based on profitability, whereas public developers, like the Green Bank, are built to make decisions based on social impact.

Key Moments in the Evolution of Solar MAP

1. **Green bank enabling legislation, 2011.**
   The Green Bank was founded as a quasi-public agency in 2011 with a mandate to invest in revenue-generating clean energy assets.[110] It was built to collaborate with the private sector, but was given broad latitude on how to do so, including the power to develop and own assets like K-12 solar projects. These broad authorities have allowed the bank to often act as the senior partner in collaborations with the private sector, expanding the clean energy market beyond the point where the private sector is willing to invest, and ensuring the value created by public projects remains in public hands, with material benefits flowing to municipal and school district budgets.

   The enabling statute also gave the bank an explicit mandate to partner with the public sector to develop commercial-scale clean energy projects, including municipalities, schools, and the state of Connecticut.

   The bank's legislatively mandated democratic board structure ensures close political ties to the state's executive agencies, and civil society groups like organized labor. Having a board with such close ties to state government has helped the bank establish high trust relationships with public sector actors like schools and insulates the bank from political pressure from private clean energy developers (see "Blowback" section below).

[110] Page 184 https://www.cga.ct.gov/2011/act/pa/pdf/2011PA-00080-R00SB-01243-PA.pdf

FIGURE 10

The Connecticut Green Bank's Board of Directors[111]

Position	Status	Appointer	Voting
State Treasurer (or designee)	Ex Officio	Ex Officio	Yes
Commissioner of DEEP (or designee)	Ex Officio	Ex Officio	Yes
Commissioner of DECD (or designee)	Ex Officio	Ex Officio	Yes
Secretary of OPM (or designee)	Ex Officio	Ex Officio	Yes
Residential or Low-Income Group	Appointed	Speaker of the House	Yes
Investment Fund Management	Appointed	Minority Leader of the House	Yes
Environmental Organization	Appointed	President Pro Tempore of the Senate	Yes
Finance or Deployment of Renewable Energy	Appointed	Minority Leader of the Senate	Yes
Finance of Renewable Energy	Appointed	Governor	Yes
Finance of Renewable Energy	Appointed	Governor	Yes
Labor	Appointed	Governor	Yes
R&D or Manufacturing	Appointed	Governor	Yes
President of the Green Bank	Ex Officio	Ex Officio	No

2. **Bonding Authority, 2012 and 2019**
   Bonding authority granted by the state legislature to the Green Bank enables the capital recycling that allows the Green Bank to leverage capital multiple times over. Once the Green Bank had the authority to issue bonds, they were able to sell the cash flow from portfolios of similar projects to investors at a low interest rate of 3-3.5% in 2020.[112] Because these bonds are backed by cash flow from productive assets, and not by the "full faith and credit" of the state, they could be issued without having an effect on the state's credit rating. These asset-backed bonds do not compete with other state priorities, but instead expand the public sector's overall access to cheap capital.

   The state legislature passed a bill to give the Green Bank $50 million in bonding authority in 2012.[113] This law enabled the Green Bank to begin building portfolios of assets that could be

[111] Page 9: https://www.ctgreenbank.com/wp-content/uploads/2024/07/Comprehensive-Plan_FY-2025_071924.pdf
[112] Page 31 here: https://ctgreenbank.com/wp-content/uploads/2020/05/board-of-directors-of-the-connecticut-green-bank_032520-redacted.pdf
[113] Page 177 here: https://www.cga.ct.gov/2012/act/pa/pdf/2012PA-00002-R00SB-00501SS2-PA.pdf

securitized to enable faster rate of capital recycling and therefore provide additional investment in clean energy projects. By 2014, enabled by bonding authority, the Green Bank was able to secure private placement of bond securities with specific partner investors.[114] In 2019, legislation increased bonding authority from $50 million to $100 million, enabling additional bond finance.[115]

In addition to bonding authority, the State of Connecticut also offered the Green Bank the same public finance mechanism that helps other quasi-public finance agencies issue low-interest bonds. In Connecticut, quasi-public agencies making public-purpose investments are granted access to the state's Special Capital Reserve Fund (SCRF) — a fund capitalized by public money and designed to enhance the security of bonds they issue. This mechanism, known as a **credit enhancement**, helps lower borrowing costs for quasi-public entities. With access to the SCRF, Green Bank-developed clean energy projects can access the same low-interest finance that supports the development of airports, sewers, recycling facilities, childcare facilities, and public housing.[116] The Green Bank can therefore issue bonds backed by both asset revenue and a publicly-funded reserve fund, which allows Green Bank bonds to be issued at a lower interest rate than if it only had one or none of those supports – allowing the Green Bank to offer more favorable solar PPA terms to K-12 schools.

3. **Public Option PPA Offering, 2014**

In 2014, the Connecticut Green Bank began offering Green Bank-owned solar PPAs to residential customers and K-12 schools. This was a response to the rise of national installers like SolarCity who were offering similar products to residential consumers.[117] National installers increased overall solar deployment in Connecticut but reduced the market share for Connecticut-based solar installers, none of which offered PPAs at the time. The Green Bank's partnership was seen as a way to support the state's renewable energy sector while also offering a competitive cost-saving product to customers like homeowners and public schools.

The Green Bank's existing staff capacity for underwriting solar loans was able to shift to underwriting solar assets. In order to compete with the national solar installers, the Green Bank arranged a tax equity partnership[118] to monetize the federal tax credits associated with the solar projects — a complex financing function that local solar installers were not able to manage without a partner.

Connecticut Green Bank sponsored a tax equity partnership with a private bank that temporarily transferred legal ownership of a portfolio of solar projects to the private bank in order to monetize federal tax credits.[119] Once the credits were fully monetized, full ownership of the solar portfolio flipped back to the Green Bank, and the tax equity partnership was dissolved.[120]

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[114] Page 45 here: https://doee.dc.gov/sites/default/files/dc/sites/ddoe/service_content/attachments/20170403_Green%20Bank%20Technical%20Report%20for%20DOEE_FINAL.pdf

[115] https://cga.ct.gov/2015/rpt/2015-R-0174.htm

[116] Page 190 here: https://www.climatebonds.net/files/files/CTGB%20July%202020%20EMMA%20statement.pdf

[117] See pages 6-7 here: https://cbey.yale.edu/research/ct-solar-lease-2

[118] This 2016 RFP from the Connecticut Green Bank illustrates the tax equity partnership process and is similar to the one used to structure the 2014 partnership: https://www.ctgreenbank.com/wp-content/uploads/2016/06/SolarPPAFundRFP.pdf

[119] For more information about the Connecticut Green Bank's 2014 solar PPA tax equity partnership, see pages 7-9 here: https://cbey.yale.edu/research/ct-solar-lease-2

[120] Page 113: https://www.ctgreenbank.com/wp-content/uploads/2025/01/REDACTED-Board-of-Directors-of-the-Connecticut-Green-Bank_1213241.pdf

The K-12 solar projects developed by the Green Bank in 2014 remain on the bank's balance sheet in 2025.[121] The schools continue to make monthly PPA payments to the bank, and the bank continues to oversee operations and maintenance contracts (O&M) on these assets.[122]

The Connecticut Green Bank's 2014 decision to publicly finance public PPAs for K-12 schools is distinct from green banks who instead choose to publicly finance private PPAs. For example, Maryland's Montgomery County Green Bank issues publicly-subsidized loans to for-profit companies to encourage them to sign PPAs with K-12 public schools.[123] With this model, the Montgomery County Green Bank does not own the solar assets and does not receive cash flow from the PPAs. This limits its ability to set the terms of the PPA agreement in a way that maximally benefits school districts, and keeps the investment decision in the hands of a for-profit actor, rather than a public actor. For-profit developers require higher rates of return on projects than public developers, which limits the types of projects they can take on without subsidies, as illustrated by the table below:

FIGURE 10

Comparing Two Public Finance Models for Commercial-Scale Solar Development:[124]

	Public finance for private development	Public finance for public development
High-return projects? (10-25%)	Yes, with additional returns going to investors[125]	Yes, with additional returns passed on to project hosts.
Modest-return projects? (5-8%)	Possibly, if risk is low, and developer is not backed by private equity[126]	Yes, this is the Connecticut Green Bank's target rate of return.
Low-return projects? (0-4%)	Unlikely	Possibly, with cross-subsidization

4. **Asset Sales to Avoid a Tax Equity Partnership, 2018**
From 2014 to 2017, the Green Bank arranged a tax equity partnership for K-12 solar projects developed and owned by the Green Bank. For reasons of costs, staff time, and low negotiating

[121] Interview #2 with Connecticut Green Bank staff
[122] O&M RFP from 2023 here: https://www.ctgreenbank.com/wp-content/uploads/2023/04/FY2024_OM_Resi_SL-2RFP-5-22-2023.pdf
[123] For example: https://mcgreenbank.org/the-nora-school-installs-48-1kw-rooftop-solar-pv-system/ ; multiple K-12 solar projects are featured as case studies on the program's website https://mcgreenbank.org/category/case-studies/commercial/
[124] According to Brett Christophers' book The Price is Wrong, typical returns for solar and wind projects fall in the 5% to 8% range, while oil and gas projects earn returns of 15% or more. Pages 212-214, here: https://www.versobooks.com/products/3069-the-price-is-wrong
[125] https://arka360.com/ros/why-solar-companies-go-out-of-business/
[126] https://www.harbourvest.com/insights-news/insights/climate-investing-private-markets-return-focused-perspective/

leverage, Green Bank staff decided that this work would be better housed under a national nonprofit asset manager that many Green Bank staff were in the process of spinning off, called Inclusive Prosperity Capital (IPC). However, because it took years for IPC to be ready to purchase and manage solar projects, the bank sold projects to private asset managers 2018-2022.

The Green Bank's tax equity partnership allowed it to monetize federal tax credits, but it was also cumbersome and costly. Renewable energy developers commonly partner with large private banks which consistently owe large sums in taxes — known as a large "tax appetite" — which then monetize the tax credits on behalf of renewable energy companies who have very small tax appetites. Nationwide, 80% of federal tax credits are monetized by large US banks.[127]

Because only the largest banks and corporations have tax appetites large enough to engage in tax equity partnerships, they have historically been able to extract 15-25% of the tax credit's value.[128] Also, the process of creating the partnership requires upfront resources to fund specialized legal expertise and bank staff capacity to review financial models.[129] Throughout this tedious process, developers are at a negotiating disadvantage because they need the partnership deal to close before the solar project can start generating electricity (and therefore revenue).[130]

Selling assets developed by the Green Bank allowed them to avoid additional tax equity partnerships. These asset sales were a form of tight-turnaround capital recycling, allowing the bank to use money from the asset sales to invest in additional K-12 solar projects.

Even after a sale is complete, the strong PPA contract negotiated between the green bank and the school district remains intact. For example, one Green Bank template PPA contract used across projects includes: standards for performance, explicit underperformance remedies, termination rights in the events of bad maintenance, and explicit end-of-life decommissioning obligations.[131] Public control of the point of investment decision allows for stronger public-public PPA contract language than publicly-subsidized private PPAs whose contracts are negotiated with a for-profit developer.

5. **In-house Project Origination Increases Equity, 2020**
Beginning in 2020, the Connecticut Green Bank incorporated project origination into their PPA offering, allowing them to deploy solar far more equitably.

When the Green Bank let private sector solar installers lead on origination, only **0%-14%** of K-12 solar projects were located in low-income and disadvantaged communities (LIDAC), based on an analysis of projects that came online between 2014 and 2020.[132]

Once the bank started leading on origination, **50%-75%** of K-12 solar projects were located in low-income and disadvantaged communities (LIDAC), from projects that came online 2023-2024.

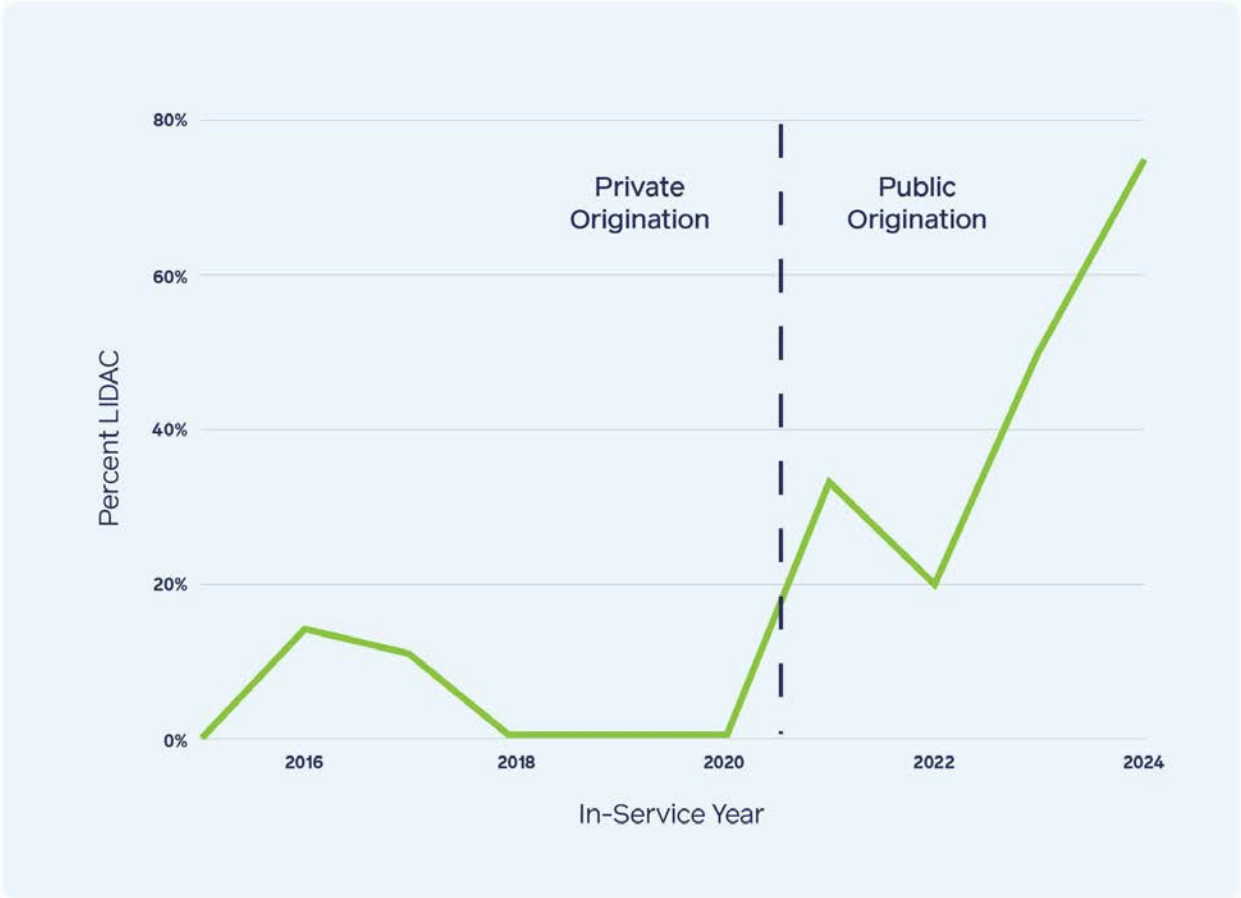
[127] https://acore.org/resources/tax-equity-enabling-clean-energy-and-growing-the-american-economy/
[128] 15% number here: https://www.americanprogress.org/article/understanding-direct-pay-and-transferability-for-tax-credits-in-the-inflation-reduction-act/ 25% number here: https://x.com/jessejenkins/status/1436680236930899981?s=46
[129] https://pivotal180.com/pros-and-cons-of-transferability/
[130] https://www.reunioninfra.com/insights/december-rush
[131] https://www.ctgreenbank.com/wp-content/uploads/2025/01/Exhibit-C-Project-Agreements-4th-Master-PPA-FINAL.pdf
[132] Data from Connecticut Green Bank. Available from authors upon request.

See image below:

FIGURE 11

Public Origination Allows the Connecticut Green Bank to Increase Solar at LIDAC Schools

Percent of K-12 Solar Reaching LIDAC Schools



Note: Publicly originated projects began to come online in 2020. By 2023-2024, 100% of the Connecticut Green Bank's K-12 solar projects coming online were originated in-house by the Green Bank.

By taking responsibility for origination, the Green Bank was able to dramatically improve equity outcomes for the program as a whole. Financial incentives alone were not enough, and public ownership of panels was not enough; only a hands-on approach to targeting investments that brought project planning itself out of the private sector and into the public sphere allowed the bank to achieve more equitable solar development.

Origination within the solar development process is associated with a one-time "origination fee," paid

from the financing partner to the originator at the time of development, or at the time of an asset sale. From 2014 to 2019, solar installers approached schools about public option solar PPAs, offering to bring in the bank as a finance partner, and pitching themselves as an installation partner. A successful pitch to a school could land a private installer 1 - an origination fee, and 2 - an installation contract. However, once the bank originated their own projects, the only way a solar installer could partner with the bank was by bidding on EPC contracts against other in-state solar developers, with only one or two developers selected per Solar MAP round. According to Green Bank staff:

> *"Yes… the opportunity for [private solar developers] to step in and provide development assistance and charge fees that are typically twice what we charge? That was not there. But the opportunity to actually build those projects was there and it would not have happened if not for the Green Bank."*[133]

Insourcing origination within the bank's Solar MAP program allowed the Green Bank to make new allies with municipalities and school districts who otherwise would not have gone forward with solar projects. However, according to Green Bank staff, this decision in 2019 also led to conflict down the road with private solar installers who did not appreciate the Green Bank's evolving relationship with the private sector (see "Blowback" section below).

6. **Blowback from Private Sector Critics, 2024.**
   In the spring of 2024, a small number of vocal solar developers worked with Democrats in the Connecticut State Legislature and the state's solar trade association to introduce a bill that would block the Green Bank from developing solar projects at public schools and other municipal sites. The effort was ultimately unsuccessful, but it required the Green Bank to bring the full weight of its political coalition to the table to block the attack.

   The Green Bank's critics argued that the bank was competing directly for market share with the private sector – particularly on K-12 school projects.[134] The bank argued that their interventions "grew the pie"[135] for K-12 solar in the state, because many of the schools they worked with had said no to for-profit PPA offers previously, but yes to the Green Bank's public offering.[136]

   Support for the Green Bank came from town managers,[137] town boards,[138] state executive agencies,[139] and notably, the Connecticut Roundtable on Climate and Jobs,[140] whose Board Chair is a representative from the IBEW (International Brotherhood of Electrical Workers).[141]

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[133] Interview #1 with Connecticut Green Bank staff
[134] https://www.cga.ct.gov/2024/etdata/TMY/2024HB-05232-R000227-Trahan,%20Michael,%20Executive%20Director-CT%20SOLAR%20-%20STORAGE%20ASSOCIATION-Supports-TMY.PDF
[135] Interview #1 with Connecticut Green Bank staff
[136] https://www.cga.ct.gov/2024/etdata/TMY/2024HB-05232-R000227-Garcia,%20Bryan,%20President%20-%20CEO-Connecticut%20Green%20Bank--TMY.PDF
[137] https://www.cga.ct.gov/2024/etdata/TMY/2024HB-05232-R000227-Stephanou,%20Steve,%20Town%20Manager-Town%20of%20Mancester-CT--TMY.PDF
[138] https://www.cga.ct.gov/2024/etdata/TMY/2024HB-05232-R000227-McCarthy,%20Shirley,%20Chair%20-%20Branford%20CE-AH-C-Branford%20Clean%20Energy%20Committee-Opposes-TMY.PDF
[139] PURA: https://www.cga.ct.gov/2024/etdata/TMY/2024HB-05232-R000227-Gillett,%20Marissa,%20Chairman-PURA--TMY.PDF ; DEEP: https://www.cga.ct.gov/2024/etdata/TMY/2024HB-05232-R000227-Dykes,%20Katie,%20Commissioner-CT% 20DEEP--TMY.PDF
[140] https://www.cga.ct.gov/2024/ETdata/TMY/2024HB-05232-R000227-Dehkan,%20Aziz,%20Executive%20Director-CRCJ–TMY.PDF
[141] https://ctclimateandjobs.org/board-of-directors/

State affiliates of national environmental organizations submitted testimony, but did not defend the Green Bank from attacks.[142] Teachers unions did not weigh in.[143]

Testimony from the head of the CT solar developers' trade association states that: **"every public school system has been approached multiple times by multiple private sector solar developers,"** presumably to offer private PPAs at no upfront cost.[144] His argument was that the state solar industry was mature enough to serve the entire K-12 market without a public option, but the Green Bank saw this as proof that the private offering was not meeting the needs of most K-12 schools. Otherwise, the state incentive program would not be undersubscribed. To further illustrate the point, consider testimony from the town of Branford, where a conservative-leaning board of selectmen[145] approved two K-12 solar projects developed by the Green Bank:[146]

> "*The Town of Branford, has been approached by many private solar developers over the years, some that are currently still in business and some that are not. The Green Bank's background and leadership in green energy gave the Town of Branford the confidence to sign a 20-year solar agreement with a partner that we were certain would exist well into the future to provide any support or guidance if needed. If not for the Green Bank, providing this level of confidence and comfort to our leadership, I am certain that these projects would not have come to fruition." [147]*

The Green Bank eventually prevailed, and they left with a couple of key takeaways: the importance of clarifying their niche relative to private sector developers and the importance of building constant political support for their work.[148]

7. **State Incentive Program Oversubscribed, 2024.**
Over time, the state incentive program for larger schools and commercial buildings became oversubscribed, causing Solar MAP to shift to smaller school projects, and even pause on K-12 solar projects briefly.

The oversubscribed program caused friction with the private developer community, because it heightened competition between projects for limited credits, paving the way for the legislative fight described above.

Fortunately, the Connecticut state legislature recently created a new carve-out for K-12 schools in particular with a very high cap on credits. The state program evolved to accommodate a mix of both public and private developers working simultaneously to expand school solar.[149]

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[142] https://www.cga.ct.gov/2024/etdata/TMY/2024HB-05232-R000227-Brown,%20Lori,%20Executive%20Director-CT%20League%20of%20Conservation%20Voters-Supports-TMY.PDF ; https://www.cga.ct.gov/2024/etdata/TMY/2024HB-05232-R000227-Dynowski,%20Samantha,%20State%20Director-Sierra%20Club%20Connecticut-Supports-TMY.PDF

[143] No position from teachers unions: https://www.cga.ct.gov/aspx/CGADisplayTestimonies/CGADisplayTestimony.aspx?bill=HB-05232&doc_year=2024

[144] https://www.cga.ct.gov/2024/etdata/TMY/2024HB-05232-R000227-Trahan,%20Michael,%20Executive%20Director-CT%20SOLAR%20-%20STORAGE%20ASSOCIATION-Supports-TMY.PDF

[145] https://www.branford-ct.gov/boards-commissions-committees/board-selectmen

[146] https://patch.com/connecticut/branford/town-moves-ahead-solar-initiative-schools-homeowners

[147] https://www.cga.ct.gov/2024/etdata/TMY/2024HB-05232-R000227-McCarthy,%20Shirley,%20Chair%20-%20Branford%20CE-AH-C-Branford%20Clean%20Energy%20Committee-Opposes-TMY.PDF

[148] Interview #2 with Connecticut Green Bank staff

[149] https://www.cga.ct.gov/asp/cgabillstatus/cgabillstatus.asp?selBillType=Bill&bill_num=HB05052&which_year=2024

8. **IRA-Enabled Direct Pay, 2023-2024**
   Once the IRA went into effect, the Connecticut Green Bank was able to keep K-12 solar assets on their books entirely, without selling them off or arranging a tax equity partnership. In an interview with Green Bank staff they said: “We now see owning the projects ourselves as attractive because we don't have to deal with incredibly complicated tax equity structures… At least in the short term, we do plan to own the projects in-house ourselves and take advantage of direct pay.”[150]

   Direct pay allows the bank to monetize the full value of federal tax credits, avoiding the 15-25% tax credit reduction associated with tax equity partnerships, and the significant staff time and legal fees associated with negotiating the partnerships in the first place.

   Direct pay also makes long-term public asset ownership far more viable for green banks. As public asset owners, green banks can have more control over operation and maintenance; upgrades, like battery storage; and end-of-term considerations, like PPA renewal or responsible decommissioning.

Improving and Expanding Solar MAP

1. **Negotiate a Project Labor Agreement (PLA) for All K-12 Solar Projects**
   A Project Labor Agreement (PLA) is a collective bargaining agreement between building trade unions and project developers, commonly mandated for major public projects. Negotiating a PLA ahead of time ensures that private solar installers hire qualified tradespeople, while also ensuring that solar jobs provide family-sustaining incomes and long-term careers. Projects with PLAs in place typically employ a higher percentage of union workers than projects without PLAs.[151] Applying PLAs to publicly-developed solar projects at all scales is a top demand from the carbon-free and healthy schools campaign in New York City,[152] along with other states.[153] Because they avoid labor unrest and workforce-related delays, PLAs are sometimes seen as a way to make sure a project is completed by a deadline.[154] A PLA could be negotiated between the Green Bank and state building trade representatives before issuing an EPC RFP.

2. **Set Additional Labor and Equity Standards for K-12 Solar Projects**
   The Green Bank has the market power to set labor and equity standards for the Connecticut solar industry. These standards can be included in each RFP for multi-school K-12 solar contracts, or a PLA negotiated with unions ahead of issuing an RFP. Labor standards should

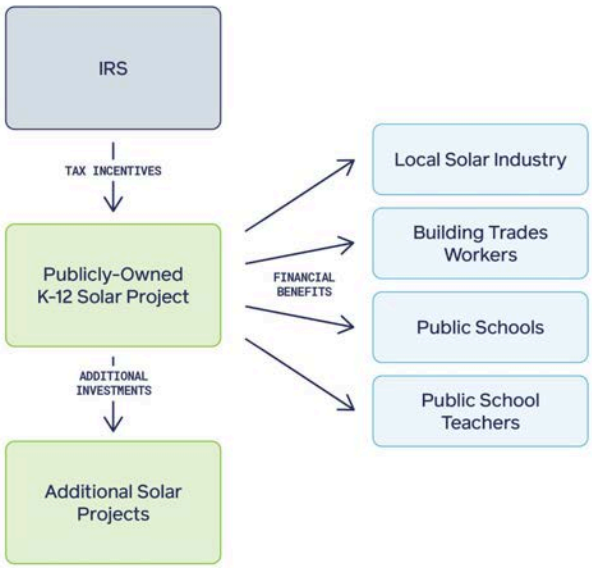
[150] Interview #1 with Connecticut Green Bank staff
[151] https://www.nprillinois.org/illinois/2025-03-21/new-report-finds-project-labor-agreements-lower-costs-boost-competition-in-illinois
[152] Page 20: https://www.cjnrc.org/wp-content/uploads/2022/05/NYC-Full-Report-Finalized5.10_compress.pdf
[153] See list of other Climate Jobs National Resource Center state coalitions: https://www.cjnrc.org/coalitions/
[154] https://www.commerce.gov/sites/default/files/2025-01/Updated-PLA-Best-Practices-DOE-DOC-DOT.pdf ; https://www.americanprogress.org/article/how-project-labor-agreements-and-community-workforce-agreements-are-good-for-the-biden-administrations-investment-agenda/

include: prevailing wage standards,[155] community hire provisions, high road labor practices,[156] and responsible contractor policies that give preference to contractors who offer fair wages, healthcare coverage, pensions, and access to training. In addition to labor standards, contractor preference could be established for firms that keep money in the state economy by prioritizing locally owned firms, prioritizing worker-owned firms, or prioritizing non-profit solar installers. The bank could also adopt federal contracting standards for encouraging contracting and subcontracting to disadvantaged business enterprises (DBEs).[157] If existing firms do not meet these standards, the bank is in a position to finance transitions to new business models or the creation of new firms.[158]

One caveat: each solar project has a finite amount of material benefit to spread around. At a certain point (i.e. once extractive out-of-state interests like private equity[159] are cut out of the equation), additional benefits for a worker-owned unionized solar installer could come at the expense of savings to schools, or resources for teachers, or reduce the number of viable K-12 solar projects altogether. The Green Bank is a democratically governed entity that should be a site of political contestation between these competing interests. By bringing interests like labor and state agencies together into the governance structure of the bank, a deliberative stakeholder council is formed that can grapple with these tradeoffs and chart the best path forward for the ecosystem as a whole.[160] Below is an outline of how benefits could be distributed with proper standards:

FIGURE 12

Who Benefits from Public Option K-12 Solar?



[155] A GGRF requirement under Davis Bacon. Page 9: https://www.ctgreenbank.com/wp-content/uploads/2024/12/Overview-of-Federal-Compliance-Requirement-for-Green-Bank-Solar-RFP-12-13-2024-slides.pdf

[156] More info here: https://www.bluegreenalliance.org/wp-content/uploads/2020/07/StatePolicyToolkit_Report2020_vFINAL.pdf

[157] DBEs are small businesses that are at least 51% owned and controlled by people who are socially and economically disadvantaged.https://www.transportation.gov/civil-rights/disadvantaged-business-enterprise

[158] https://newsroom.clevelandclinic.org/2018/05/10/collaboration-between-cleveland-clinic-and-evergreen-cooperative-laundry-supports-health-and-wellbeing-of-local-community

[159] https://pestakeholder.org/reports/a-dark-side-to-green-energy-private-equity-risking-the-future-economy-by-neglecting-renewable-workers/

[160] For additional context, see: https://www.tandfonline.com/doi/full/10.1080/09538259.2021.1898110

A publicly capitalized self-sustaining green bank does not require a profit. Any solar project returns beyond the cost of capital can be passed on to workers, public sector customers, socially beneficial firms, and/or used to invest in additional solar projects with similar socially beneficial outcomes. Projects that yield a higher return for the green bank allow projects with lower financial returns (or zero returns) to move forward, a process called "cross-subsidization."

3. **Expand Solar MAP to include Geothermal Heat Pumps, Battery Storage, and Other Clean Energy Technologies at K-12 Schools**
   The Solar MAP model of public option development could be readily applied to other decarbonization projects. For example, capital-intensive geothermal loops and ground source heat pumps could be developed and owned by the Green Bank with schools paying the Green Bank for thermal energy as part of an energy as a service (EaaS) arrangement. In partnership with local utilities, K-12 geothermal loops could be connected to a network of loops to provide renewable heating and cooling to nearby residential neighborhoods.[161,162]

   Similarly, the Green Bank could become a distributed energy resources (DER) aggregator, using sites like K-12 schools to host batteries, solar, and electric buses to provide grid services as a virtual power plant (VPP) operator.[163] Such arrangements could yield additional financial benefits for schools while also allowing schools to provide shelter and power to the community during emergencies.

   Connecticut Green Bank staff frame future program expansion as an "opportunity to use solar as a platform for more."[164] The Green Bank recently expanded Solar MAP to include battery storage.[165]

4. **Support Direct Ownership of K-12 Solar by School Districts and Municipalities**
   In addition to developing and owning solar projects for K-12 schools, the Green Bank could offer components of their development and finance services to schools interested in directly owned solar projects. Green Bank staff say they are currently considering an arrangement like this.[166]

   For example, the development component of Solar MAP could be offered as a stand-alone fee-based product. This could include overseeing the solar feasibility study contracting, EPC contracting, and technical assistance to monetize tax credits. Like Solar MAP, contracting could be structured in rounds to aggregate projects and unlock cost efficiencies. The Green Bank is already pursuing a version of this for K-12 school bus electrification.[167]

   On the finance side, the bank could offer bridge loans for direct pay tax credits,[168] construction loans to allow a project to break ground, and long-term loans once a project is online. A portfolio

[161] Using one major geothermal project at a publicly owned site to anchor a thermal energy network has been modeled in Southampton, UK https://www.iea-dhc.org/fileadmin/documents/DHC_CHP_Case_Studies/KN1640_Southampton_v2.pdf
[162] A networked geothermal project is currently underway at a 38-building affordable housing complex in Wallingford, CT: https://portal.ct.gov/deep/energy/ulbrich-heights-community-geothermal-project
[163] https://publicenterprise.org/wp-content/uploads/CPE-VPP-Report-July-2024-1.pdf
[164] Email correspondence with Connecticut Green Bank staff, July 2025
[165] https://www.ctgreenbank.com/community-solutions/solar-solutions-for-communities/solar-map/
[166] Interview #2 with Connecticut Green Bank staff
[167] https://www.ctgreenbank.com/fleet-electrification-accelerator/
[168] Undaunted K-12 explains the need for bridge finance in K-12 projects on page 38 of this report: https://www.undauntedk12.org/playbook-for-state-leaders

of long-term loans could then be securitized, allowing the bank to access additional cheap capital.

The Green Bank could also proactively engage school districts that are already issuing general obligation bonds for major renovations—encouraging them to use that low-cost capital to fund school-owned renewable energy systems or to lower the cost of a Green Bank–developed solar PPA through a "bond–PPA hybrid" arrangement.[169]

5. **Bundle Roof Repair and Solar Development**
Some schools are incapable of hosting solar because their roofs are in a state of disrepair. The Green Bank could help these schools fix their roofs and install rooftop solar simultaneously. The federal tax credit that applies to solar panels also applies to the "incremental cost" of roof upgrades needed to accommodate solar.[170] If a school needs a new roof anyway, and a reflective roof that would increase the performance of bifacial solar panels costs twice as much as a standard roof, then that incremental cost (i.e. half the roof) is eligible for the tax credit in addition to the solar equipment.[171]

Aggregating multiple roofing projects can reduce costs for schools, while integrating energy-saving measures such as roof insulation can generate long-term financial returns. Designing to meet insurance-backed standards like FORTIFIED may also lower insurance premiums. Financing roof repairs alongside solar allows for more comprehensive solar deployment in LIDAC communities.

6. **Create a Custom Offering for Cities**
Connecticut Green Bank's Solar MAP program has overseen development rounds catered specifically to the needs of suburban and rural municipal governments, and the state government.[172] We recommend that Solar MAP build out an offering designed explicitly for cities who have viable K-12 school sites that are not currently served by private developers.[173] For example, cities like Hartford or Bridgeport could each help draft custom EPC RFPs issued by the Green Bank to meet their unique needs, including input around scope of work and contractor criteria.

7. **Public Procurement of Solar Equipment**
The Connecticut Green Bank is responsible for so much solar in the state that it could consider making bulk purchases of solar equipment to reduce costs, to qualify for additional federal incentives, and to support local or regional businesses. In particular, public procurement could allow the Green Bank to acquire solar panels and other solar equipment that meets the "Build America Buy America" (BABA) requirements linked to the GGRF funding available to green banks.[174] Connecticut could also use procurement policies to support clean energy manufacturing facilities in the state or collaborate with green banks and development finance

[169] https://www.nrel.gov/docs/fy12osti/53622.pdf
[170] See "incremental cost" section: https://www.federalregister.gov/documents/2024/12/12/2024-28190/definition-of-energy-property-and-rules-applicable-to-the-energy-credit
[171] Example from page 58 of this pdf: https://www.govinfo.gov/content/pkg/FR-2024-12-12/pdf/2024-28190.pdf
[172] Page 17: https://www.ctgreenbank.com/wp-content/uploads/2024/07/Comprehensive-Plan_FY-2025_071924.pdf
[173] See K-12 solar map: https://generation180.org/resource/brighter-future-a-study-on-solar-in-us-k-12-schools-2022/
[174] EPA waived solar module BABA requirements for all three GGRF programs (NCIF, CCIA, SFA) in January 2025, for solar modules installed by June 2026 https://www.epa.gov/baba/build-america-buy-america-baba-approved-waivers

agencies in neighboring states to support a regional New England clean energy manufacturing strategy.

8. **Collaborate With Teachers Unions for all K-12 School Projects.**
As major stakeholders in K-12 school solar projects, teachers unions should be engaged from the earliest stages of the project development. This engagement can help bring public awareness to the projects and their benefits for the community. It can also bring teachers unions into the political coalition supporting solar on schools and the green bank's programs. These alliances can pay off as support for individual projects, and they can pay off during unexpected moments like a state legislative fight over the future of the green bank's programs (see "Blowback" section above). Some teachers unions have recognized these interest alignments and begun to proactively engage in the K-12 school solar space. The Chicago Teachers Union (CTU) prioritized K-12 school solar investments in their recent contract campaign, recognizing the opportunity for the school district to use solar projects to attract federal financing that benefits all stakeholders.[175]

   Additionally, public teacher pension funds have a history of being leveraged for public purposes,[176] and could potentially be used to accelerate the deployment of K-12 school solar projects developed by the green bank.[177] One way this could work, would be for the pension fund to act as a credit enhancement mechanism, much like Connecticut's State Credit Reserve Fund (SCRF) described above (see "Bonding Authority"). The Green Bank could issue securities – such as bonds — that are backed by revenue from K-12 solar PPAs, and also backed by a capped amount of money from the teachers' pension fund.[178] In exchange for taking on this financial risk, unionized teachers would be in a place to make additional demands about how savings from green bank solar projects are allocated.

9. **Reduce Interconnection-Related Delays and Costs via Statewide Grid Planning**
From a grid operations perspective, adding major DER assets like solar and battery storage is more beneficial in some K-12 school locations than others. The for-profit development model for DER does not typically account for this, but a public state-level developer like a green bank certainly can. Institutions capable of statewide planning and targeted DER development, like the green bank, should coordinate with statewide regulators and grid operators to identify potential sites for DERs that maximize resilience of the broader distribution and transmission network, and maximize decarbonization potential with an eye toward decommissioning fossil fuel generation. The Center for Public Enterprise (CPE) recommends commissioning public studies to map out DER site identification,[179] while also socializing the costs of DER-enabling network upgrades between ratepayers and the state government.[180]

   By aggregating DER assets like solar and batteries, the green bank could be paid by utilities to

[175] https://www.labornotes.org/2025/04/chicago-teachers-win-greener-schools
[176] In 1975, New York City's United Federation of Teachers used their pension fund to save New York from bankruptcy: https://www.uft.org/your-union/our-history/back-brink-how-uft-saved-new-york-bankruptcy
[177] As a useful analogue, this report from Americans for Financial Reform explains how worker pension funds can support development in the housing sector: https://ourfinancialsecurity.org/wp-content/uploads/2024/11/AffordableHousing_final_web-1.pdf
[178] The European Investment Bank uses a similar credit enhancement for bonds that finance infrastructure projects. https://www.iisd.org/credit-enhancement-instruments/institution/european-investment-bank-project-bond-credit-enhancement/
[179] Page 14 https://publicenterprise.org/wp-content/uploads/CPE-VPP-Report-July-2024-1.pdf
[180] https://newsletter.publicenterprise.org/capacity-factor-may-2024/

perform valuable grid services, allowing for additional financial benefits for K-12 schools. Analysis from CPE suggests that such planned DER development could result in a “virtuous cycle” that accelerates DER deployment for all developers, by bringing down interconnection costs, reducing interconnection uncertainty, and reducing unexpected interconnection delays for some projects.[181]

10. **Make a Statewide Plan to Build On-Site Solar at 100% of K-12 Schools**

Last year, at a ribbon cutting ceremony for a K-12 school solar project supported by the Green Bank, Connecticut Governor Ned Lamont said: “I think we ought to have each and every one of our schools with more solar power. That's about 1,400 schools spread across the state.”[182] The green bank has the tools to make the governor’s vision a reality, and should work with the governor’s office to identify a 100% K-12 solar target and write a plan to achieve that goal.[183]

The Connecticut Green Bank consistently takes the position that it “does not want to compete with the private sector,” and instead chooses to focus on “underserved or maturing markets.”[184] This intention could be applied to a sectoral planning process that regularly assesses market gaps, and lays out a comprehensive plan to build the clean energy projects that the private sector will not or cannot build.

For example, in the past five years, Connecticut has added 26 solar schools each year.[185] At this rate, meeting Governor Lamont’s goal of building onsite solar at 100% of CT’s schools in the next 10 years would require tripling or quadrupling the number of additional solar schools in a given year. If the private sector is not capable of doing this work, the Connecticut Green Bank should make plans to fill that gap, further clarifying its relationship with private sector developers. As a public developer, the Green Bank is in the position to allocate resources to meet state goals in a way that for-profit developers are not.

[181] Page 14 https://publicenterprise.org/wp-content/uploads/CPE-VPP-Report-July-2024-1.pdf
[182] https://www.wshu.org/connecticut-news/2024-04-15/ct-schools-solar-power-ned-lamont
[183] This would be in addition to the existing multi-year planning work the bank currently does: https://www.ctgreenbank.com/wp-content/uploads/2024/07/Comprehensive-Plan_FY-2025_071924.pdf
[184] Page 4: https://www.cga.ct.gov/2024/etdata/TMY/2024HB-05232-R000227-Garcia,%20Bryan,%20President%20-%20CEO-Connecticut%20Green%20Bank--TMY.PDF
[185] Data from Generation180 and Connecticut Green Bank

Recommendations: How States Can Replicate Connecticut Green Bank's Public Option K-12 Solar Model

An existing public, quasi-public, or nonprofit finance institution like a green bank, or development finance agency, would require some combination of the following elements to launch a public option K-12 solar program modeled after Solar MAP:

1. **Basic Authority to Develop and Own K-12 Solar Projects.**

   - **Solar Project Development and Ownership Authority**
     Some green banks operate exclusively as lenders, focusing entirely on loans for energy efficiency and renewable energy projects like the New York City Energy Efficiency Corporation (NYCEEC).[186] Also, some development finance agencies have the authority to own assets, but lack the authority to develop and own renewable energy projects. For example, Pennsylvania introduced legislation in 2024 to grant the Pennsylvania Economic Development Authority (PEDA) authority to develop and own solar.[187] Entities that have the mandate to develop and own solar assets, generally also have the authority to take equity stakes in solar projects, and create subsidiaries and special purpose vehicles (SPVs) to facilitate capital recycling via securitization.

   - **Public-Public Partnership Authority**
     Legal authority to enter into PPAs, leases, or Energy Service Agreements (ESAs) with public entities like school districts, municipalities, and state agencies. In Connecticut, the green bank almost lost this authority in 2024 (see "blowback" section).

   - **Third Party Ownership Authority**
     Arrangements like PPAs or solar equipment leases are not legal in every state.[188] The 29 states that explicitly allow solar PPAs are responsible for 92% of K-12 solar.[189]

2. **Publicly Facilitated Access to Capital.**

   - **State Capitalization**
     Green banks and DFAs require capital to begin developing K-12 solar projects. Public

[186] https://nyceec.com/wp-content/uploads/2024/05/The-Green-Bank-Opportunity-Mobilizing-Capital-for-Low-Carbon-Energy-in-Buildings-April-2020.pdf
[187] https://penncapital-star.com/briefs/pa-house-passes-bill-that-would-allow-the-state-to-use-federal-funds-for-energy-development
[188] https://ncsolarcen-prod.s3.amazonaws.com/wp-content/uploads/2023/11/DSIRE_3rd-Party-PPA_Nov_2023.pdf
[189] Page 12 https://generation180.org/resource/brighterfuture-a-study-on-solar-in-us-k12-schools-2024/

funding can come as an initial lump sum, or on an ongoing basis, like Connecticut's Green Bank's annual funding from utility payments.

- **Bonding Authority**
  Public and quasi-public developers typically require explicit authority to issue their own debt, as bonds or other securities. Bonding authority allows public developers to access low-cost capital, often backed by a revenue stream like regular K-12 solar PPA payments. For example, Efficiency Maine, Maine's quasi-public green bank, does not have authority to issue bonds.[190] Bonding authority often enables other forms of securitization such as private placement and the sale of securities backed by renewable energy assets (i.e. asset-backed securities, or ABS).

- **State Credit Enhancements**
  Connecticut Green Bank's bonds are backed by a state capital reserve fund (SCRF), which allows the bank to access even cheaper credit. The bank is offered the same arrangement that is offered to other public finance entities with bonding authority, like the airport construction authority, or the water and sewer authority. Other state credit enhancements similar to SCRFs include conditional state guarantees,[191] or state tax exemption for bond sales.[192]

- **State Conduit Financing**
  In some cases, one state agency might act as the "conduit issuer," issuing bonds on behalf of a public developer. For example, Hawaii's state green bank, the Hawaii Green Infrastructure Authority (HGIA), was initially capitalized by a $150 million conduit bond issuance led by the state's Department of Business, Economic Development & Tourism (DBEDT)[193] Public developers without bonding authority can partner with public state agencies to use conduit financing to access low-cost capital.

3. In-House Personnel to Develop and Finance Projects.

- **In-house Project Development Personnel**. Even with contractor support for design and installation, in-house staff were capable of planning a series of K-12 projects, and then making a compelling pitch for those projects to town councils and school boards. In-house employees speak to the "trust" component that is so central to the Connecticut model.[194] These in-house staff positions are often initially paid for with public funding, but once a public developer becomes financially self-sustaining, staff capacity could be covered by investment returns, assuming the bank's average returns are greater than the average cost of capital.

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[190] https://legislature.maine.gov/statutes/35-a/title35-Asec10103.html
[191] New York state's water infrastructure bank, the Environmental Facilities Corporation (NYEFC), issues bonds backed by a conditional guarantee, or "moral obligation," as opposed to a GO bond. This conditional guarantee reduces the cost of capital without counting toward the state's obligatory debts like a GO bond. https://efc.ny.gov/system/files/documents/2024/09/2024b-os.pdf
[192] Connecticut offers tax exemptions for Connecticut residents, which applies to bonds from quasi-public entities like Connecticut Green Bank https://www.buyctbonds.gov/why-buy-ct-bonds/frequently-asked-questions/
[193] https://gems.hawaii.gov/wp-content/uploads/2015/01/DBEDT-Recognized-For-Innovative-Green-Energy-Market-Securitization-Program.pdf
[194] Page 11: https://bouldercounty.gov/climate/greenbank/

- **In-house Structured Finance Personnel**
  The Connecticut Green Bank hired in-house underwriters for products like C-PACE loans as early as 2013, and was then able to apply that underwriting capacity to other products, like bank-owned solar PPAs.[195] Nurturing those key functions in-house allowed the program to scale over time in a way that may not have been possible if those roles were outsourced.[196]

4. Political Legitimacy.

- **State Executive Branch Champions**
  Support from the governor, and career staff at key executive agencies covering energy and economic development, is critical to any public developer's "public" quality.

- **State Legislative Branch Champions**
  Consistent vocal support from legislators is key for expanding legislative authorities and maintaining existing authorities.

- **Supportive School Districts**
  An initial cadre of school districts and their municipal governments was crucial for getting CT's K-12 solar program off the ground.

- **Labor Allies**
  In Connecticut, the state's Roundtable on Climate and Jobs (CRCJ) – whose board is chaired by a representative of the electrical workers union (IBEW) – has been a key ally for the Green Bank in recent years. The Roundtable's founder, affiliated with the Machinists Union, currently sits on the Green Bank board. K-12 solar in particular has the potential to attract the combined support of building trades unions (such as IBEW), and teachers unions (such as AFT and NEA).

- **Democratic Board Governance**
  The Connecticut Green Bank is considered a model for board transparency, with video recordings of board meetings, publicly available copies of board memos, and recorded votes for major decisions.[197] Its enabling statute requires that it include representatives from key constituencies (labor, environment, community development),[198] and that it reports to the legislature annually.[199]

5. Clean Energy Policies.

- **Net Metering**
  Net metering allows K-12 schools to achieve cost savings on their electricity bills if they produce their own solar, selling surplus solar electricity back to the grid at the same rate they

[195] Page 22: https://doee.dc.gov/sites/default/files/dc/sites/ddoe/service_content/attachments/District%20of%20Columbia%20Green%20Bank%20Report%20%28Prepared%20by%20Coaltion%20for%20Green%20C....pdf
[196] https://publicenterprise.org/overreading-into-underwriting/
[197] https://www.ctgreenbank.com/strategy-impact/reporting-and-transparency/
[198] Page 9: https://www.ctgreenbank.com/wp-content/uploads/2024/07/Comprehensive-Plan_FY-2025_071924.pdf
[199] https://www.ctgreenbank.com/wp-content/uploads/2024/10/CT-Green-Bank-Final-ACFR-2024R-2024.10.25.pdf

would pay for electricity. By 2023, 34 states had developed mandatory net metering rules for at least some utilities,[200] and in 2024, 47 states plus Washington D.C. and Puerto Rico adopted some sort of policy action pertaining to distributed solar, in many cases updating net metering policies.[201] Some states have low system capacity caps for net metering that would only allow small single-family home-sized solar projects to qualify for net metering, excluding commercial-scale solar projects that would fill the roof of a typical public K-12 school.[202]

- **Commercial-Scale Solar Financial Incentives**
  Many states have some kind of financial incentive program to support commercial-scale solar projects. Relevant state policies for K-12 solar include: Solar Renewable Energy Credits (SRECs), Performance Based Incentives (PBIs), capacity-based rebates and grants, refundable or transferable tax credits, and solar equipment sales tax exemptions.[203]

- **Interconnection Best Practices**
  Interconnection best practices relating to costs, timeline, and review processes vary across states.[204] Equitable interconnection policies developed by public utility commissions are crucial for allowing solar developers to predict project costs and construction timelines.

- **Mandatory Utility Collaboration**
  If necessary, state utility commissions can mandate collaboration between state utilities and public developers. For example, in some cases the Connecticut Public Utility Regulatory Authority (PURA) has mandated that the state's for-profit investor-owned utilities participate in programs proposed by the green bank, like on-bill financing, and solar+storage aggregation.[205]

[200] https://ncsolarcen-prod.s3.amazonaws.com/wp-content/uploads/2023/11/DSIRE_Net_Metering_Nov2023.pdf
[201] https://nccleantech.ncsu.edu/2025/01/23/the-50-states-of-solar-states-continue-moves-away-from-traditional-net-metering-while-fixed-charge-increases-rebound-in-2024/
[202] https://quickelectricity.com/commercial-solar-net-metering/
[203] https://www.dsireusa.org/
[204] https://ilsr.org/energy/community-power-map/
[205] This 2021 decision from PURA mandates that electric distribution companies (EDCs) work with the green bank to implement the bank's solar+storage proposal: https://www.dpuc.state.ct.us/2nddockcurr.nsf/8e6fc37a54110e3e852576190052b64d/6991ef77ba07bae185258752007994f7/$FILE/171203RE03-072821.pdf

Conclusion: The Case for State-Level Public Renewable Energy Developers

Connecticut Green Bank's K-12 solar work represents a transition from a more limited approach of using public finance to lower the cost of capital for projects, to a more comprehensive public development model that can dramatically expand the speed and scale of decarbonization.[206] The public development model used by the Connecticut Green Bank is replicable across the country, and across sectors, which can enable renewable energy deployment well beyond the set of projects that for-profit developers are currently able to build.

FIGURE 13

Why Can Public Renewable Energy Developers Develop Projects that For-Profit Renewable Energy Developers Cannot?

Factors	Results
Trust. Aligned social missions, presumed long-term solvency, and democratic boards all result in more trust with customers (esp. public and nonprofit customers).	Customers who say "no" to for-profit developers say "yes" to public developers.
Turnkey Products. Public developers can lead best practice public procurement processes that include third party feasibility studies, resulting in less work and lower costs for customers (esp. public sector customers)	Customers who say "no" to for-profit developers say "yes" to public developers.
Process Efficiencies. Competitive RFP processes for design and installation contracts, bundling projects into large procurement rounds.	Lowers project costs, allowing more low-return and modest-return projects to move forward.
Capital Access. Accessing bond-rate capital through public asset-backed bonds, and access to public credit enhancements to bring down the cost of capital.	Allows more low-return and modest-return projects to move forward.

[206] According to the Center for Public Enterprise, the public development model "engages with all of the steps in a project development pipeline from planning projects to raising capital to operating and maintaining assets to marketing their outputs, all the while cultivating technical and operational expertise." https://publicenterprise.org/report/public-developers/

No Profit Requirement. Beyond covering operating expenses, and capital costs, public developers do not have to pay shareholders or investors. Additionally, cross-subsidization allows projects with high returns to subsidize projects that operate with low (or zero) returns.	Allows more low-return and modest-return projects to move forward.
Planning Orientation. Patient long-term planning, coordination across public entities, coalition building, and deliberation with democratic governing bodies can unlock new projects.	Allows more technically challenging or democratically accountable projects to move forward.

Public Developers Can Build Trust that Quickly Gets Projects to "Yes"

The word "trust" came up constantly in interviews and testimony praising the Connecticut Green Bank's public-public partnerships. Public renewable energy developers can build the trust needed to get to "yes" at a scale and speed that the private sector does not achieve. Features like the lack of profit motive, presumed long-term solvency, and democratic accountability of the Connecticut Green Bank's board allow the Green Bank to successfully engage with other democratic decision-making bodies like town councils and school boards who have aligned social missions.

Public Developers Can Make Renewable Energy Projects Cheaper

Access to low-cost capital through asset-backed capital recycling techniques, like issuing bonds, allows green banks to borrow money at a lower interest rate than private developers. Issuing RFPs for portfolios of similar projects drive down design costs, installation costs, and the cost of procuring solar equipment. Taken together, these process and finance efficiencies have the potential to drive down the cost of renewable energy projects across sectors.

Public Developers Can Increase the Number of Financially Viable Projects In a State

Even without the cost efficiencies described above, public and nonprofit developers can unlock additional projects that for-profit developers cannot. For-profit renewable energy developers are only going to invest in projects that allow them to turn a profit. Public option developers on the other hand only require a return equal to or greater than their cost of capital to remain self-sustaining. This means that in any given state without a public renewable energy developer, there are projects that are viable for a public developer, but not viable for a private developer.[207]

Public Developers Can Use Cross-Subsidization to Further Expand Financially Viable Projects

Public developers often target lower return projects, however, if a public developer chooses to pursue the same sort of higher-margin projects that the private sector is currently developing, the public developer could use those additional returns to "cross-subsidize" low-return but socially

[207] The Price is Wrong, by Brett Christophers, pages 375-379 https://www.versobooks.com/products/3069-the-price-is-wrong

beneficial projects that otherwise would not go forward. This sort of cross-subsidization is a common feature in public banks like KfW in Germany and Banco Popular in Costa Rica.[208]

Public Developers Can Deploy Renewables Faster Through Planning

As this case study illustrates, the Connecticut Green Bank's most recent rounds of K-12 solar development began with "cataloguing all 167 towns" in the state, and overlaying prioritization criteria to build out a project pipeline. This level of coordinated land use planning, paired with state executive branch stakeholders on the Green Bank board, are precisely the type of whole-of-government planning activities identified by think tanks like the Roosevelt Institute and Climate and Community Institute as some of the key ingredients in accelerating the pace of solar development in the US.[209] According to a recent report, evidence suggests that addressing this lack of planning and coordination will have a bigger impact on speeding up solar deployment than focusing solely on permitting reform, as called for by some policymakers.[210]

Public Developers Are Politically Resilient

The Connecticut Green Bank's K-12 solar work continued apace even as control of the legislative and executive branch changed hands at the federal level. Connecticut's state-level politics are dominated by a consistent Democratic majority, but the Green Bank's K-12 solar initiatives have also received support from Republican board members and municipal elected officials whose constituents have benefited from the program. Even in the face of political pushback from for-profit solar developers, the bank was able to rally a broad coalition of local elected officials, state agency representatives, and labor leaders to their side and prevail. The shared material benefits inherent to the solar projects, and constituency-oriented structure of the bank's board were key factors in the bank's legislative victory.

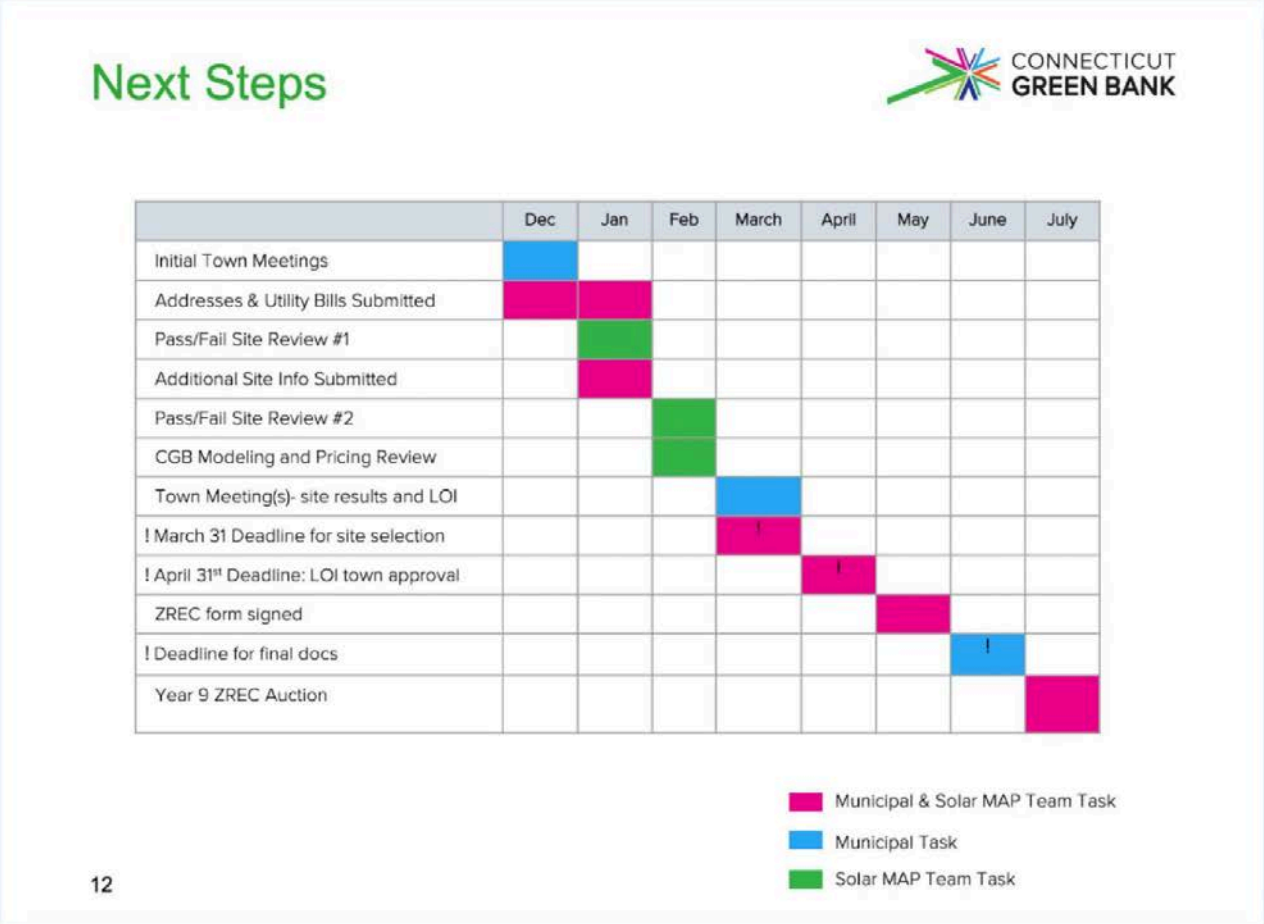
Public Developers Can Expand the Speed and Scale of Decarbonization

This case study illustrates how a public developer can produce 27% of the solar projects in a given sector over a 10-year period. According to testimony from towns and school districts, these are projects that would not have proceeded with for-profit developers. The cost-reducing features of the Connecticut Green Bank development model and the inherent ability to remain financially self-sustaining suggest that similar models could increase the speed and scale of decarbonization in other states and in other sectors.

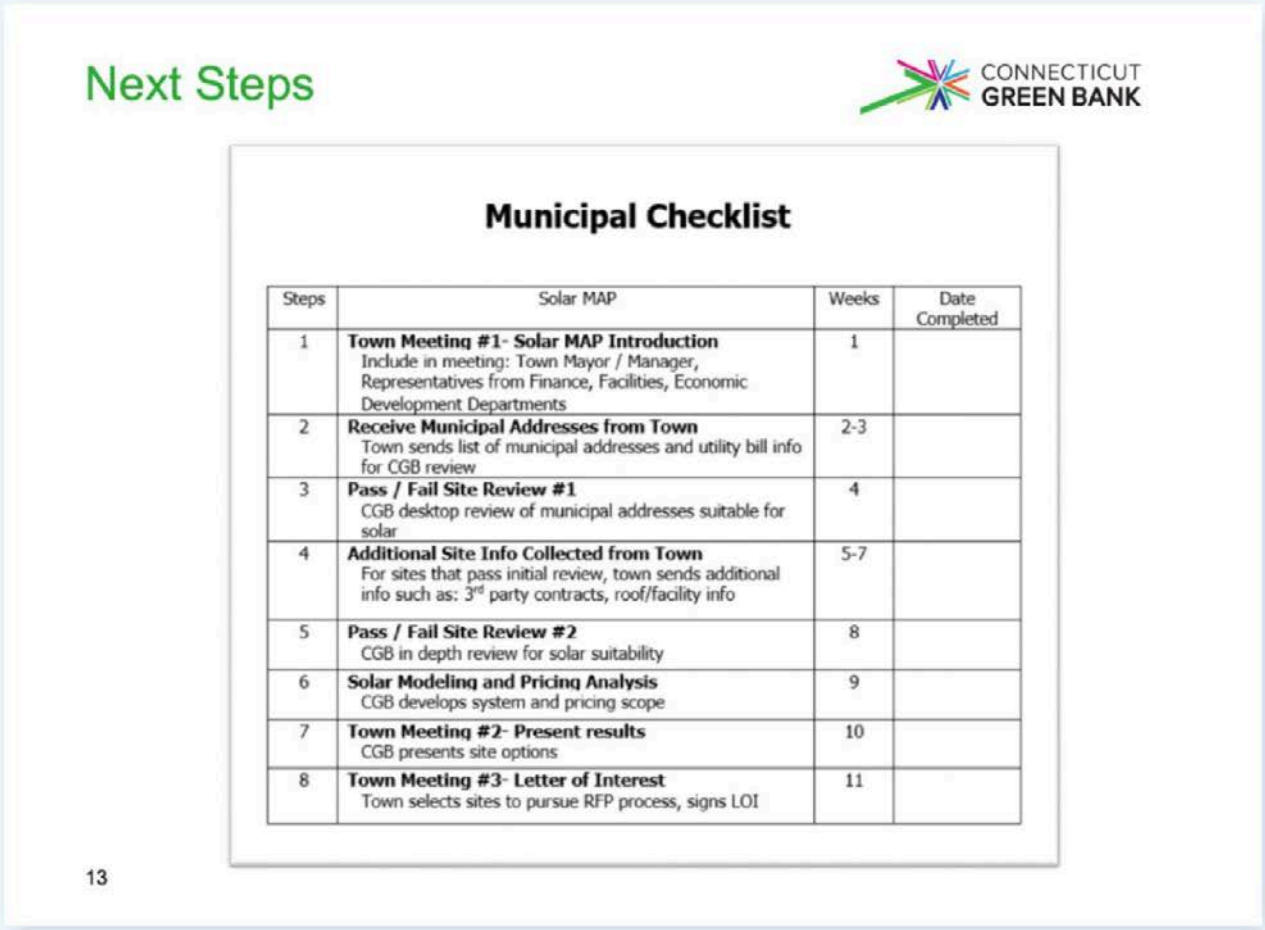
[208] Public Banks: Decarbonization, Definancialization, Democratisation, by Tom Marois: https://www.cambridge.org/core/books/public-banks/0EC8E41F837E1F10BE53FC31DA83D012
[209] Page 42: https://rooseveltinstitute.org/publications/planning-to-build-faster-a-solar-energy-case-study/
[210] Page 12: https://rooseveltinstitute.org/publications/planning-to-build-faster-a-solar-energy-case-study/

Appendix:

1. **Solar MAP Timeline Slides**
   These slides were presented to town governments and school boards by Connecticut Green Bank Solar MAP staff:[211]



[211] Pages 12-13 https://ctgreenbank.com/wp-content/uploads/2019/11/Solar-MAP-11.13-webinar_11072019-002.pdf



Steps	Solar MAP	Weeks	Date Completed
1	**Town Meeting #1- Solar MAP Introduction** Include in meeting: Town Mayor / Manager, Representatives from Finance, Facilities, Economic Development Departments	1	
2	**Receive Municipal Addresses from Town** Town sends list of municipal addresses and utility bill info for CGB review	2-3	
3	**Pass / Fail Site Review #1** CGB desktop review of municipal addresses suitable for solar	4	
4	**Additional Site Info Collected from Town** For sites that pass initial review, town sends additional info such as: 3rd party contracts, roof/facility info	5-7	
5	**Pass / Fail Site Review #2** CGB in depth review for solar suitability	8	
6	**Solar Modeling and Pricing Analysis** CGB develops system and pricing scope	9	
7	**Town Meeting #2- Present results** CGB presents site options	10	
8	**Town Meeting #3- Letter of Interest** Town selects sites to pursue RFP process, signs LOI	11	

2. Solar Development Timeline for the Town of Avon, Connecticut

Here is a detailed example of the solar development process, with links to sample documents exchanged between the town of Avon, Connecticut and Connecticut Green Bank staff.

- **2021:**
  - The Town of Avon gave the Green Bank a list of 10 buildings suitable for solar.[212]
  - Eight out of 10 buildings passed the Green Bank's initial "desktop review"[213]
  - The Green Bank's design firm drew up designs and cost savings estimates for solar on six of those eight buildings[214]
  - The Town of Avon signed a letter of intent with the Green Bank to go forward with rooftop solar projects on all six buildings[215]

[212] Page 25 https://www.avonct.gov/sites/g/files/vyhlif151/f/minutes/tc_05_06_21_mtg_web.pdf
[213] Page 25 https://www.avonct.gov/sites/g/files/vyhlif151/f/minutes/tc_05_06_21_mtg_web.pdf
[214] Pages 17-22 Page 25 https://www.avonct.gov/sites/g/files/vyhlif151/f/minutes/tc_05_06_21_mtg_web.pdf
[215] Page 6 https://www.avonct.gov/sites/g/files/vyhlif151/f/minutes/tc_05_06_21_mtg_web.pdf

- The Green Bank issued an EPC RFP for solar projects on all six buildings.[216]

- **2022:**
  - The Green Bank drew up final PPA contracts for only two of the six buildings because of structural concerns with the roofs on four out of the six buildings.[217]
  - The town closed on PPA deals with the bank for two schools.
- **2023:**
  - The two school projects came online: Roaring Brook Elementary (140kW), and Avon High School (250kW)[218]

Here is a project milestones summary slide from a Connecticut Green Bank presentation prepared for Avon's Town Council:[219]

Avon Project Milestones

CONNECTICUT GREEN BANK.

Milestone	Date
Program Introduction	March 2021
Desktop Review of Town Addresses	April 6 2021
ACEC presentation – Initial Review	April 21 2021
Site visits	April 29 2021
Town Council presentation – Initial Review	May 6 2021
Town signed Letter of Intent	May 7 2021
Incentive application for project	June 2021
Incentive Awards	August 2021
Green Bank RFP for construction partner	Oct 14 2021
RFP Bidder site visits	September 2021
Green Bank RFP selection and final pricing	December 2021
ACEC & Town Council presentation – Final Review	Feb/March 2022
BOE & Town Council presentations – Final Review	March/April 2022
PPA Execution	April 2022

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[216] Page 3 https://www.ctgreenbank.com/wp-content/uploads/2022/07/Solar-MAP-Round-2-EPC-RFP-2021.pdf
[217] Page 3 https://www.avonct.gov/sites/g/files/vyhlif151/f/minutes/tc_04_07_22_mtg_web.pdf
[218] Data from Generation180 and Connecticut Green Bank
[219] Page 15 https://www.avonct.gov/sites/g/files/vyhlif151/f/minutes/tc_04_07_22_mtg_web.pdf

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