



CONNECTICUT

Administrative Services

Department of Administrative Services

**PA 25-174 § 136, Plan to install solar photovoltaic systems
on developed state properties**

**Submitted to the Finance, Revenue and Bonding and
Government Administration and Elections Committees**

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State Solar Project Implementation Plan

Introduction

PA 25-174 authorized bond funding of \$40 million in FY26 and an additional \$20million in FY27 for the installation of solar photovoltaic systems on developed state properties. Sec. 136 of the Public Act requires the Department of Administrative Services (DAS) to develop an implementation plan, no later than January 1, 2026.

DAS has researched how to best utilize these funds to maximize solar power generation through discussions with the Department of Energy and Environmental Services (DEEP), the Office of Policy and Management (OPM), and other select stakeholders, such as the Department of Transportation (DOT) and the Connecticut Green Bank (CTGB).

Summary

DAS proposes two primary options for the \$60 million in bond funds to support the installation of solar photovoltaic systems. Where feasible, funds will be used to partially subsidize loans originated by the CTGB (option 1). In cases where loan subsidization is not practical, DAS may instead directly finance projects (option 2) that are determined to be advantageous.

By favoring option 1, DAS can improve the terms for prospective solar developers of new projects on state property. This allows for reduced Power Purchase Agreement (PPA) rates and enables the state to retain and retire the Renewable Energy Certificates (RECs).

In implementing this plan, DAS will prioritize the installation of ground-mounted systems or solar canopies, instead of the use of existing building roofs that are not solar-ready. Roof-mounted installations may only be considered for roofs specifically designed to accommodate solar and that meet the requirements of the state property insurer.

Background

DAS has partnered with the CTGB for several years through a Master Power Purchase Agreement (PPA) to deploy solar projects on state properties. There are 36 state solar projects in the CTGB portfolio, spanning various stages from initial review to construction and completion (7 are currently complete). The solar projects will help meet the state goals outlined in Executive Order 1, to reduce our greenhouse gas emissions and Executive Order 21-3, to deploy an average 10MW of new solar capacity annually for the next 10 years at state property.

Building on this successful collaboration, DAS will leverage the new funding through a continued partnership with the CTGB. This approach is intended to maximize solar capacity by utilizing private capital for most of the project financing.

In developing this plan, DAS considered several options as follows.

Option 1: Buy Down Project PPA Costs

Under option 1, the state would use the designated funds to reduce PPA costs, improve project viability, and attract private investment (see Appendix A for greater detail on the CTGB Solar MAP Program).

To do this, the state would:

- Apply funds to subsidize solar projects until the PPA rate becomes economically viable, then competitively bid the projects to the private sector solar providers;
- Partner with CTGB to manage project delivery, oversee installations, and coordinate operations through their private partners/contractors;
- Prioritize pre-vetted projects that were previously deemed technically feasible but economically unfavorable;
- Work with CT DOT to identify suitable right-of-way projects based on detailed assessments; and

- Solicit input from state agencies to identify additional opportunities based on previously identified properties from the statewide property inventory.

This option is advantageous to the state because it:

- Leverages private capital to extend the impact of public funds;
- Enables substantially greater solar deployment with fewer state dollars;
- Encourages market participation and scalability; and
- Requires no direct operating costs from the state, as the CTGB and solar contractors would manage the projects.

Option 2: Fully Fund Solar Projects

Under option 2, the state would use the available funding to fully finance state-owned solar PV installations.

This option would be simpler and faster to deploy than option 1, it would allow the state full control over project selection, execution, and ownership, and would allow the state to retain environmental attributes, including RECs. However, it would limit the total deployed solar capacity of the state by not leveraging private capital. In addition, it would increase the administrative burden on the state, as the state would assume full responsibility for operations and maintenance, requiring additional state staffing and resources.

Implementation Next Steps

In order to move forward with this State Solar Implementation Plan, DAS recommends the following next steps.

Short Term Actions

Identify New Candidate Properties: Collaborate with state agencies to determine their interest in solar installations and to identify feasible properties and locations for further evaluation.

Assess Site Suitability via Consultant: Use \$1.5M of the bond authorization to hire a consultant to conduct detailed assessments of newly identified state properties for solar deployment. The consultant will conduct a technical, high-level economic assessment on properties identified by OPM as well as preferred properties identified by client agencies. Properties determined as good candidates will be referred to the CTGB for a refined assessment.

Reassess Previously Vetted Sites: Several state agency projects were previously assessed and determined to be technically feasible but did not move forward due to unfavorable economics. CTGB will re-review those near-viable projects and use the bond funds to close the financial gaps as additional allocations become available.

Define Hybrid Financing Framework: Work with the CTGB to establish a formal plan outlining how the hybrid financing methodology (see Appendix B for background on how solar projects are currently financed) will be structured and administered, including the use of the designated bond funds.

Mid-Term Actions

Evaluate Cost Effectiveness of Projects in Municipal Utility Territories: Identify state properties located outside of Eversource or Avangrid service areas, which are not eligible to participate in the NRES program. For properties served by municipal utilities without active solar programs, assess the cost-benefit of providing additional financial support to advance viable solar projects.

Conclusion

DAS continues to be committed to reducing greenhouse gases through the installation of solar on state properties in furtherance of Executive Orders 1 and 21-3, as well as pursuant to Public Act 25-174. In order to make the most efficient use of the \$60 million in new state funds designated toward this goal, DAS recommends continuing our successful partnership with the CTGB to maximize solar capacity by leveraging private capital for project financing.

Appendix A

Background on the Connecticut Green Bank's Solar Marketplace Assistance Program

CTGB has worked with DAS and other state agencies over a number of years to deploy solar across state-owned facilities and land. Through its Solar Marketplace Assistance Program Plus ("Solar MAP+"), CTGB provides project development assistance including feasibility assessments, contractor and financing competitive procurements, and construction oversight. Projects developed through Solar MAP+ have used a third-party owned ("TPO") financing structure. Through a TPO model, a third-party provides all the funding for the project, owns the system, and is responsible for all ongoing costs including insurance and operations and maintenance. The TPO either sells the power to the state agency at a discount to utility power or sells the power directly to the utility, with the state agency receiving a portion of the revenue from that sale. This model has allowed the state to install 7 projects for a capacity of 8.3 MWs. Another 18 projects with a capacity of 12.8 MWs are under contract and/or currently in development.

There are many benefits to deploying solar through this TPO model, including:

- No upfront costs: None of the projects have required any state dollars.
- No ongoing cost or obligation: Ongoing costs, such as equipment replacement and maintenance, are covered by the system owner, not the state.
- The project and investment risk is borne by the TPO.
- Provides electricity savings or revenue from electricity sales to the utility without any cost to the State. Seven (7) out of 36 projects are completed, which provided the state with approximately \$552,000 in average annual savings and over \$11 million through the 20-year term. The 18 projects under development are projected to save the state \$920,000 in average annual savings and \$19.3 million over the 20-year

term. These projects vary in size from 10 kW to 5 MW and different cost and installation configurations between rooftop, ground mount, and carport.

DAS and CTGB have been exploring ways to incorporate the bond funding into this model. The goal is to continue utilizing the model while either (1) increasing the economic benefits to the state through either a lower solar electricity price or greater share of the sale of electricity to the utility or (2) making projects with challenging economics feasible, increasing the amount of solar in state-owned facilities and land that can be deployed. By integrating the funds with the TPO model instead of using them to fully fund solar projects, DAS can stretch the dollars across more projects and deploy more solar. DAS and CTGB have identified several potential alternatives to integrate the funds:

- **Grants:** Provide grants to the TPO to cover a portion of the project cost. This would reduce the TPO's capital requirements and risk, allowing them to share more of the project benefits with state agencies or make previously uneconomic projects possible.
- **Prepayment:** Make a prepayment for future electricity sales from the solar project to the TPO. The effect would be similar to the above grant option, increasing the economic benefit to the state or allowing for more solar deployment. The benefit is potentially greater though as it might avoid a decrease in federal subsidy that the grant causes.
- **Debt:** Provide a low-interest loan to the TPO. TPOs almost always utilize debt financing to fund their project development and construction. By providing low-interesting financing, CTGB and DAS can reduce the overall cost of capital for the TPO, which would allow the TPO to offer better economics to the state. This can be implemented through a low interest loan directly to the TPO or through an interest rate buydown. CTGB has also explored potentially structuring as a forgivable loan. If

this route is pursued, CTGB can play an intermediary or facilitation role for providing the debt.

Note that each alternative carries different implications for a TPO's taxes and federal tax incentives, particularly the Investment Tax Credit ("ITC") and the ITC-eligible basis, which can change depending on whether a project is supported by a grant, loan, prepayment or other funding. The source of bond funding (including whether bonds are tax-exempt) also affects tax treatment. These factors should be assessed to identify the path that best advances solar deployment and maximizes economic benefits to the state—whether through a lower solar price, a higher value share from electricity sales associated with the solar, or improving feasibility for projects with challenging economics.

Appendix B

Background on the Connecticut Green Bank's Solar Financing Model

Currently, the CTGB finances state solar projects through various mechanisms such as the Utilities Non-Residential Renewable Energy Solution (NRES), the selling of RECs, and through private investments. State solar projects have previously participated in the utility's NRES program, which typically requires the sale of RECs to increase economic viability. However, this means the state cannot claim the environmental attributes associated with the project. The CTGB is exploring alternative pathways for solar project financing that enables the retention of RECs. The current financing mechanisms outlined below are pathways that have been previously used for state solar projects implemented in partnership with the CTGB.

NRES: Eversource's Non-Residential Renewable Energy Solutions (NRES) is a Connecticut-based incentive program for businesses and other non-residential customers who install their own renewable energy systems. Launched in 2022, this program replaced the Low Emission and Zero Emission Renewable Energy Credit programs. Under NRES, participants can generate their own clean power and are compensated through either an "offsetting" option, which provides bill credits for the energy produced, or a "buy-all" option, where Eversource purchases all the energy generated at a rate approved by the Public Utilities Regulatory Authority (PURA). The program aims to encourage the use of renewable energy technologies, like solar, and offers 20-year contracts for approved projects.

RECs: Renewable Energy Credits (RECs) are tradable, market-based instruments that represent the environmental benefits of one megawatt-hour (MWh) of electricity generated from a renewable source and delivered to the power grid. Since electricity from different sources is indistinguishable on the grid, RECs provide a way to track and claim the "renewable" attributes of

clean energy. When a facility, like a wind farm or a solar array, generates one MWh of electricity, one REC is created.

These credits are sold on open markets to buyers, which can include utility companies, large corporations, or individuals. Utilities might be required to buy RECs to meet state-mandated Renewable Portfolio Standards, while companies often purchase them voluntarily to meet sustainability goals and reduce their reported carbon footprint. RECs can be sold directly or, more commonly, through a third-party aggregator or broker who bundles the credits to sell to larger buyers. Once a REC is purchased and retired by the buyer, the environmental claim is officially transferred and can no longer be resold.