CONNECTICUT GREEN BANK®
COMMUNITY SOLUTIONS

environmental infrastructure primer

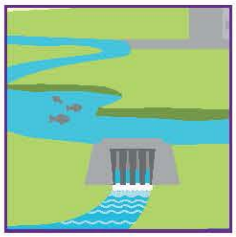
land conservation

Environmental Markets

Land Conservation

Parks and Recreation

Agriculture



Water
(Coming soon in 2023)

Waste and Recycling
(Coming in 2024)

CONNECTICUT GREEN BANK SM

Land Conservation

Primer

Contents

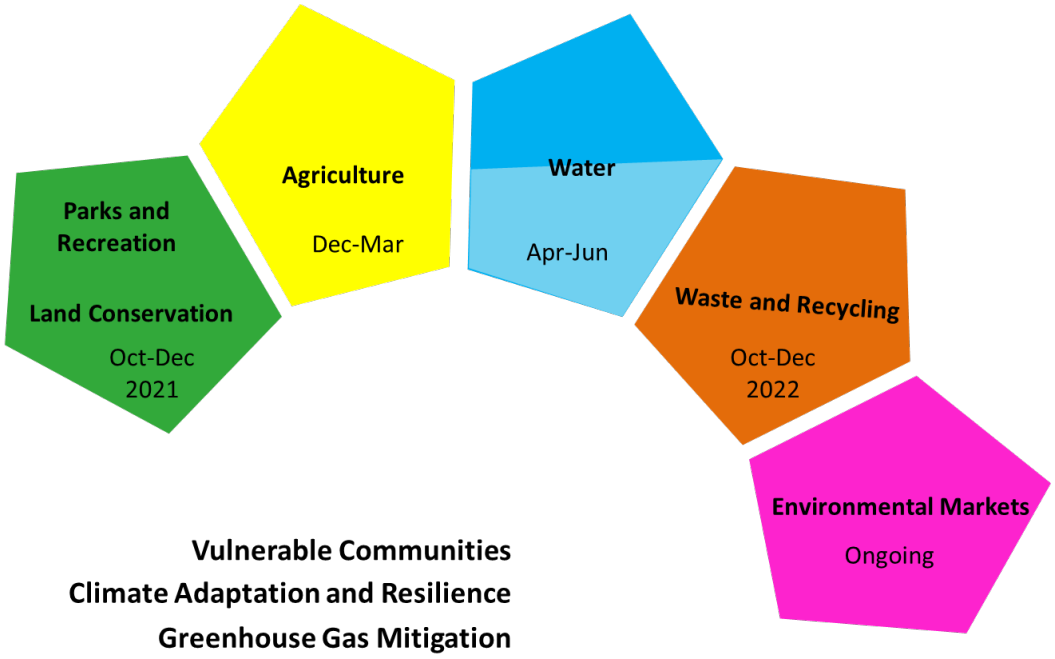
1. **Introduction** 4
2. **Overview** 4
3. **Key Public Policies** 6
4. **Market Potential** 9
5. **Target** 12
6. **Funding and Financing Programs** 12
7. **Other Programs** 15
8. **Stakeholder Outreach** 15
9. **Findings** 16
10. **Opportunities** 20
11. **References** 26
12. **Definitions** 26

LAND CONSERVATION
PRIMER

1. Introduction

In October of 2021, the Connecticut Green Bank ("Green Bank") developed a plan upon which it was going to engage stakeholders to understand the various components of "environmental infrastructure" – see Figure 1. With its mission to "confront climate change by increasing and accelerating investment into Connecticut's green economy to create more resilient, healthier, and equitable communities," within each component of "environmental infrastructure," the cross-cutting issues of reducing greenhouse gas emissions ("GHG"), increasing climate adaptation and resilience, and enabling investment in vulnerable communities was explored.

Figure 1. Process to Understand Components of Environmental Infrastructure



This primer reflects the observations, findings, and initial recommendations from the conversations with stakeholders and research conducted on land conservation.

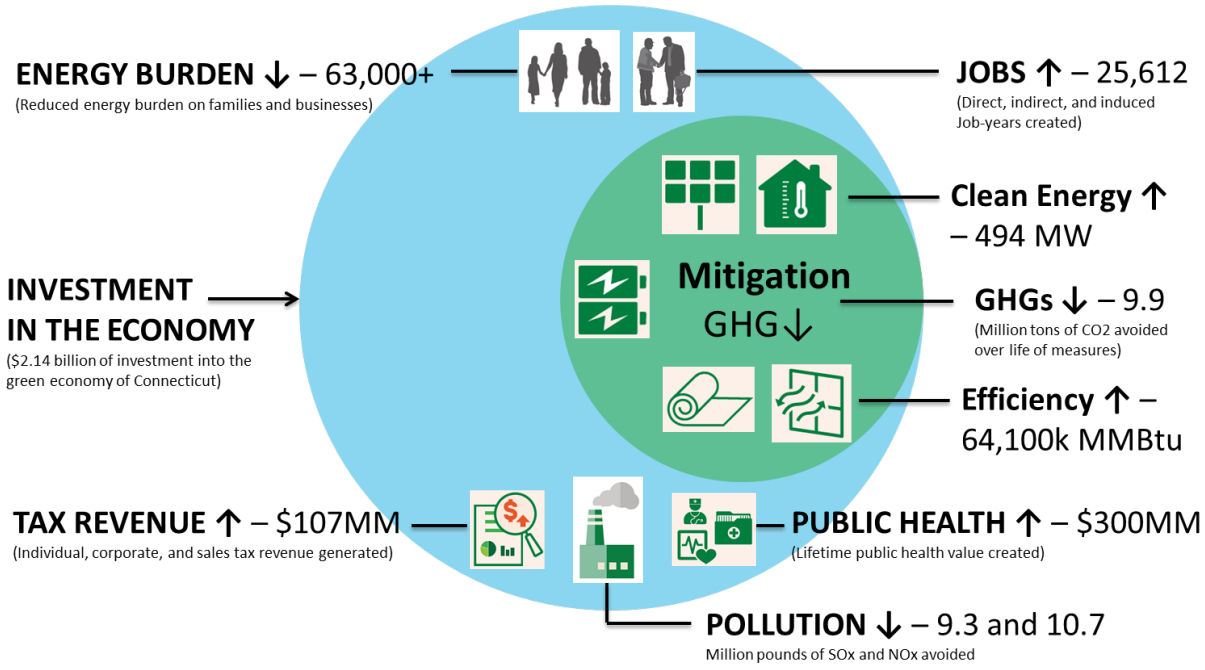
2. Overview

On July 6, 2021, Governor Ned Lamont signed Public Act 21-115 "An Act Concerning Climate Change Adaptation" ("the Act") into law. The bipartisan-supported public policy was among the sixty-one (61) recommendations made by the Governor's Council on Climate Change ("GC3"), including a recommendation to expand the scope of the Green Bank beyond "clean energy" to include "environmental infrastructure" (i.e., Recommendation #57).

Since its founding over a decade ago, the Green Bank has focused its efforts on using a limited amount of public resources to mobilize multiples of private investment in Connecticut to increase

and accelerate the deployment of "clean energy" to deliver social and environmental impact – see Figure 2.[1]

Figure 2. Decennial Impact of the Green Bank with focus on "Clean Energy" Deployment and Mitigation of GHG Emissions



Given its mission, the Green Bank helps the State of Connecticut achieve its ambitious public policy objectives (e.g., GHG emission reductions targets, renewable portfolio standards). In so doing, by 2025, no less than 40 percent of investment and benefits from its programs are to be directed to vulnerable communities.[2]

The Act, expands the scope of the Green Bank beyond "clean energy" to include "environmental infrastructure," and includes the following key provisions:

- **Definition** – "environmental infrastructure" means structures, facilities, systems, services and improvement projects related to (A) water, (B) waste and recycling, (C) climate adaptation and resiliency, (D) agriculture, (E) land conservation, (F) parks and recreation, and (G) environmental markets, including, but not limited to, carbon offsets and ecosystem services;

- **Comprehensive Plan** – requirement for the Green Bank to develop a Comprehensive Plan[3] prior to implementing any programs or initiatives related to "environmental infrastructure";

[1] https://www.ctgreenbank.com/wp-content/uploads/2021/12/FY12-FY21-CGB-ImpactReport-web.pdf

[2] "Vulnerable communities" means populations that may be disproportionately impacted by the effects of climate change, including, but not limited to, low and moderate income communities, environmental justice communities pursuant to section 22a-20a, communities eligible for community reinvestment pursuant to section 36a-30 and the Community Reinvestment Act of 1977, 12 USC 2901 et seq., as amended from time to time, populations with increased risk and limited means to adapt to the effects of climate change, or as further defined by DEEP in consultation with community representatives.

[3] https://www.ctgreenbank.com/wp-content/uploads/2022/07/Comprehensive-Plan_FY-2020-and-Beyond_Revisions-for-FY22_012522.pdf

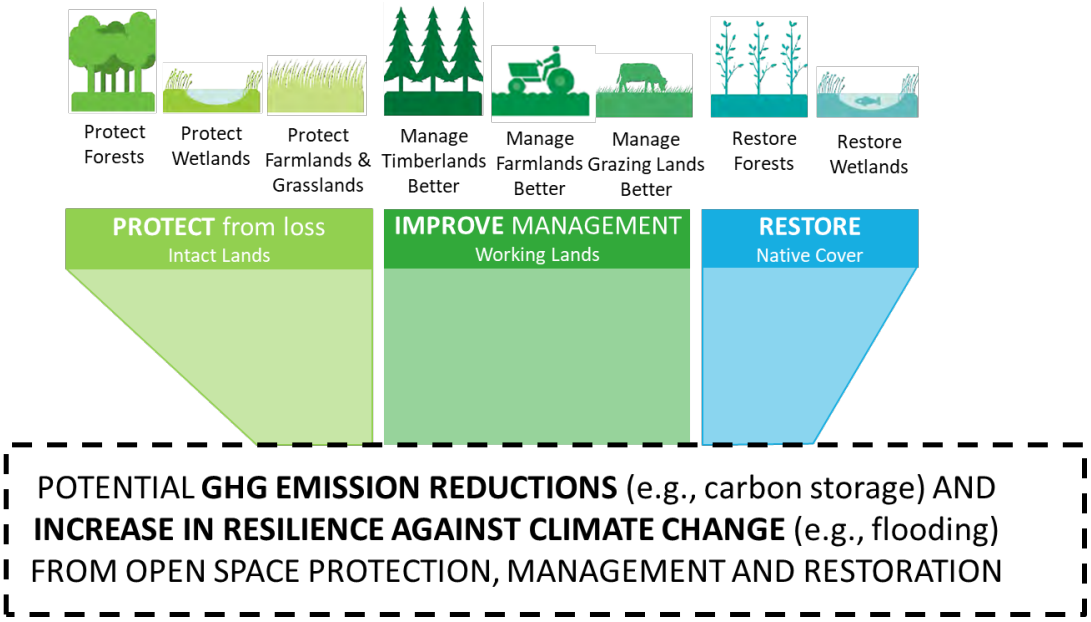
- **Reporting** – inclusion of the Banks Committee and the Environment Committee, alongside the Energy and Technology Committee and Commerce Committee in terms of reporting; and

- **Bonding** – the ability to issue 25-year bonds for "clean energy" and 50-year bonds for "environmental infrastructure" (i.e., no more than the useful life of the projects), supported by the Special Capital Reserve Fund ("SCRF"), for up to 25 years to improve the rating of the bonds issued.

This document attempts to summarize the findings from the research and outreach efforts conducted by the Green Bank[4] on "land conservation" from October 2021 through January of 2022 and includes the following sections: (A) overview, (B) key public policies, (C) market potential, (D) target, (E) funding and financing programs, (F) other programs, (G) stakeholder outreach, (H) findings, (I) opportunities, (J) history of leadership and innovation, (K) references, and (L) definitions.

Nature-based solutions (e.g., land conservation) such as protecting intact lands from loss (e.g., forests), improving the management of working lands (e.g., sustainably certified timberlands), and restoring native land cover, including coastlines, can support the Green Bank's mission by both mitigating the GHG emissions that cause climate change (e.g., forest carbon sequestration) and increasing resilience against the impacts of climate change (e.g., flood protection) – see Figure 3.

Figure 3. Nature Based Solutions to Confront Climate Change - Mitigation and Resilience



3. Key Public Policies

The following are key public policies that advance "land conservation" in Connecticut, including, but not limited to:

[4] Led by Bryan Garcia (President and CEO) and Ashley Stewart (Consultant)

1. **State Plan of Conservation and Development** (CGS 16a-24) – is an overarching statement of state policy in matters pertaining to land and water resource conservation and development. The Office of Policy and Management ("OPM") prepares revisions to the State Conservation and Development Plan ("State C&D Plan") on a recurring 5-year cycle and submits it for adoption by the Connecticut General Assembly ("CGA"). Once adopted, the State C&D Plan is then implemented by state agencies whenever they undertake certain actions.[5] The current State C&D Plan (i.e., for 2018-2023), includes the relevant "clean energy" and "environmental infrastructure" items, including, but not limited to:

    A. **Greenhouse Gas Mitigation** – reducing carbon dioxide emissions in the state consistent with the recommendations of the Connecticut Climate Change Preparedness Plan (i.e., 5.10);

    B. **Climate Adaptation and Resilience** – including developing and deploying innovative energy technologies, and promoting distributed generation and microgrids to provide reliable electrical power or energy-dependent community services during outages and peak demand periods (i.e., 1.12) and minimizing the potential risks and impacts from natural hazards by considering potential impacts of climate change on existing and future development (i.e., 1.13); and

    C. **Land Conservation** – protecting permanently preserved open space areas, Connecticut Heritage Areas, and archaeological areas of regional and statewide significance (i.e., 4.1), limiting improvements to permanently protected open space areas to those that are consistent with long-term preservation of the natural resource and open space values of the site (i.e., 4.2), expanding the state's open space and greenway network through the acquisition and maintenance of important multi-functional land and other priorities identified in the state's open space plan (i.e., 4.3), encouraging collaborative ventures with municipalities, private non-profit land conservation organizations and other entities to provide a system of appropriately preserved and managed natural areas and resources that allow for a diversity of well-functioning habitats and the sustainable use of resources (i.e., 4.5), and promoting innovative land conservation and banking practices that further local, regional, and state conservation and development objectives, and minimize the need to expand infrastructure to support new development in rural areas (i.e., 4.18).

2. **Open Space Target** (CGS 23-8)[6] – establishes a mandate to conserve 21% (i.e., 673,210 acres) of state land area as held by open space land, with 10% from the state (e.g., forests, parks) and not less than 11% from partners (e.g., municipalities, water companies, or non-profit land conservation organizations). The Comprehensive Open Space Acquisition Strategy (or "Green Plan")[7] is the comprehensive strategy for achieving the state goal by 2023, which includes priorities for strategic acquisitions of open space for climate change resiliency and preserving open space in perpetuity for state lands with high conservation value.

[5] Quasi-publics are not subject to this requirement

[6] https://law.justia.com/codes/connecticut/2012/title-23/chapter-447/section-23-8/

[7] https://portal.ct.gov/DEEP/Open-Space/The-Green-Plan

It should be noted that Connecticut's 2020 Forest Action Plan[8] includes several relevant desired future conditions, including:

- Connecticut will increase the amount of forest protected from development following priority criteria based on core forest areas, connection, Forest Legacy potential, and vulnerability;
- People of Connecticut will understand and value the urban forests as essential parts of healthy urban ecosystems;
- Connecticut forests will support a viable forest products industry that provides marketable products from renewable and diverse forest resources; and
- Management of Connecticut's forests will use the best available scientific information and the best available data as the basis for sound conservation and management decisions.

3. **Community Investment Act** (Public Act 05-228)[9] – "An Act Concerning Farm Land Preservation, Land Protection, Affordable Housing and Historic Preservation," also known as the Community Investment Act ("CIA"), CIA provides a dedicated and consistent source of funding for state preservation of open space (Department of Energy and Environmental Protection or "DEEP"), farmland (Department of Agriculture or "DoAg"), historic sites (Department of Economic and Community Development or "DECD"), and affordable housing (Connecticut Housing Finance Authority or "CHFA"). Through a $40 surcharge on local land recordings (i.e., $1 to Town Clerk, $3 to local government, $10 supplemental income to dairy farmers, and $26 to State Treasurer), about $22 MM is raised each year, which is equally distributed in four (4) parts to the priority funding areas.

4. **Use Value Assessment Law** (Public Act 490 or CGS 12-107a-f)[10] – passed by the CGA in 1963, allows farm, forest, or open space land to be assessed at its use value rather than its fair market or highest and best use value (as determined by the property's most recent "fair market value" revaluation) for purposes of local property taxation. Without the lower use value assessment, most landowners would have to sell the land because they would not be able to afford the property taxes on farm, forest, or open space land. It must be noted that Public Act 490 allows farmers to continue to farm, and other landowners to continue to own forest and open space land without being forced to sell it to pay the local property taxes. When the legislature passed Public Act 490 in 1963, it included in the law's wording that "it was in the public interest to encourage the preservation of farm, forest, and open space land." Studies done across the nation have conclusively proven that property tax revenues generated by farm, forest, or open space land, are far greater than the expenditures by the town to service that land. For example, under the current structure, the residential sector costs a town more to service then the amount of property tax generated from that sector. Thus, farm, forest, and open space land can actually help control and maintain reasonable rates of property taxation for all of a town's taxpayers.

5. **Ten Mill Program** (CGS 12-96) – Ten Mill Program was developed in 1913 and required forest landowners to make a 100-year commitment to maintaining land as forest land in exchange for municipalities holding the property at a 10-mill rate and the valuation of the

[8] https://portal.ct.gov/-/media/DEEP/forestry/2020-Approved-CT-Forest-Action-Plan.pdf
[9] https://www.cga.ct.gov/2005/ACT/Pa/pdf/2005PA-00228-R00SB-00410-PA.pdf
[10] https://www.cga.ct.gov/current/pub/chap_203.htm#sec_12-107a

land at evaluation for 50 years after. The Ten Mill program has not added new propertied since the 1970's, however, both programs provide support to landowners that encourages conservation and open space.

6. **Executive Order 21-3** – On December 16, 2021, Governor Ned Lamont signed Executive Order 21-3 which calls for 23 actions supporting more than thirty recommendations from the Governor's Council on Climate Change, including several recommendations on working lands: [11]

   A. **Forest Climate Resilience and Mitigation Potential** – DEEP engagement of stakeholders to ensure Connecticut's forests continue to be resilient against the impacts of climate change and to maximize forest potential to sequester and store carbon in support of Connecticut's GHG emission reduction goals.

   B. **Agriculture Climate Resilience and Mitigation Potential** – DoAg engagement of stakeholders to ensure Connecticut's working lands and soils continue to be resilient against the impacts of climate change and to maximize forest potential to sequester and store carbon in support of Connecticut's GHG emission reduction goals.

   C. **Climate Resilience Using Nature-Based Solutions on State Properties** – DEEP and Department of Administrative Services ("DAS") to develop guidance for state agencies to use nature-based solutions for flood and erosion control and stormwater management, integrate coastal marsh migration in state projects in coastal areas, and utilize low impact development and green infrastructure in new state construction and state-funded construction or redevelopment.

In order to identify opportunities to mobilize private investment, it is important to understand the public policy context in which "land conservation" operates. With the focus on the Green Bank's mission (i.e., confront climate change), public policy provides a mechanism to catalyze private investment.

4. Market Potential

The following is the market potential for "land conservation" from the perspective of forest land – see Table 1.

Table 1. Market Potential for Land Conservation in Connecticut based on Forest Land

3,205,762 Acres Land in Connecticut				
1,869,761 Acres Forest Land			**1,336,001 Acres** Non-Forest Land	
298,994 Acres Protected Core Forests	**568,857 Acres** Unprotected Core Forest	**1,001,910 Acres** Non-Core Forest	**1,130,000 Acres** Urban Area	**206,001 Acres** Other Non-Urban and Non-Forest

[11] It should be noted that Connecticut is a member of the United States Climate Alliance, and one of the original signatories to the Natural and Working Lands Challenge in 2018 – http://www.usclimatealliance.org/nwlchallenge

Connecticut's forest products industry contributes at least $2.1 billion to the state's economy, while forest-based recreation generates approximately $1.2 billion per year – forest-based employment accounts for 8,200 jobs in Connecticut.[12]

It should be noted that New England is the most forested region in the United States.[13] Approximately 56-61% of Connecticut is forested with approximately two (2) people for every acre of forest land. 191 MMT of carbon is stored in Connecticut's forests, which has increased by 9 MMT over the last decade[14] – approximately 33 MMTCO2 or 3.3 MMTCO2 per year (or nearly 8 percent of annual GHG emissions in Connecticut).[15][16] The urban area of Connecticut includes nearly 90% of the population and trees store about 23 MMT of carbon and continue to sequester at the rate of about 750,000 tons per year. If estimates are accurate of carbon sequestered and stored in forests and related soils, then there are about a decade's worth of emission reductions equivalent to 20% of total emissions – see Figure 4.

[12] North East State Foresters Association, *The Economic Importance of CT's Forest Based Economy 2015.*

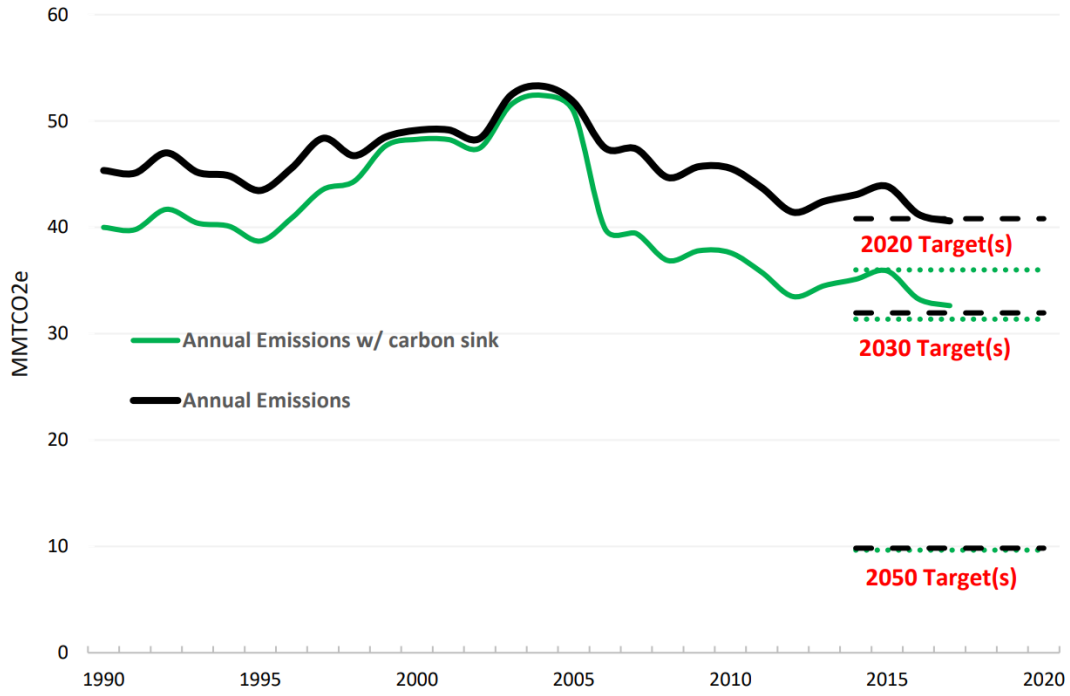
[13] New England Forest Foundation

[14] "Forests Sub-Group Final Report 2020" of the Working & Natural Lands Working Group of the Governor's Council in Climate Change (p. 6)

[15] Atomic weight of carbon is 12 atomic mass units versus carbon dioxide at 44 because 2 oxygen atoms each weigh 16 atomic units, therefore 1 ton of carbon equals 3.7 tons of CO2 or 1 metric ton of carbon equals 4.1 metric tons of CO2

[16] Press Release issued by DEEP on September 7, 2021 entitled "CT Not on Track to Meet Statutory Emissions Targets, New Greenhouse Gas Inventory Finds"

Figure 4. Connecticut Sector-Wide GHG Emissions and Future Emissions Targets, including Carbon Sink Accounting



To retain the multiple benefits that forests provide such as carbon storage, biodiversity, clean water, clean air, resiliency, public health, wood products for human use, and green infrastructure, there is a "no net loss of forest" goal. Of Connecticut's forest lands, 71% is owned by private individuals, corporate landholders (e.g., water companies), and nonprofit land trusts, with 17%, 11% and 1% of the remaining forest land owned by the state, municipalities, and federal government, respectively.

From the perspective of wetlands, there are approximately 220,000 acres in Connecticut representing about 7% of land within the state, which includes tidal and inland wetlands. Of the 91 miles of coastline, tidal wetlands are the most vulnerable natural resource in the face of climate change and rising sea levels.[17] These resources are among the most biologically productive resources in the world, provide habitat for wildlife, improve water quality by trapping sediments and filtering contaminants, protect shorelines, and are a source of carbon sinks. Inland wetlands, including the 5,800 miles of rivers and 65,000 acres of lakes,[18] are key resources in terms of stormwater retention and rivers and ponds provide water retention to mitigate flooding, and they are essential to surface and underground fresh water, provide critical habitat to wildlife, and are a source of carbon sinks. As noted above, wetlands provide a number of ecosystem services, including provision services (e.g., food, water), regulating services (e.g., carbon sequestration, moderation of extreme storms), support services (e.g., habitat, biodiversity), and cultural services (e.g., recreation, tourism, physical and mental health).

[17] "Wetlands Sub-Group Report 2020" of the Working & Natural Lands Working Group of the Governor's Council on Climate Change (p. 6)

[18] "Rivers Sub-Group Report 2020" of the Working & Natural Lands Working Group of the Governor's Council on Climate Change (p. 4)

5. Target

The following is a breakdown of the "land conservation" target outlined in the CGS 23-8 – see Table 2.

Table 2. Progress Towards the Open Space Land Target in Connecticut

<table>
<tr><td colspan="9">3,205,762 Acres
Land in Connecticut</td></tr>
<tr><td colspan="4">320,576 Acres
State Goal (@10%)</td><td colspan="4">352,634 Acres
Partner Goal (@≥11%)</td><td rowspan="2">2,532,552 Acres
No Land Conservation (@79%)</td></tr>
<tr><td>175,000 Acres
State Forests[19]</td><td>36,000 Acres
State Parks[20]</td><td>46,000 Acres
Wildlife Area and Other[21]</td><td>63,500 Acres
left to achieve target</td><td>84,000 Acres
Cities and Towns</td><td>99,000 Acres
Water Companies</td><td>66,000 Acres
Non-Profit Land Trusts</td><td>104,000 Acres
left to achieve target</td></tr>
</table>

Of the open space goal of 21% by 2023 (i.e., 673,210 acres), approximately 510,249 acres are conserved (as of December 31, 2019), or 76% of the open space goal comprising 261,806 acres of state (i.e., 82% of the 10% state target) and 248,953 acres of partner (i.e., 71% of the partner target) – leaving an estimated 162,451 acres of open space left to achieve.

If the average land acquisition cost is $9,000 per acre, then approximately $1.5 billion of public and private investment in land conservation would be needed to acquire and protect over 160,000 acres of open space in order to achieve the 21% target.[22]

6. Funding and Financing Programs

The following is an alphabetical breakdown of the current funding (i.e., grants) programs in support of "land conservation" in Connecticut, including, but not limited to:

- **Agriculture Conservation Easement Program** ("ACEP") – protects the agriculture viability and related conservation values of eligible land through agricultural land easements that help private and tribal landowners, land trusts, and other entities such as state and local governments protect croplands and grasslands on working farms and ranches by limiting non-agricultural uses of the land through conservation easements. Under the Land Easement component, the Natural Resources Conservation Service ("NRCS") of the USDA, may contribute up to 50 percent of the fair market value of the agricultural land easement, and up to 75 percent where NRCS determines that grasslands and special environmental significance will be protected. Projects must have non-federal matching funds in hand.

- **Charter Oak Open Space Trust Account** – a defunct program for several years now, which included two accounts to fund new open space purchase programs, including 40%

[19] 33 locations

[20] 107 locations

[21] Including wildlife management areas, fish hatcheries, flood control, natural area preserve, water access, wildlife sanctuaries, and other

[22] It should be noted that although the definition of Open Space Land under CGS 12-107(b)(3) includes "…and not excluding farmland…", that farmland was not included in the progress towards the open space target analysis above. If it were to be included, then it would demonstrate more progress towards the protected land goal bringing the state closer to the 21% goal, but still short of the goal. The use of "open space land" refers to public recreational use when farmlands aren't generally accessible to the public.

to the Charter Oak State Parks and Forest Account for state acquisition of open space and watershed land, and 60% to the Charter Oak Open Space Grant Program to provide grants to municipalities and nonprofit land conservation organizations to acquire open space or watershed protection land.

- **Community Forest Program** ("CFP") – is a competitive grant program through the US Forest Service that provides financial assistance to tribal entities, local governments, and qualified conservation non-profit organizations to acquire and establish community forests that provide community benefits. Community benefits include economic benefits through active forest management, clean water, wildlife habitat, educational opportunities, and public access for recreation.

- **Connecticut Farmland Preservation Program** (CGS 7-131d) – administered by DoAg to leverage state, local, and private funds to permanently protect farms. Initiated in 1998, is funded by state bonding and the CIA, and has four (4) public policy priorities – open space (i.e., DEEP), agriculture preservation (i.e., DoAg), historic preservation (i.e., DECD), and affordable housing (i.e., CHFA).

  Since 1978, DoAg has permanently protected 386 farms on 46,142 acres by awarding $128 MM in Farmland Preservation Program grant funds (or $2,778/acre).[23] Current law allows the Commissioner the ability to pay up to $20,000 per acre, subject to appraisal.

- **Connecticut Open Space and Watershed Land Acquisition Grant Program** ("OSWA") (CGS 7-131d) – a matching grants program to provide financial assistance to municipalities, land trusts, and water companies to acquire open space and watershed lands. Initiated in 1998, is funded by state bonding and the CIA, provides financial assistance to municipalities and nonprofit land conservation organizations to acquire land for open space, and to water companies to acquire land to be classified as Class I or Class II water supply property, and is administered by DEEP to leverage state, local, and private funds to create a cooperative open space acquisition program.

  Since 1998, DEEP has awarded over $150 MM in open space grant funds to protect over 41,000 acres (or $3,659/acre).

- **Connecticut Wetland Mitigation and In Lieu Fee Program** ("ILF")[24] – Per the Clean Water Act (CWA)—landmark environmental protection legislation passed in 1972 that applies to all waters of the United States—parties seeking to construct projects ("permittees") that will have an impact on wetlands must take all reasonable measures to avoid such impacts, to minimize unavoidable impacts, and to provide mitigation for the remaining unavoidable impacts. On the one hand, permittees could themselves be held responsible for taking on wetland and/or stream mitigation projects, but studies have shown that many mitigation sites in southern New England have a high failure rate because they fail to meet performance standards (Minkin and Ladd, 2003). For this reason, the National Audubon Society, Inc., through its state office, Audubon Connecticut, became the "sponsor" of a Connecticut "In Lieu Fee" program as of 2013. The program allows permittees to pay a fee *in lieu of* taking on mitigation themselves. Instead, local organizations like land trusts, and other environmental nonprofits, are given the opportunity to apply for and receive grant funding to protect and enhance wetlands.

[23] Status of State PACE Programs by the American Farmland Trust and USDA's Farmland Information Center
[24] https://ct.audubon.org/conservation/in-lieu-fee-program

- **Forest Legacy Program** ("FLP") – DEEP partners with the US Forest Service ("USFS") to implement the FLP. The FLP helps to identify and conserve environmentally important forests. The program protects working forests, those forests that protect water quality and provide habitat, forest products, opportunities for recreation and other public benefits. The program encourages and supports acquisition of conservation easements. Conservation easements are legally binding agreements transferring a negotiated set of property rights from one party to another, without transferring property ownership. Most FLP conservation easements restrict development, require sustainable forestry practices, and protect various environmental values. There are also limited instances under the program where properties are purchased outright for their conservation values. In both instances, the federal government may fund up to 75% of program costs, with at least 25% coming from private, state or local sources.

- **Land and Water Conservation Fund** ("LWCF") – LWCF is a federal program that was established by an Act of Congress in 1965 to provide funds and matching grants to federal, state and local governments for the acquisition of land and water, and easements on land and water, for the benefit of all Americans. The main emphases of the fund are recreation and the protection of national natural treasures in the forms of parks and protected forest and wildlife areas. In August 2020, the President Trump signed the Great American Outdoors Act into law, which requires that the LWCF be funded at $900 million yearly, a significant increase from previous funding levels.

- **Long Island Sound Futures Fund** – National Fish and Wildlife Foundation ("NFWF) and the Long Island Sounds Study's ("LISS") Long Island Sound Futures Fund ("LISFF") provides grant funding for projects that support the restoration and improvement of the health of the Sound. Since 2005, the LISFF has invested $32 MM in projects (i.e., grants ranging from $50,000 to $1 MM) to improve water quality, restore the natural environment, and engage and inform communities about the importance of a healthy Long Island Sound.

- **Recreation and Natural Heritage Trust Program** ("RNHT") – administered by DEEP, is the main program to purchase or conserve state lands for conservation and public use or benefit.

  Since 1998, the State Bond Commission has approved $177 MM to go towards the RNHTP to protect over 49,000 acres (or $3,612/acre).

- **Regional Greenhouse Gas Initiative** ("RGGI") – funded primarily by the proceeds from the sale of RGGI allowance proceeds by energy producers, RGGI funds have been used at times to support forest conservation. In 2020, DEEP invested nearly $1 MM of RGGI funds to support grant programs through the CT Urban Forest Council, UConn, and DEEP's Urban Forestry program to support urban tree planting, improving the management and maintenance of existing trees and/or wooded areas, local educational, outreach or planning efforts, and community organization capacity-building that will lead to improvements in local tree canopy cover with an emphasis on environmental justice communities and tangible climate change benefits.[25]

The following is a breakdown of the current financing (i.e., loans) programs that could support land conservation in Connecticut:

[25] "Policy on Resilient Forests for Connecticut's Future (PRFCT Future)" (December 14, 2021)

- **State Revolving Fund** ("SRF") – since 1988, Connecticut has received over $650 MM from the federal government through the Clean Water SRF, while providing cumulative assistance (i.e., including state investment) of $2.8 billion of investment primarily in centralized wastewater treatment infrastructure (in comparison to stormwater, energy conservation, and water conservation infrastructure).[26] With the passage of the bipartisan supported "Investing in Infrastructure and Jobs Act" ("IIJA" or Bipartisan Infrastructure Law "BIL") in November of 2021, there were additional resources allocated to the SRF for water quality and drinking water (i.e., $445 million).[27] SRF could be used to invest in green infrastructure projects (e.g., land conservation, nature-based solutions) for both mitigation and adaptation.

Accessing funding or financing resources for land conservation in Connecticut can be difficult, as evidenced by the unlikelihood of Connecticut achieving the open space land target (i.e., 21% by 2023). Identifying new mechanisms to access additional funding and financing resources, especially those that seek to unlock more private capital investment, could provide a catalyst to increase and accelerate investment in land conservation in Connecticut. The IIJA presents an opportunity to access funding and financing resources through formula or competitive grants for "land conservation".

7. Other Programs

The following are other items of note with respect to "land conservation":

- **No Child Left Inside** – launched in 2006, *No Child Left Inside*® is a promise to introduce children to the wonder of nature – for their own health and well-being, for the future of environmental conservation, and for the preservation of the beauty, character and communities of the state.

- **Passport to the Parks** – beginning in 2018, Connecticut offered all residents with Connecticut license plates on their vehicles free entry and parking at all state parks and beaches. Connecticut wants to make state parks, forests, trails, historic sites and beaches more available to residents so they can enjoy the many attractions and beauty they offer.

- **State Natural Heritage, Open Space & Land Acquisition Review Board** – is an independent advisory group of volunteers appointed by the Governor and leadership within the CGA under CGS 7-131(e) to oversee OWSA and RNHT programs.

- **Land Registry** – Public Use and Benefit Land Registry ("Land Registry") pilot portal allows users to browse state lands, determine property ownership, and research, view, and download copies of parcel information, including deeds, surveys, and land management plans. The Land Registry is valuable for many reasons. It provides a public record and notice of title, conservation purpose, funding amounts, and land management plans, when applicable. Furthermore, the Registry can potentially expand public access to open space lands purchased with State conservation funds by highlighting their locations across Connecticut.

8. Stakeholder Outreach

[26] Including Title II and VI funds – https://www.epa.gov/sites/default/files/2021-02/documents/ct.pdf

[27] https://www.whitehouse.gov/wp-content/uploads/2021/08/CONNECTICUT_The-Infrastructure-Investment-and-Jobs-Act-State-Fact-Sheet.pdf

In an effort to understand the public policy and marketplace context for "land conservation" in Connecticut, the Green Bank met with many organizations.[28]

These 24 organizations primarily represent non-profit organizations but include public and for-profit organizations as well.

The objectives of these one-hour conversations included:

- **Introductions** – to get a better understanding of the mission and initiatives of the various public, nonprofit, and for-profit stakeholders operating within the "land conservation" space, and to introduce the Green Bank;

- **Environmental Infrastructure** – inform the various stakeholders about the "environmental infrastructure" policy,[29] process the Green Bank is pursuing to develop a Comprehensive Plan, and to elicit discussion on the following areas:

    - **Relevance** – how relevant "environmental infrastructure" and its components (e.g., land conservation) are to the stakeholder's mission and initiatives;

    - **Policies and Targets** – what local, state, and federal policies (e.g., Community Investment Act), including plans (e.g., Green Plan) are important from the stakeholder's perspective, and what targets (e.g., 21% open space land by 2023) are they seeking to achieve;

    - **Metrics** – what are the key metrics stakeholders believe are important in terms of monitoring and evaluating success from investments in "environmental infrastructure" improvements and "land conservation";

    - **Vulnerable Communities** – how does the stakeholder's organization think about the impacts that must be addressed from climate change to build the resilience of vulnerable communities; and

    - **Stakeholder Identification** – who else should the Green Bank meet with on the topic.

From these conversations, the Green Bank was able to develop a better understanding as to the role it might play in terms of financing "land conservation" from the perspective of its mission – to confront climate change.

9. Findings

[28] Land Conservation – American Forest Foundation, Audubon Connecticut, Connecticut Audubon, Connecticut Land Conservation Council, Conservation Finance Network, DEEP, Ecosystem Investment Partners, Goldman Sachs, Highstead, New England Forestry Foundation, New England Society of American Foresters, Quantified Ventures, Save the Sound, The Nature Conservancy, TNC's Nature Vest Program, and Yale Forest School
Parks and Recreation – Connecticut Forest and Parks Association, Connecticut Greenways Council, Connecticut Recreation and Parks Association, DEEP, Green Eco Warriors, Keney Park Sustainability Project, Sierra Club, Trust for Public Lands, and Urban Resources Initiative.

[29] Public Act 21-115 – An Act Concerning Climate Change Adaptation"

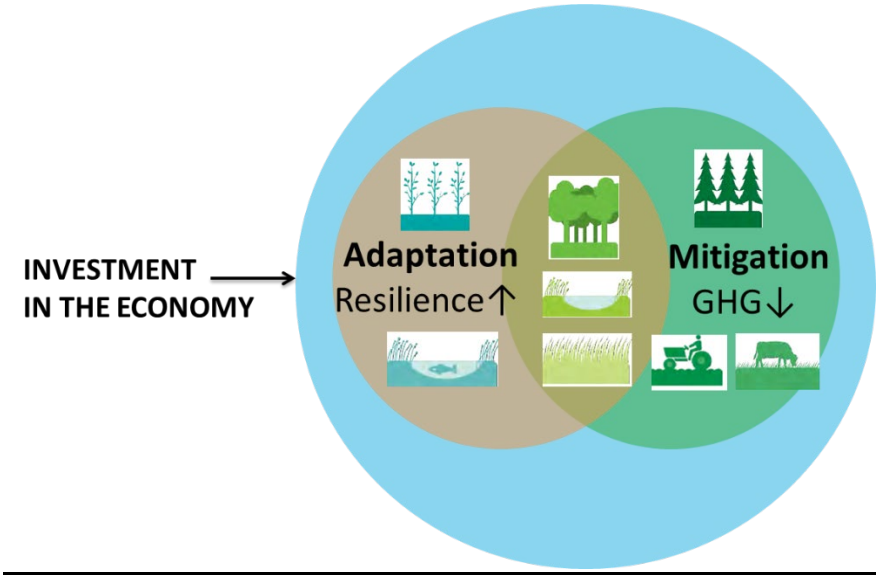
Based on the various meetings with public, nonprofit, and private stakeholders, the following are key findings with respect to land conservation (it should be noted that additional findings have been generalized in the footnote):[30]

- **Consistent with Mission to Confront Climate Change** – land conservation reduces GHG emissions (e.g., preventing forest conversion to development, better forest management practices, substituting wood for steel in building materials, and storing carbon in new construction) (see Table 3) and increases resilience (e.g., flood protection, stormwater management), and therefore is consistent with the Green Bank's mission to "confront climate change" through the protection, management, and/or restoration of open space land (e.g., forests, wetlands, grasslands, farmlands, timberlands, grazing lands) – see Figure 5.

Table 3. Carbon Emissions, Foregone Sequestration, Total Opportunity from Avoided Deforestation (MMTCO2e/Year/Acre)[31]

	Carbon Emissions		Foregone Sequestration		Total Opportunity	
	1990s	2000s	1990s	2000s	1990s	2000s
CT	0.35	0.42	0.08	0.09	0.43	0.51

Figure 5. Impact of Investment in Land Conservation – Increase Resilience and Reduce GHG Emissions



- **Must Access Federal Resources** – leverage Green Bank assets to successfully access formula grant or competitive solicitations from federal sources that can be efficiently and effectively invested by state and local partners (e.g., land trusts, non-profits, etc.).

[30] Additional findings – land conservation and nature-based solutions are infrastructure, adaptation is community-centered and important for community engagement, Connecticut is along important ecosystem migration routes for wildlife, Nature Vest is a "green bank," policies are important for performance-based environmental outcomes (i.e., pay for performance) environmental markets requires lawyers (i.e., public policy) and scientists (i.e., pre and post project impacts)

[31] Williams CA, Hasler N, Xi L (2021) "Avoided Deforestation: A Climate Mitigation Opportunity in New England and New York", a report prepared for the United States Climate Alliance Natural and Working Lands Research Program, pp.1-42.

It should be noted that although the Green Bank can't access the SRF,[32] that $445 million of additional SRF resources will be received by Connecticut over five years through the IIJA – and SRF resources can be directed towards green infrastructure projects (e.g., land conservation, nature-based solutions) as demonstrated by TNC and Nature Vest.[33]

- **Money is Not Always the Problem** – as important as local, state, federal, and private funding and financing resources are, sometimes not having enough people, having onerous processes, an inability to speak to or monetize co-benefits (e.g., job creation, resilience), or lack of understanding of important tools (e.g., conservation finance) can substantially inhibit progress towards increasing investment in land conservation. There is also an opportunity to prioritize and engage with a broader representation of Connecticut communities in addressing environmental infrastructure that has multiple benefits – it will be important to identify opportunities that enable investment in projects that provide numerous outcomes.

- **Need Mechanisms to Monetize Environmental Markets** – stakeholders recognize that environmental markets (e.g., carbon offsets, ecosystem services, resource certification) may be able to provide additional sources of revenue (e.g., from compliance, voluntary, and/or other markets) to finance projects (e.g., proceeds from revenue bonds). For example, carbon stocks are generally higher in older forests, while the amount of carbon stock added in a given year is higher in younger forests.[34] In Connecticut, the cost of climate mitigation from avoided deforestation is between $10 (i.e., in parts of Litchfield County) to over $500 (i.e., in all of Fairfield County) per MTCO2e.[35] Successful projects require public recognition of environmental commodities (i.e., through public policy and compliance markets, procurement, or other means), significant potential (i.e., private landowners of forests with strong GHG mitigation and/or resilience potential), credible partners (e.g., science-based nonprofit conservation organizations, credit-worthy long-term purchasers of carbon offsets), and reliable monitoring and evaluation.

- **Impact Metrics** – the following is a "high level" breakdown of the types of metrics appropriate for land conservation – see Table 4.

Table 4. Relevant Metrics Identified by Stakeholders on Land Conservation

Inputs	Outputs	Outcomes
○ Investment in projects ○ Sources of public (e.g., local, state, federal) and private funds ○ Leverage (i.e., public vs. private funds) ○ Individual investment (e.g., Community Match Fund, Green Liberty Bonds and Notes) ○ Funding (i.e., grants) vs. financing (i.e., loans)	○ # of projects ○ Location of projects ○ Quantity of land conserved (e.g., acres, restrictions, use, easements) ○ Quality of land conserved (e.g., ecosystem services) ○ Reduction in land loss to development ○ Urban tree canopy cover ○ Renewable energy (e.g., solar PV, wind) on forestland	○ GHG emissions reduced or sequestered ○ Resilience improvement (e.g., # people at reduced risk of flooding, heat exposure) ○ Comparative benefits between project types (e.g., coastal wetlands vs. inland wetlands) ○ Water quality improvement (e.g., stormwater

[32] Per Public Act 21-115

[33] Cumberland Forest Project conserving 253,000 acres of conservation easement along Central Appalachia from Kentucky to Virginia. https://www.nature.org/en-us/magazine/magazine-articles/cumberland-forest-project/

[34] Williams CA, Hasler N, Xi L (2021) "Avoided Deforestation: A Climate Mitigation Opportunity in New England and New York", a report prepared for the United States Climate Alliance Natural and Working Lands Research Program, pp.1-42.

[35] Ibid (21)

○ Technical assistance (e.g., climate-smart practices) ○ Protected lands (e.g., conservation easements) supporting local needs ○ Access to land	○ Increased engagement of BIPOC community to land conservation ○ Sustainably managed lands ○ Better and easier access to information ○ Increase in cash flow to property owners	management, nitrogen sediment in streams) ○ Jobs created ○ Land use and zoning (e.g., housing vs. land conservation vs. renewable energy siting) ○ Greater public access ○ Leadership of BIPOC communities in building resilience for their own communities ○ Advancements in public policy to recognize the value of land conservation (e.g., tax credits, carbon offsets, ecosystem services, urban conservation, rural development, pay for performance) ○ Strengthened municipal plans that prioritize "no net loss of core forests" ○ Increased investments in land conservation and greenspace development viewed as a community necessity and essential component of sustainable community ○ Health benefits ○ Wildlife habitat ○ Timber for building or wood products that store carbon for decades

It is important to note that effective measurement of data on the benefits of environmental commodities (e.g., carbon offsets, ecosystem services) is vital to supporting compliance, voluntary, and other markets (e.g., FSC certification, Connecticut Grown, climate-smart practices).

- **<u>Vulnerable Communities</u>** – not enough nature-based solutions and green spaces in urban communities, which results in investments in gray infrastructure (e.g., wastewater treatment plants) vs. green infrastructure (e.g., nature-based solutions, urban tree canopy cover, parks) thereby increasing, for example, energy usage, urban heat island effects, and air pollution which disproportionately impacts vulnerable communities as a result of climate change. Inequitable access to the benefits of open space results in compounded challenges in vulnerable communities. Benefits include improved health, better air and water quality, and increase in quality of life connected to open space and natural spaces. Increase in development, especially poorly planned development, leads to greater demand on gray infrastructure, which adversely impacts vulnerable communities (e.g., flooding, pollution).

These are the key findings from the stakeholders on land conservation.

10. Opportunities

The following is a list of opportunities for consideration by the Green Bank given the broad categories of information and data, environmental markets and conservation finance, funding and financing sources, and other potential opportunities:

1. **Information and Data** – as a foundation, access to high quality information is important from which to base investment decisions. Stimulating further investment in land conservation may require the Green Bank supporting research (e.g., economic value of land conservation) to identify opportunities that advance public policy to create investment opportunities that support target outcomes (e.g. nature-based solutions, urban climate mitigation and resilience) through community-led initiatives. The following is a breakdown of opportunities for consideration with respect to information and data:

    A. **Climate Change Vulnerability Index** ("CCVI")[36] – including Social Vulnerability ("SV") mapping created for Resilient Connecticut,[37] is an index-based spatial model assembled by the Connecticut Institute for Resilience and Climate Adaptation ("CIRCA") that identifies community vulnerability to flood, wind, and heat-related impacts of climate change. The CCVI characterizes areas based on an equation using sensitivity[38] plus exposure[39] minus adaptive capacity.[40] The CCVI can be used to assist with resiliency planning and to make educated decisions about future development and green infrastructure investment. The Green Bank should consider adopting the CCVI, and/or SV mapping, as a component of the "vulnerable communities" definition to (1) identify areas of investment with respect to land conservation, and (2) assess risk from existing investments in infrastructure.

    B. **Pipeline Assessment** – work with CIRCA and DEEP to continuously build and assess the pipeline of potential GHG emission mitigation and climate change adaptation and resilience projects (e.g., type, size, scope, estimated impact, location) related to land conservation and nature-based solutions (e.g., coastal wetlands, forests).

    C. **Yale School of the Environment** – Yale School of the Environment, and its work supporting conservation finance (e.g., partnership with the Conservation Finance Network, Tools for Engaging Landowners Effectively or "TELE")[41] presents a unique opportunity to continuously inform and develop conservation finance practitioners in Connecticut. The Green Bank should consider providing local stakeholders with access to information (e.g., promoting Conservation Finance Network) and professional development opportunities (e.g., sponsorship of bootcamps on conservation finance) to accelerate the advancement and practice of conservation finance in Connecticut.

---

[36] https://resilientconnecticut.uconn.edu/wp-content/uploads/sites/2761/2021/10/CCVI-Fact-Sheet-2.pdf

[37] https://resilientconnecticut.uconn.edu/resources/

[38] The degree to which a built, natural, or human system will be impacted by changes in climate conditions.

[39] The degree of the stress that certain asset is going through with climate variability. This includes changes such as the magnitude and frequency of extreme events.

[40] The ability of a system to adjust to changes, manage damages, take advantage of opportunities, or cope with consequences.

[41] https://www.engaginglandowners.org/ - TELE is a project of the Sustaining Family Forests Initiative, which is a collaboration between the Family Forest Research Center, the U.S. Forest Service, the Center for Nonprofit Strategies, and the Yale School of the Environment, aimed at gaining and disseminating comprehensive knowledge about family forest owners throughout the United States.

D. **Land Value, Carbon and Ecosystem Services Potential** – knowing the average cost of acquiring land (i.e., $ per acre), including those open space lands that are inland, as well as along coasts and rivers, and the carbon storage and sequestration and ecosystem service value and potential of such lands, will help the Green Bank determine how the investment of Green Bank funds while mobilizing private investment can maximize GHG emissions reduced, and resiliency against climate change increased. The Green Bank should consider supporting or conducting such a study to understand the baseline potential for nature-based solutions to confront climate change in Connecticut.

E. **Global Warming Solutions Act** – as recommended by the Policy on Resilient Forests for Connecticut's Future ("PRFCT"), support advocacy efforts to amend Public Act 08-98 to include definitions for "carbon sink" and "negative emissions", and annual monitoring and reporting of CO2 sequestered, and carbon stored through biological processes alongside the data reported on the transportation, electricity, and other sectors.

2. **Environmental Markets and Conservation Finance** – in terms of identifying potential carbon offset and/or ecosystem services revenue streams within compliance and voluntary markets that can support financing of land conservation projects, the following is a breakdown of opportunities for consideration with respect to environmental markets and conservation finance. It should be noted that there is an important role for public policy and government to encourage the creation of environmental value through measurable outcomes-based performance.

   A. **Performance-Based Land Conservation** – whether it be forest carbon markets within compliance (e.g., California cap-and-trade program)[42] or voluntary (e.g., Amazon purchasing offset credits) markets, or ecosystem services markets for "pay for performance" restoration projects (e.g., reducing nitrogen discharge in rivers in Maryland), producing and selling measurable benefits can generate revenues to support private investment in land conservation projects.

   B. **Conservation Finance Policy** – modelled after clean energy policy in Connecticut,[43] or passed Senate Bill 348 (i.e., "Conservation Finance Act" in Maryland), consider "pay for performance" conservation finance policies in Connecticut that reward private investment in green and blue infrastructure projects that deliver measurable and verified environmental outcomes (e.g., carbon offsets, ecosystem services). It is important to put value on the land (e.g., forest carbon, forest certification) instead of always taking it off the land (e.g., timber) by implementing floor prices, guarantees, and hosting auctions for the sale of ecosystem services, allocating public funds for development of investment ready nature-based solutions for land and sea, providing catalytic capital for blended finance.

[42] https://ww2.arb.ca.gov/our-work/programs/compliance-offset-program/arb-offset-credit-issuance

[43] Zero and low emission renewable energy credit programs (i.e., "ZREC" and "LREC") provided performance-based incentives per MWh of Class I renewable energy produced to support Connecticut's implementation of its renewable portfolio standard ("RPS").

For example, research conducted by Earth Economics for Audubon Connecticut, calculated the ecosystem services value of the East River Marsh as the following – see Table 5.[44]

Table 5. Annual, per Acre Benefits from the East River Marsh

Benefit	Low Marsh	High Marsh
Resilience		
Flood Protection	$506	$506
Storm Protection	$5,872	$14,680
Environment		
Carbon Sequestration	$2,203	$4,047
Existence Value[45]	-	$1,748
Habitat Value	$1,232	$1,232
Water Quality	$2,803	$2,803
Community		
Aesthetic Value	$952	$952
Recreation	$382	$382
Annual Total	**$13,951**	**$26,350**

C. **Forest Carbon Market Partnerships** – partner with land conservation non-profit organizations (e.g., American Forest Foundation, TNC-Nature Vest, New England Forestry Foundation, NCx) to invest Green Bank capital (i.e., debt and/or equity) into structures (e.g., Family Forest Carbon Program, Exemplary Forestry Investment Fund) that support small landowner participation in forest carbon markets and other ecosystem services in Connecticut (e.g., Pawcatuck Borderlands, Quabbin Corridor, and Berkshire Wildlife Linkage).[46][47][48] Consider adopting or developing a Verra standard for forest carbon offsets.[49]

3. **Funding and Financing Sources** – identifying additional funding (i.e., grants) and financing (e.g., loans) that can increase and accelerate investment, the following is a breakdown of opportunities for consideration with respect to funding and financing of land conservation:

   A. **Green Liberty Bonds** – leverage the strength of the Green Bank balance sheet, with the award-winning climate bond structure of the Green Liberty Bonds modelled after the War Bonds of the 1940's, to support investments in land conservation:

      i. **Pilot Revolving Loan Fund for Buy-Protect-Sell** – modelling the Conservation Fund's successful $150 MM green bond issuance in 2019 (i.e., 10-year rated A3 by Moody's), which created the Working Forest

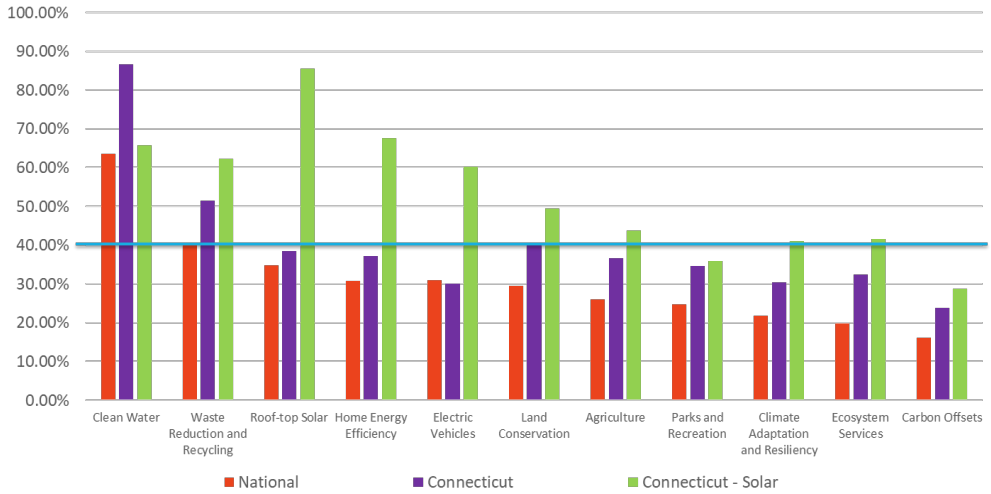
[44] East River Marsh – Preserving March Resilience for Coastal Communities by Earth Economics for Audubon (2021)
[45] Existence value if the value that people place on knowing certain ecosystems or species exist, even if they never plan to use or benefit from those ecosystems or species in any direct way.
[46] https://www.forestfoundation.org/what-we-do/increase-carbon-storage/family-forest-carbon-program/
[47] https://newenglandforestry.org/learn/initiatives/efif/
[48] "A Safe Harbor for Nature: New England's Resilient and Connected Network of Lands" by TNC.
[49] https://verra.org/worlds-most-widely-used-standard-for-carbon-offset-credits-strengthened-to-advance-forest-preservation-and-restoration/

Fund,[50] working with DEEP, DoAg, and nonprofit land conservation organizations, provide loans to land trust to help them move quickly to permanently protect critical open space from development.

ii. **Infrastructure Modernization** – working with DOAg, to identify opportunities to invest in forestry industry infrastructure modernization projects (e.g., portable mills) that would support climate-smart practices and products to develop and grow in the Connecticut marketplace.

From research conducted by the Green Bank, it can be seen that retail investors in bonds are interested in land conservation, including citizens who are also interested in investing in rooftop solar and home energy efficiency – see Figure 6.

Figure 6. Retail Investor Use of Proceed Interest in Clean Energy and Environmental Infrastructure



B. Partnership for Climate-Smart Commodities – working with UCONN and DoAg, UCONN submitted a $50 MM proposal, that would have been matched by a $25 MM Green Liberty Bond, through the $1 billion competitive solicitation of the United States Department of Agriculture's ("USDA") Commodity Credit Corporation (i.e., USDA-NRCS-COMM-22-NOFO0001139) in response to the climate crisis by supporting actions within the agriculture sector to produce climate-smart commodities.[51] As the lead primary applicant, UCONN would support producers adopt and sustainably implement climate-smart practices, and as the co-lead, the Green Bank, with its expertise from the Residential Solar Investment Program (see Figure 9), would adapt the clean energy model to climate-smart agriculture (see Figure 10). Included with the proposal is $5 MM for performance-based incentives based on certified and verified carbon offsets. The project submitted by UCONN, in the end, wasn't supported by the USDA.

[50] The Working Forest Fund invests green bond proceeds to buy the most at-risk private forests. Once it owns the forest, it protects the land (i.e., easement), develops sustainable harvesting, wildlife, and habitat restoration plans, and then resells the land to private or public buyers to repay the loan. This fund has permanently conserved 500,000 acres, permanently storing over 210 MMTCO2e.

[51] Defined as an agricultural commodity that is produced using agriculture (i.e., farming, ranching, or forestry) practices that reduce greenhouse gas emissions or sequester carbon.

However, DoAg subsequently released a $14 MM grant program in support of climate smart agriculture in Connecticut.

Figure 7. Residential Solar Investment Program – From SHRECs to Green Liberty Bonds

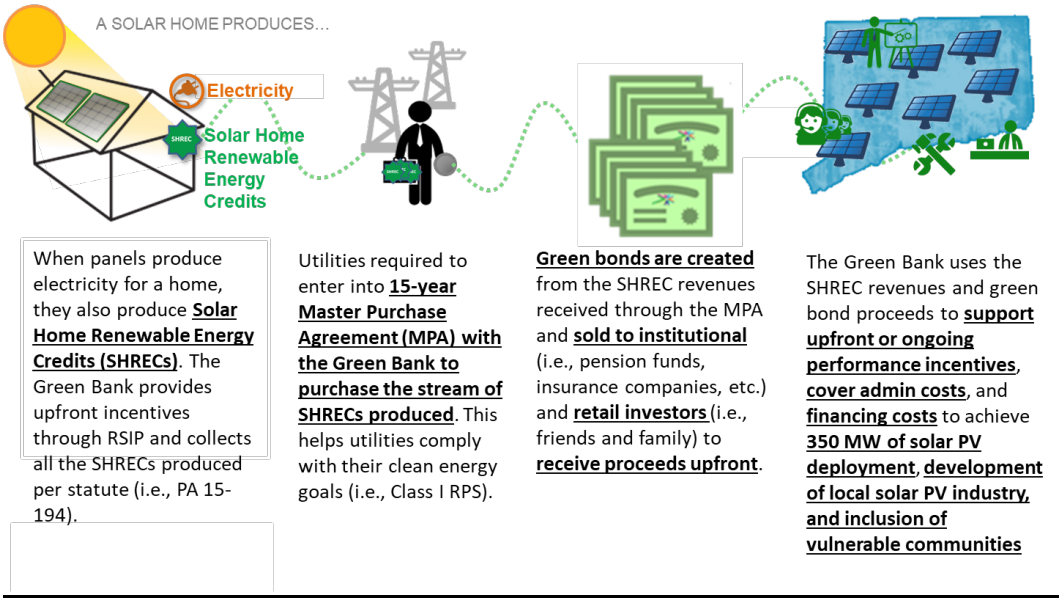
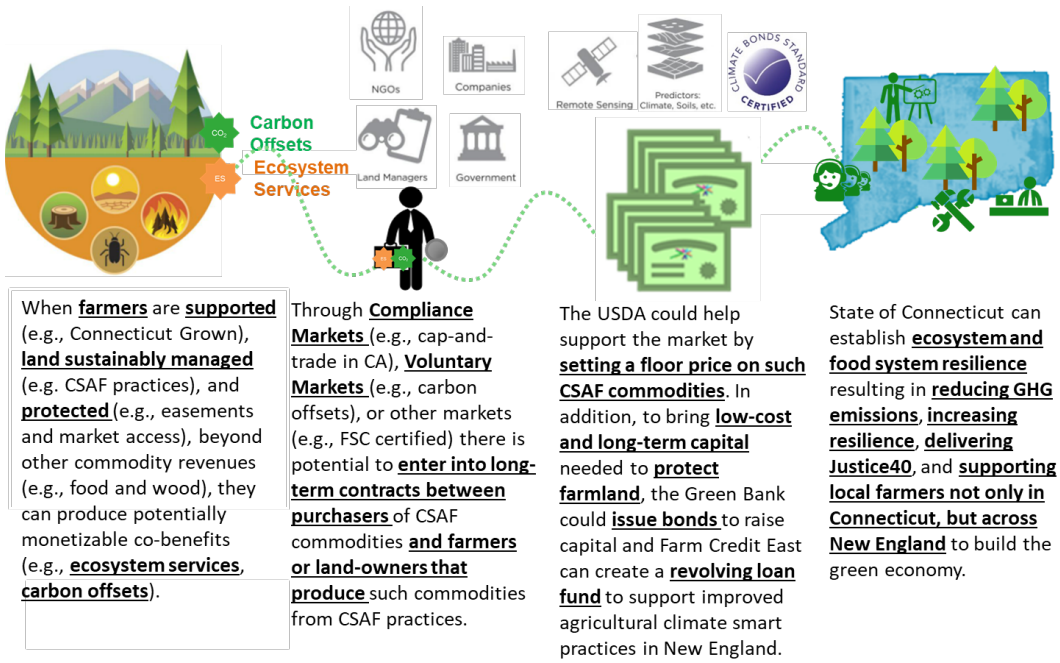


Figure 8. Climate Smart Controlled Environment Agriculture (CEA) for Tribes and Small Farms in New England: Building Profitable, Sustainable and Resilient Farms

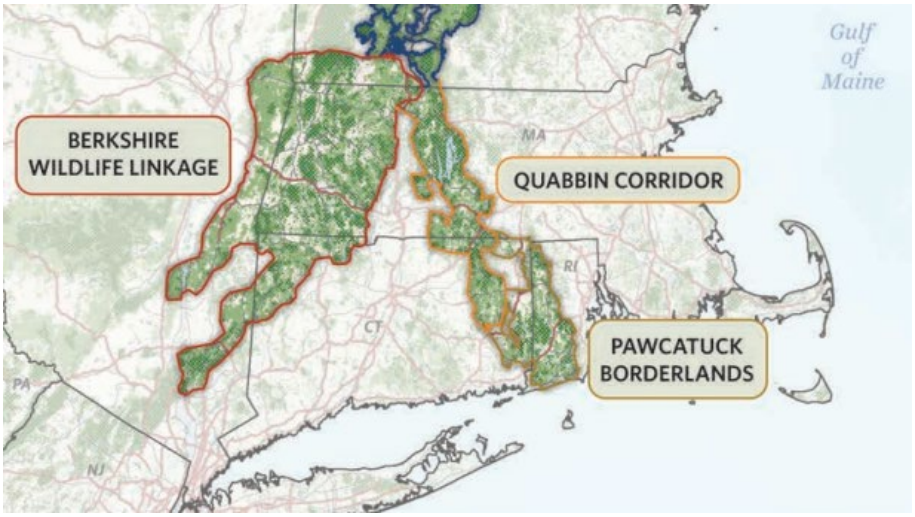


C. Community Match Fund ("CMF") – a program of Sustainable CT, the Community Match Fund provides fast, flexible funding, and support for community engagement on a wide-range of sustainability projects. This societal value uses

an innovative, online tool to connect grant contributions from the "crowd," which are matched by various donor interests, including, but not limited to individuals, foundations, and the State of Connecticut. As of January 1, 2022, the Fund has raised $1.3 MM from nearly 10,000 individual contributors, which was matched by $1.1 MM from various sponsors, and supported 195 projects. The Green Bank could consider working with entities like Sustainable CT, with tools like the CMF, to enable funding for land conservation to be matched by the crowd, while also ensuring that equity and vulnerable communities are front and center in receiving the benefits of such investment.

D. **State Revolving Funds** – although not a Green Bank resource, existing and additional SRF resources could be used by the state to provide low-cost and long-term capital to finance green infrastructure projects (e.g., land conservation) in Connecticut, or in partnership with other states across the Northeast region. The Green Bank could recommend to its state colleagues that a portion of the SRF be used for green infrastructure projects in Connecticut as is being done by other states. For example, the Rhode Island Infrastructure Bank requires municipal borrowers to identify green infrastructure projects for 10% of the value of their clean water loans; the Commonwealth of Virginia invested $20 MM of its SRF in a $130 MM transaction to protect 253,000 acres across three-states to acquire land in Central Appalachia. Regional collaboration on the SRF and land conservation could target focal landscapes in the Berkshire Wildlife Linkage (i.e., 1,579,566 acres in the landscape with 31% protected including lands in MA, NY, and VT), Quabbin Corridor (i.e., 475,864 acres in the landscape with 37% protected including lands in MA and NH), and/or Pawcatuck Borderlands (i.e., 473,397 acres in the landscape with 23% protected including lands in MA and RI) – see Figure 9.[52]

Figure 9. Regional Opportunity for the State Revolving Fund and Nature-Based Solutions to Climate Change



4. **Other Potential Opportunities** – there are a number of other potential opportunities that can support land conservation and the advancement of conservation finance, including:

[52] "A Safe Harbor for Nature – New England's Resilient and Connected Network of Land" by The Nature Conservancy

A. **Clean Energy and Sustainability Accelerator** – within the climate change programs proposed as part of the Build Back Better Act ("BBBA") is the Clean Energy and Sustainability Accelerator ("CESA"). Modelled after the Connecticut Green Bank, the $29 billion allocated under CESA would provide state and local government with access to capital to finance projects that reduce GHG emissions and increase resilience, including nature-based solutions.

B. **Climate Conservation Corps** – within the climate change programs proposed as part of the BBBA is the Climate Conservation Corps. Modelled after the Civilian Conservation Corps under President Franklin Roosevelt, the climate program centered around equity and environmental justice, could hire hundreds of thousands of young people to help restore forests and wetlands. The Green Bank could include within its investment activity, the requirement for developers to include Climate Conservation Corps members. If Climate Conservation Corps is passed through the BBBA, then Connecticut should prioritize the involvement of BIPOC[53] populations and hire a leader from the BIPOC community to run it.

C. **30% by 2030 Goal** – to continue to increase the role land conservation has on mitigating GHG emissions and making Connecticut more resilient to the impacts of climate change, consideration could be given to increase the open space land target policy from 21% by 2023 to 30% by 2030, which would include farmland within the overall open space land target. Supporting the "no net loss of forest" goal and related goals such as increasing urban tree canopy are also important.

These are a few of the opportunities identified by the Green Bank to support its mission and advance land conservation and conservation finance in Connecticut.

Developing a method for prioritizing what opportunities under consideration are ultimately pursued, given the limited human and financial resources, and organizational structure of the Green Bank, is an activity for a later date.

11. References

In addition to the conversations with stakeholders, the Green Bank reviewed the following documents to support its findings and opportunities:

- **Green Plan** – Comprehensive Open Space Acquisition Strategy (2016-2020 Green Plan)
- **Forest Action Plan** – Connecticut's 2020 Forest Action Plan
- **Governor's Council on Climate Change** – Taking Action on Climate Change and Building a More Resilient Connecticut for All (January 2021)
- **Working and Natural Lands Working Group** – reports by Forests, Rivers, and Wetlands Subgroups of the Governor's Council on Climate Change (November 2020)
- **WAP** – 2015 Connecticut Wildlife Action Plan

12. Definitions

The following are important definitions when it comes to land conservation in Connecticut:

[53] Black, Indigenous, or People of Color

- **Conservation Easement** – is a deed restriction or deed covenant that landowners voluntarily place on part or all of their land. The easement limits development in order to protect the land's natural resources.

- **Conservation Restriction** (CGS 47-42a)[54] – conservation restriction means a limitation, whether or not stated in the form of a restriction, easement, covenant or condition, in any deed, will or other instrument executed by or on behalf of the owner of the land described therein, including, but not limited to, the state or any political subdivision of the state, or in any order of taking such land whose purpose is to retain land or water areas predominantly in their natural, scenic or open condition or in agricultural, farming, forest or open space use.

- **Core Forest** – forests that are at least 300 feet from non-forest development (e.g., roads, bridges, farms), and are classified as core forests.[55] Small, medium and large core forests are patches that are 250 acres, 250-500 acres, and 500+ acres respectively.

- **Environmental Infrastructure** – means structures, facilities, systems, services and improvement projects related to (A) water, (B) waste and recycling, (C) climate adaptation and resiliency, (D) agriculture, (E) land conservation, (F) parks and recreation, and (G) environmental markets, including, but not limited to, carbon offsets and ecosystem services.

- **Forest Land** (CGS 12-107(b)(3))[56] – forest land means any tract or tracts of land aggregating twenty-five acres or more in area bearing tree growth that conforms to the forest stocking, distribution and condition standards established by the State Forester pursuant to subsection (a) of section 12-107d, and consisting of (A) one tract of land of twenty-five or more contiguous acres, which acres may be in contiguous municipalities, (B) two or more tracts of land aggregating twenty-five acres or more in which no single component tract shall consist of less than ten acres, or (C) any tract of land which is contiguous to a tract owned by the same owner and has been classified as forest land pursuant to this section.

- **Open Space Land** (CGS 12-107(b)(3))[57] – open space land means any area of land, including forest land, land designated as wetland under section 22a-30 and not excluding farm land, the preservation or restriction of the use of which would (A) maintain and enhance the conservation of natural or scenic resources, (B) protect natural streams or water supply, (C) promote conservation of soils, wetlands, beaches or tidal marshes, (D) enhance the value to the public of abutting or neighboring parks, forests, wildlife preserves, nature reservations or sanctuaries or other open spaces, (E) enhance public recreation opportunities, (F) preserve historic sites, or (G) promote orderly urban or suburban development.

- **Preservation Restriction** (CGS 47-42a)[58] – preservation restriction means a limitation, whether or not stated in the form of a restriction, easement, covenant or condition, in any deed, will or other instrument executed by or on behalf of the owner of land, including,

[54] https://www.cga.ct.gov/current/pub/chap_822.htm
[55] http://clear.uconn.edu/projects/landscape/v2/forestfrag/measuring/core_explained.htm
[56] https://www.cga.ct.gov/current/pub/chap_203.htm#sec_12-107b
[57] https://www.cga.ct.gov/current/pub/chap_203.htm#sec_12-107b
[58] https://www.cga.ct.gov/current/pub/chap_822.htm

but not limited to, the state or any political subdivision of the state, or in any order of taking of such land whose purpose is to preserve historically significant structures or sites.

- **Preserved Open Space** – any area of land that has been acquired and is used for open space purposes, including DEEP's State Parks, State Forests, Wildlife Areas, and Class I and II watershed lands.

- **Protected Open Space** – any area of land with a restriction that would limit its use to open space, including lands subject to conservation restrictions, deed restrictions, or certain reserved rights.

- **Resilience** – means the ability to prepare for and adapt to changing conditions and withstand and recover rapidly from deliberate attacks, accidents or naturally occurring threats or incidents, including, but not limited to, threats or incidents associated with the impacts of climate change.

- **Vulnerable Communities** – means populations that may be disproportionately impacted by the effects of climate change, including, but not limited to, (1) low and moderate income communities, (2) environmental justice communities pursuant to section 22a-20a, (3) communities eligible for community reinvestment pursuant to section 36a-30 and the Community Reinvestment Act of 1977, 12 USC 2901 et seq., as amended from time to time, (4) populations with increased risk and limited means to adapt to the effects of climate change, or (5) as further defined by the Department of Energy and Environmental Protection in consultation with community representatives.

HARVARD Kennedy School
ASH CENTER
for Democratic Governance
and Innovation

75 Charter Oak Ave., Suite 1 - 103, Hartford, CT 06106 • 700 Canal Street, 5th Floor, Stamford, CT 06902