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greenergovCT

A Lead by Example Initiative

# 2024 PROGRESS REPORT

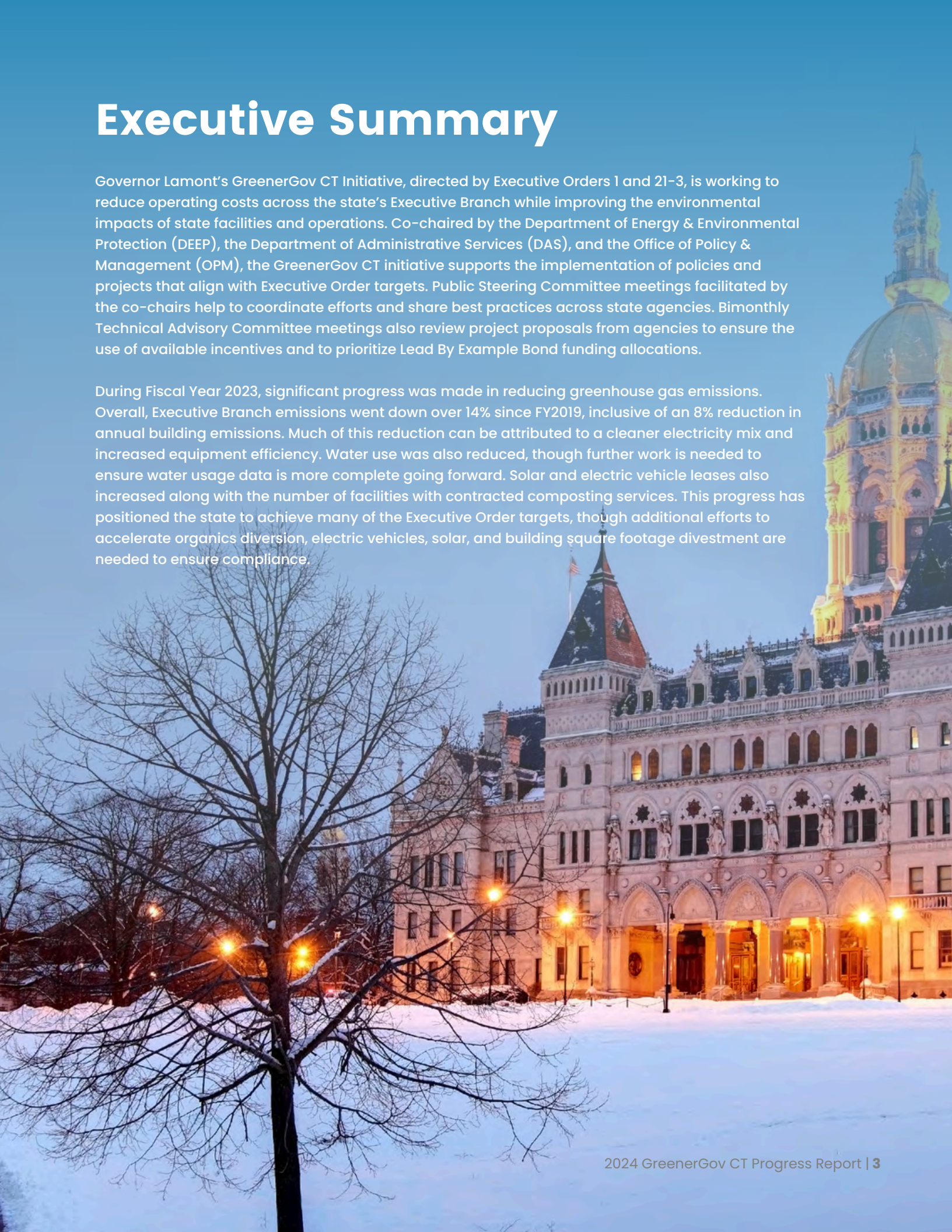
**This report summarizes progress on the implementation of Connecticut's State sustainability initiative and meets the reporting requirements of Executive Orders No. 1 and 21-3.**

# Contents:

# Executive Summary

Governor Lamont's GreenerGov CT Initiative, directed by Executive Orders 1 and 21-3, is working to reduce operating costs across the state's Executive Branch while improving the environmental impacts of state facilities and operations. Co-chaired by the Department of Energy & Environmental Protection (DEEP), the Department of Administrative Services (DAS), and the Office of Policy & Management (OPM), the GreenerGov CT initiative supports the implementation of policies and projects that align with Executive Order targets. Public Steering Committee meetings facilitated by the co-chairs help to coordinate efforts and share best practices across state agencies. Bimonthly Technical Advisory Committee meetings also review project proposals from agencies to ensure the use of available incentives and to prioritize Lead By Example Bond funding allocations.

During Fiscal Year 2023, significant progress was made in reducing greenhouse gas emissions. Overall, Executive Branch emissions went down over 14% since FY2019, inclusive of an 8% reduction in annual building emissions. Much of this reduction can be attributed to a cleaner electricity mix and increased equipment efficiency. Water use was also reduced, though further work is needed to ensure water usage data is more complete going forward. Solar and electric vehicle leases also increased along with the number of facilities with contracted composting services. This progress has positioned the state to achieve many of the Executive Order targets, though additional efforts to accelerate organics diversion, electric vehicles, solar, and building square footage divestment are needed to ensure compliance.



# Introduction

On April 24, 2019, Governor Lamont launched the GreenerGov CT Initiative by signing Executive Order No. 1 (EO 1), which directs Executive Branch agencies to advance environmental leadership resulting in cost savings for taxpayers. The Order calls on agencies to both recommit to and expand the State's Lead by Example (LBE) program to reduce operating costs and environmental impacts of State government facilities and operations. EO 1 builds on the foundation of the LBE program, invoking deeper levels of commitment and participation by setting new sustainability goals for Executive Branch agencies. EO 1 directs Executive Branch agencies to achieve the following by 2030:

1. **Reduce greenhouse gas (GHG) emissions by 45% below 2001 levels.**
2. **Reduce waste disposal by 25% from a 2020 baseline.**
3. **Reduce water consumption by 10% from a 2020 baseline.**
4. **Set additional sub-goals by 2030.**

Item (D) of EO 1 (listed as number 4 above) directs the Steering Committee on State Sustainability, comprised of appointed Senior Sustainability Officers (SSOs) and delegates from over 30 State Agencies, to establish specific subordinate goals and interim targets. Executive Order No. 21-3 (EO 21-3) finalized many subordinate goals and was signed by Governor Lamont in December 2021. EO 21-3 establishes the following commitments:

- By 2024, all Executive Branch agency facilities, to the extent practicable, shall implement an organics and food waste diversion program.
- By 2030, all electricity purchased and generated by the Executive Branch will be 100% zero carbon.
- By 2030, all newly leased light duty state vehicles shall be zero emission vehicles.
- By 2023, DEEP and DAS shall develop a plan to retrofit existing fossil fuel-based heating and cooling systems at state buildings to systems capable of being operated without carbon emitting fuels.
- By 2023, DEEP and DAS shall develop a plan and a budget to achieve zero-GHG emissions for all new construction and major renovations funded by the State or in facilities owned/operated by the Executive Branch, targeting construction beginning in fiscal year 2024 and after.
- By 2024, the State shall divest 1% of all Executive Branch building square footage, and an additional 2% by 2028.
- The State shall deploy an average of 10,000 kWDC of new solar capacity annually for the next 10 years, primarily new projects sited on state buildings or property.
- The State shall commit to reducing Executive Branch building GHG emissions by at least 1% annually.

These sub-goals are based on an analysis conducted in 2021, which mapped out the investments and savings pathways necessary to reach EO 1 targets. Using the best available data, this analysis examined sector-specific strategies to meet the goals of EO 1, quantifying the potential energy reduction, savings, and costs of each strategy.

# Reporting Requirements

This 2024 Progress Report satisfies the EO 1 requirement to issue an annual "report on the progress in implementing this Order to the Governor and the chairpersons and ranking members of the Environment Committee and the Energy and Technology Committee of the General Assembly." It also covers the prior statutory requirement outlined in Conn. Gen. Stat. §16a-37u.

This 2024 Progress Report highlights the progress, achievements, and data from fiscal year 2023, which runs from July 1, 2022, to June 30, 2023.
All 29 Executive Branch designated agencies and an additional six voluntary agencies submitted annual Sustainability Performance Plans detailing their progress on GreenerGov CT initiatives, barriers towards progress, and future planning. This information was used to develop this report.

For additional resources on sustainability initiatives in Connecticut state government visit: **portal.ct.gov/GreenerGov**. The GreenerGov CT site seeks to increase public transparency of State actions and facilitate information-sharing and collaboration with municipalities, organizations, businesses, and other states pursuing similar LBE programs.

# Progress at a Glance

| EO 1 Target | Metric | FY22 | FY23 |
|---|---|---|---|
| Reduce GHG emission by 32.53% from a FY19 baseline by 2030 | Change in GHG Emission (MTCO2e) from FY19 baseline | -7.6% (from FY19) [1] | -31.7% (from FY19) |
| Reduce waste disposal by 25% from a 2020 baseline by 2030 | Baseline to be Determined | Incomplete Data | Incomplete Data |
| Reduce water consumption by 10% from a FY19 baseline by 2030 | Change in Water Consumption (kGal) from FY19 baseline | -0.1% (from FY19) | Estimate: -15.2% (from FY19) [2] |

| EO 21-3 Target | Metric | FY22 | FY23 |
|---|---|---|---|
| By 2024, all Executive Branch agency facilities, to the extent practicable, shall implement an organics and food waste diversion program | Number of Executive Branch facilities with contracted composting service | 2 (out of 29) | 6 (out of 29) |
| By 2030, all electricity purchased and generated by the Executive Branch will be 100% zero carbon | % of total electricity usage that is zero carbon | 76% | 63% |
| By 2030, all newly leased light duty state vehicles shall be zero emission vehicles | Percentage of leased vehicles that are electric vehicles | 1.1% | 4.3% |
| By 2024, the State shall divest 1% of all Executive Branch building square footage, and an additional 2% by 2028 | Annual change in Executive Branch square footage | -2.7% | + 8.6% |

1 The reduction in GHG emissions of 7.6% in this FY23 report, compared to a decrease of 10.4% in the FY2022 report, is attributed to an update in Connecticut's emissions factor calculation methodology and the state's agreement with Dominion to purchase the output of
2 Connecticut's Millstone Nuclear Power Plant. See the Data and Methodology section of this report for more information.
Value is an estimate. In Fiscal Year 2023, the state agencies received 5,656 water bills from utilities. However, approximately 1,262 of these bills were not uploaded into EnergyCAP, which accounts for 22% of the total.

| EO 21-3 Target | Metric | FY22 | FY23 |
|---|---|---|---|
| The State shall deploy an average of 10,000 KWDC of new solar capacity annually for the next 10 years | Total installed solar capacity (kWDC) since 2020 | 23,225 | 23,954 |
| The State shall commit to reducing Executive Branch building GHG emissions by at least 1 % annually | Annual change in building GHG emissions (MTCO2e) | -3.7% | -8.3% |

| Additional EO 21-3 Requirements | Progress |
|---|---|
| By 2023, DEEP and DAS shall develop a plan to retrofit existing fossil fuel-based heating and cooling systems at State buildings to systems capable of being operated without carbon emitting fuels | An expert consultant is under contract to develop a statewide heating and cooling system decarbonization plan |
| By 2023, DEEP and DAS shall develop a plan and a budget to achieve zero-GHG emissions for all new construction and major renovations funded by the State or in facilities owned/operated by the Executive Branch, targeting construction beginning in fiscal year 2024 and after | DAS has adopted the International Green Construction Code (IgCC) in advance of DEEP updating the State High Performance Building Standards (HPBS). All new construction projects, and major renovations, wherever feasible, shall heat and cool without fossil fuels |

# Steering Commitee Members

Executive Order 1 established the Steering Committee on State Sustainability, co-chaired by the Secretary of the Office of Policy and Management (OPM), the Commissioner of the Department of Administrative Services (DAS), and the Commissioner of the Department of Energy and Environmental Protection (DEEP). The Steering Committee is composed of Senior Sustainability Officers from each Executive Branch agency, designated by their commissioners, who are responsible for leading their agency's efforts to comply with EO 1.

**The 29 Connecticut State Executive agencies participating in EO 1 are as follows:**

## Executive Branch Agency

Agriculture Experiment Station
CT State Library
Department Mental Health and Addiction Services
Department of Administrative Services
Department of Aging and Disability Services
Department of Agriculture
Department of Banking
Department of Children and Families
Department of Consumer Protection
Department of Correction
Department of Developmental Services
Department of Economic & Community Development
Department of Energy & Environmental Protection
Department of Housing
Department of Insurance
Department of Labor
Department of Motor Vehicles
Department of Public Health
Department of Revenue Services
Department of Social Services
Department of Transportation
Department of Veterans Affairs
Dept of Emergency Services & Public Protection
Division of Criminal Justice
Military Department
Office of Early Childhood
Office of Policy & Management
Public Defender Services
State Department of Education

## The following 11 non-executive agencies also voluntarily participate in achieving the EO 1 targets:

Capital Region Development Authority
Connecticut Housing Finance Authority
CT Airport Authority
CT General Assembly/Office of Legislative Management
CT Green Bank
CT Innovations
CT Lottery Corporation
CT State Colleges and Universities (CSCU)
Judicial Department
UCONN
UCONN Health Center

# Data Dashboard

The Data Dashboard (visualized below) provides comprehensive data on sustainability initiatives implemented within the Connecticut state agencies. It provides data on the state's progress towards achieving the objectives outlined in EO 1 and EO 21-3 as well as data concerning utility use and cost in Connecticut state agencies.

**The Data Dashboard can be accessed through the link provided below:**

**GreenerGov CT Dashboard | Connecticut Data**

## UTILITY USE AND COST, FY19-FY23

Executive Branch Agencies

| | FY19 | FY20 | FY21 | FY22 | FY23 | FY19-FY23 Change | Cost | Use |
|---|---|---|---|---|---|---|---|---|
| **Electric** | | | | | | | | |
| Cost | $47,104,093 | $42,784,732 | $41,921,076 | $42,062,175 | $66,390,372 | 41% | | |
| Use (kWh) | 293,256,829 | 278,395,074 | 268,465,357 | 267,840,669 | 260,747,023 | -11.1% | | |
| **Natural Gas** | | | | | | | | |
| Cost | $11,490,752 | $9,916,507 | $10,690,513 | $13,046,385 | $15,252,752 | 33% | | |
| Use (CCF) | 12,524,860 | 11,896,180 | 12,025,410 | 11,900,900 | 11,417,650 | -8.8% | | |
| **Other Building Energy** | | | | | | | | |
| Cost | $5,926,725 | $4,915,421 | $4,777,137 | $6,280,508 | $5,231,296 | -12% | | |
| Use (MMBtu) | 445,092 | 289,033 | 264,400 | 247,698 | 184,219 | -58.6% | | |
| **Vehicle Diesel** | | | | | | | | |
| Use (Gal) | 1,855,087 | 1,554,646 | 1,832,048 | 1,698,801 | 1,389,667 | -25.1% | | |
| **Vehicle Gasoline** | | | | | | | | |
| Use (Gal) | 4,393,884 | 4,051,717 | 3,666,957 | 3,798,602 | 3,864,049 | -12.1% | | |
| **Water & Sewer** | | | | | | | | |
| Cost | $11,983,113 | $9,951,452 | $9,470,920 | $9,554,676 | $8,282,615 | -31% | | |
| Use (Kgal) | 3,403,034 | 3,479,427 | 3,194,977 | 3,405,836 | 2,870,856 | -15.6% | | |
| **Waste Disposal** | | | | | | | | |
| Cost | $9,354,523 | $6,709,914 | $7,923,136 | $8,639,219 | $5,717,466 | -39% | | |
| **Total Utility Costs** | | | | | | | | |
| Cost | $85,859,206 | $74,278,027 | $74,782,782 | $79,582,962 | $100,874,500 | 17% | | |
| **Total GHG Emissions** | | | | | | | | |
| mtCO2e | 218,745 | 179,735 | 165,713 | 161,164 | 149,498 | -31.7% | | |

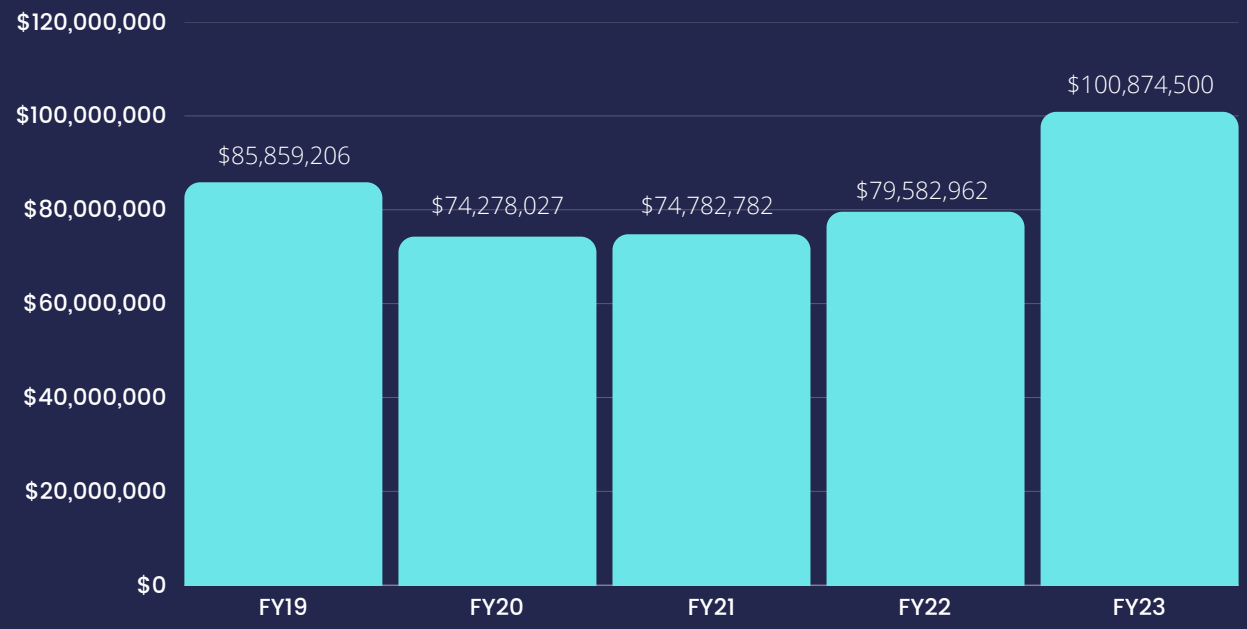
*Utility use and cost data was pulled from EnergyCAP on February 10, 2025 waste disposal data was pulled from the State Analytical Reporting System (STARS) on March 31, 2024.

**In previous reporting years, gas and diesel costs were estimated based on the average monthly cost from EIA.gov. Starting in the FY23 reporting year, we will no longer be reporting estimated cost data for gas and diesel.

***Other Building Energy sources include oil, propane, steam, chilled water, and hot water.

## UTILITY EXPENDITURES

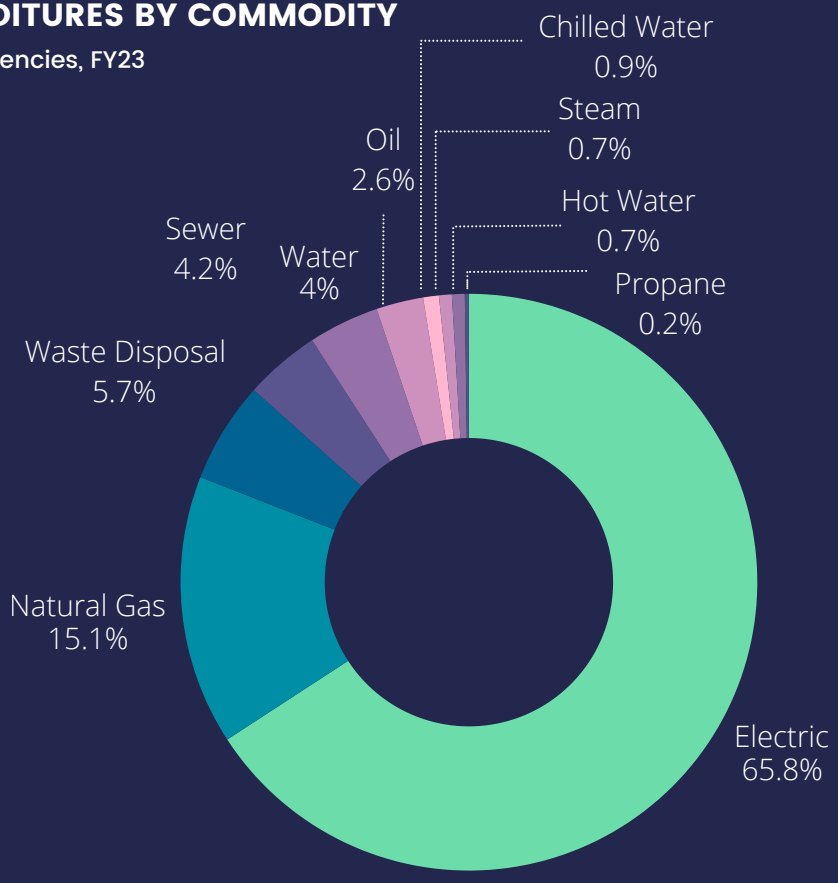
Executive Branch Agencies, FY19–FY23




The cost of gas and diesel are not included in the utility cost total in this report.

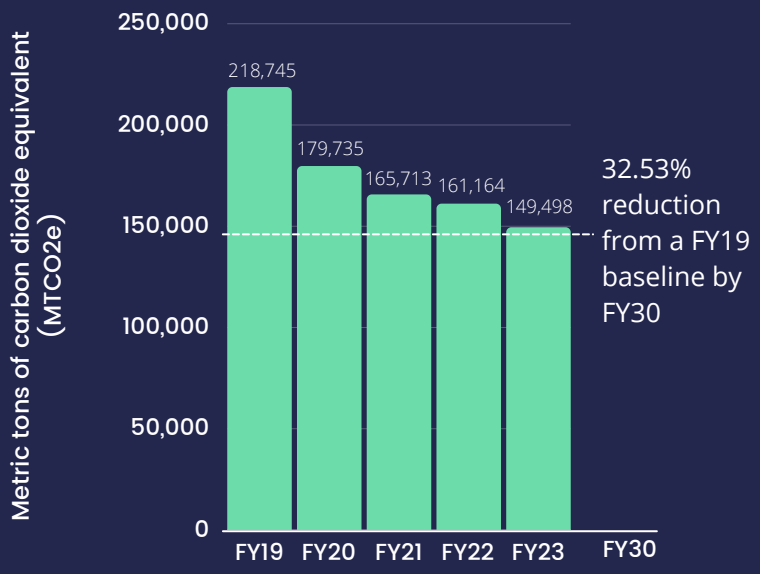
## UTILITY EXPENDITURES BY COMMODITY

Executive Branch Agencies, FY23



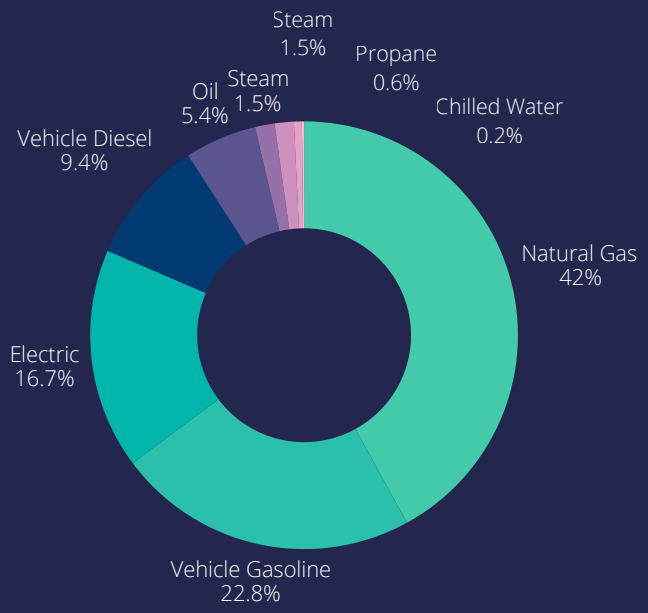
## TOTAL GHG EMISSIONS

Executive Branch Agencies, FY19-FY23



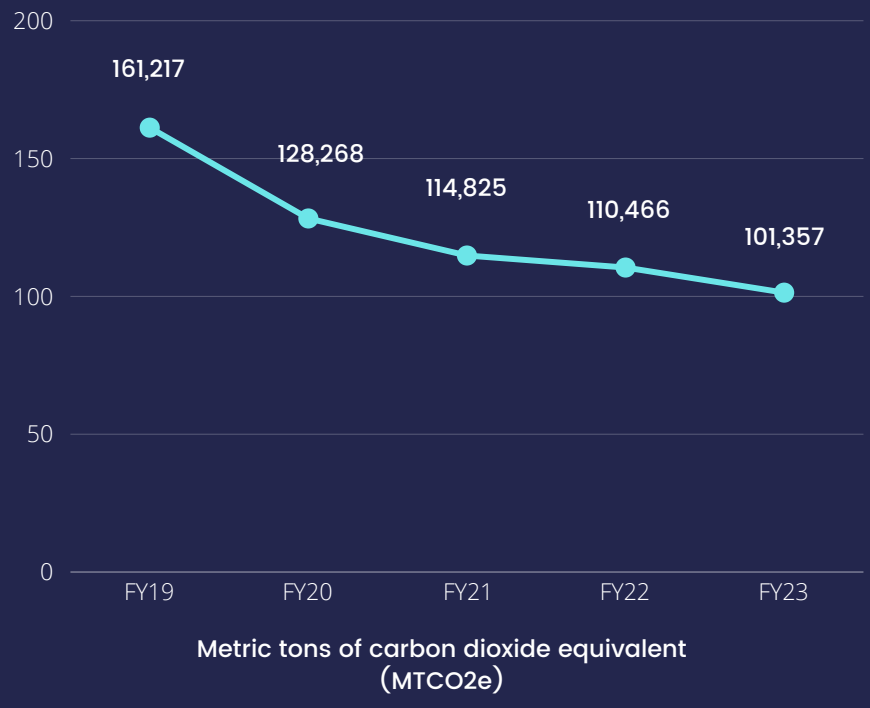

## GHG EMISSONS BY COMMODITY (MTCO2E)

Executive Branch Agencies, FY23




## GHG EMISSONS FROM BUILDING ENERGY USE

Executive Branch Agencies, FY19-FY23




**-20.4%**

change from FY19-FY20

**and**

**-10.5%**

change from FY20-FY21

**and**

**-3.8%**

change from FY21-FY22

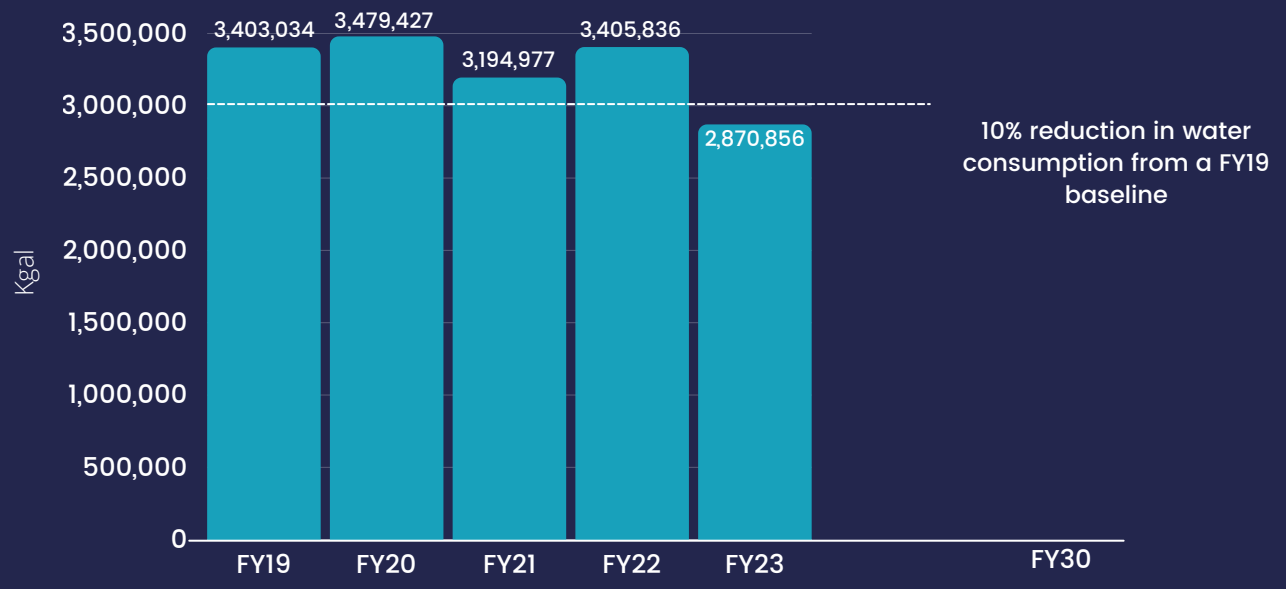
**and**

**-8.2%**

change from FY22-FY23

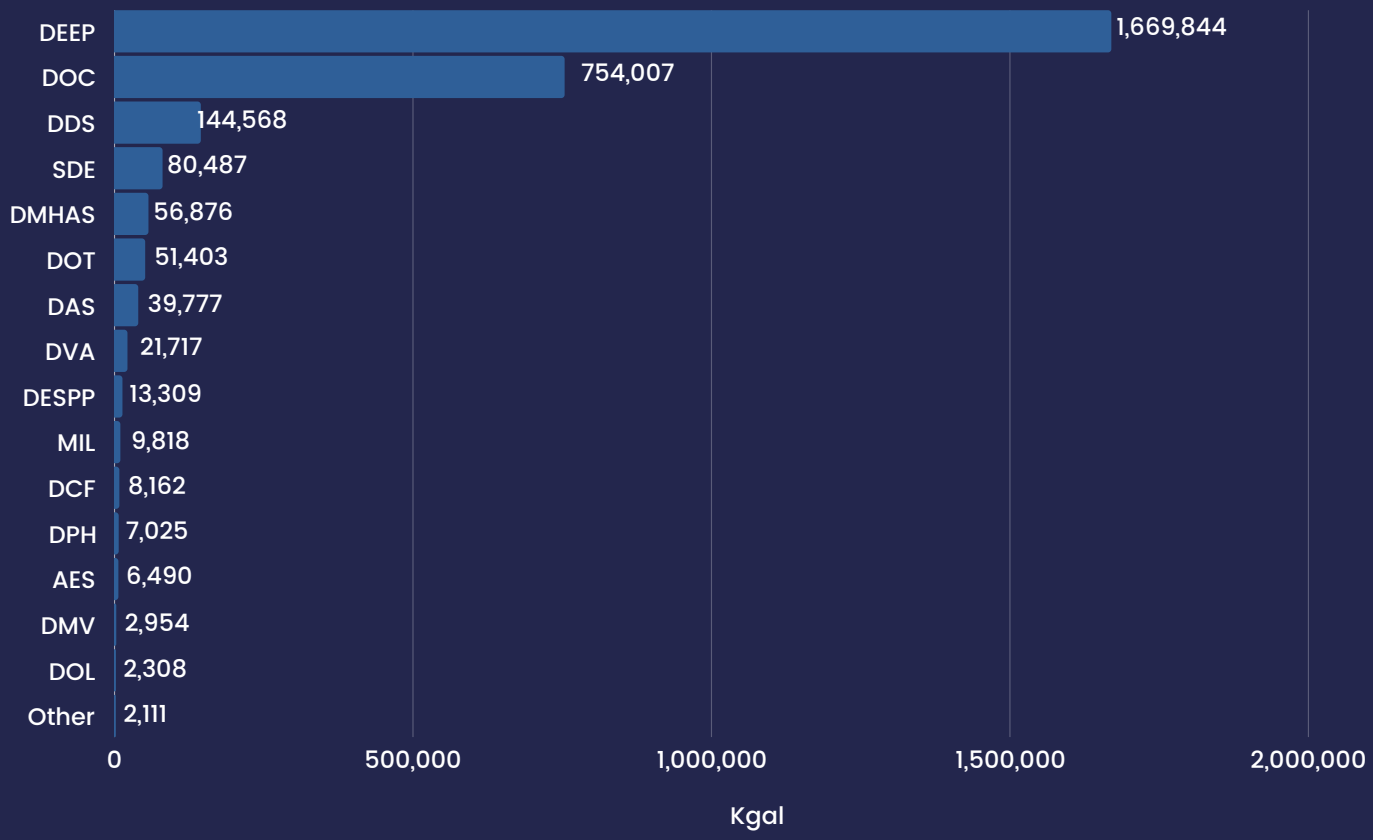
## WATER/SEWER USE

Executive Branch Agencies, FY19-FY23



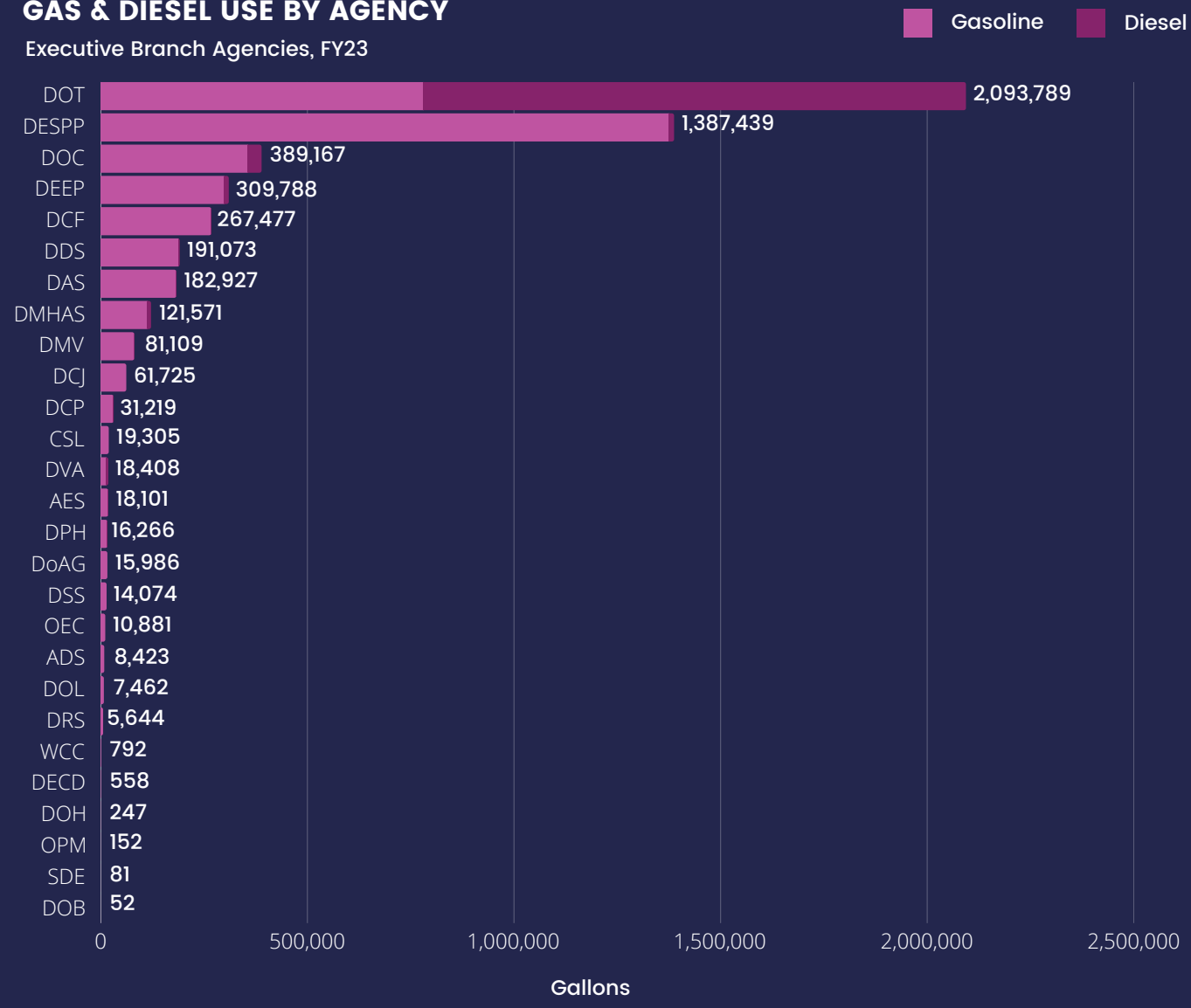

## WATER/SEWER USE BY AGENCY

Executive Branch Agencies, FY23



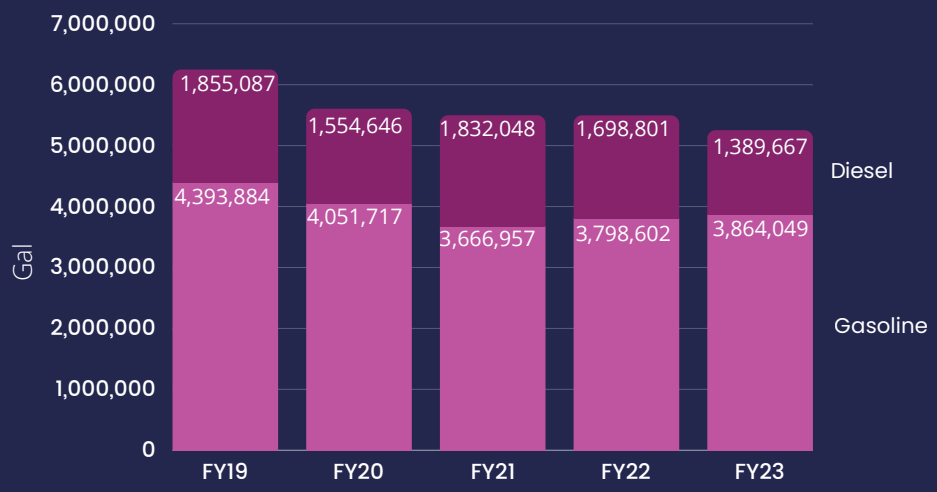
## GAS & DIESEL USE BY AGENCY

Executive Branch Agencies, FY23




## GAS & DIESEL USE

Executive Branch Agencies, FY19-FY23




Diesel use down 25.1% since FY19

Gasoline use down 12.1% since FY19

# Data and Methodology

To track State government utility data, agencies or vendors upload utility bills and usage information to EnergyCAP, the State's online energy management software, which centralizes the collection of thousands of utility bills from across the State's operations and facilities. This data provides information on the use of electricity, natural gas, oil, propane, and water, as well as the generation of sewage. While calculating baseline goals for some EO 1 targets is straightforward, others have presented complications described below. The GreenerGov team is working to resolve the baseline challenges by implementing data and methodology enhancements.

## GHG Emissions and Electricity Data

### Translating the GHG Reduction Goal

Although EO 1 calls for a 45% reduction in GHG emissions by 2030 compared to a 2001[3] baseline or a 34 % reduction below a 2014 baseline, State government data was unavailable for either target baseline. Instead, GreenerGov CT calculated the 2030 GHG reduction goal as a percentage change from a FY19 baseline, which was the earliest year with available data. Connecticut's 2019 GHG Emissions were 80 % of 2001 levels and the 2030 interim GWSA target is approximately 69 % of 2019 GHG emissions. Using the 2018 statewide annual GHG inventory economy wide emissions as a reasonable proxy for FY19, the GreenerGov CT 2030 GHG target is a 31 % reduction of FY19 baseline GHG emissions. The GreenerGov team will continue to evaluate methods for comparing results against earlier baselines established in EO 1.

### Analysis of GHG Emission Trends and Methodological Changes in Connecticut's Electricity Sector (2019-2023)

Between FY 2022 and FY 2023, the state reduced greenhouse gas (GHG) emissions by an additional 6.7%. Compared to FY 2019, GHG reductions totaled –14.3%, an improvement from FY 2022, where the state achieved a reduction of –7.6%. Due to large reductions in Connecticut's electric sector GHG emissions factors and the inclusion of many previously missing electricity bills, both the FY2019-2022 and FY2019-2023 values deviate significantly from what was reported in the 2023 Annual Report.

[3] From EO 1, "the 2018 report of the Governor's Council on Climate Change, established by Executive Order No. 46, called for a 45 percent reduction in GHG emissions below 2001 levels by 2030, equivalent to a 34 percent reduction below 2014 levels, and urged that all state agencies, in the aggregate, reduce their energy use or energy intensity."

The 2023 progress report indicated a decrease of 10.4% in GHG emissions for FY2022, meanwhile this 2024 Progress Report indicates a 7.6% decrease for the same period, as indicated in the table below:

| FISCAL YEAR | FY21 | FY22 | FY23 |
|---|---|---|---|
| Progress Report 2023 | -11% | -10.4% | |
| Progress Report 2024 | | -7.6% | -14.3% |

The reduction in Connecticut's 2019-2023 electricity emissions factors stem from two primary changes. The first being that in the final quarter of 2019, the State agreement with Dominion to purchase the output of Connecticut's Millstone Nuclear powerplant commenced. This significantly increased the fraction of zero-carbon electricity in the state's electricity profile. The contract purchases nuclear energy per year as shown in the table below. In general, under this contract, Millstone produces roughly half of Connecticut's total electricity load in any given year.

| YEAR | 2019 | 2020 | 2021 | 2022 | 2023 |
|---|---|---|---|---|---|
| MW (or MWh) | 8.3M | 8.6M | 8.9M | 8.6M | 7.5M |

In addition, an update to Connecticut's emissions factor calculation methodology, which was described in the **1990-2021 GHG inventory** (released April, 2024), further reduced the state's electricity emissions factors. Prior to the 1990-2021 inventory, emission factor calculations neglected to properly account for the state's renewable portfolio standards (RPS), a statutory requirement that a certain percentage of Connecticut's electricity supply be sourced from renewable energy sources.

The state's electricity profile contains significant renewable, hydroelectric, and biomass assets which are treated as carbon neutral in the GHG inventory. Prior to the methodology change, these assets had been treated as part of the broader New England region's electricity mix, rather than being allocated specifically to Connecticut. In 2021 Class I, II, and III RPS renewable energy credits (RECS) applied to 15% of the electricity consumed in state. GHG emissions associated with this 15% of the load was accounted for using the methodology first described publicly in **October 2021** and implemented in the GHG inventory issued the following year. In previous years, the GHG emissions associated with CT RECS were treated as part of the New-England system mix and therefore apportioned to each state at the rate of their draw from the regional electric grid. With Connecticut drawing 25% of the total energy generated within the regional grid, this would have resulted in only about 4% of Connecticut's energy use being accounted for from these resources. This would have the effect of inflating Connecticut's GHG emissions in the event that the state's RPS resources emitted fewer GHGs than the system mix. Similarly, the Millstone plant generates roughly one-half of the electricity consumed in Connecticut. This carbon-free energy, prior to the execution of the Millstone contract, was treated as part of the region-wide system mix.

The 2023 GreenerGov report did not use updated emissions factors, but the changes have been fully incorporated into this report.

The table below shows how electricity emissions factors have now been updated:

| YEAR | 2019 | 2020 | 2021 | 2022 |
|---|---|---|---|---|
| Electricity Emission Factors used in previous Progress Reports (MTCO2e/MWh) | | | 0.25 | 0.25 |
| Updated Electricity Emission Factors (MMTCO2e/MWh | 0.19 | 0.11 | 0.10 | 0.08 |

In contrast to lower electricity emissions factors which further decrease the state's GHG emissions, hundreds of electricity bills from 2019-2023 were uploaded to EnergyCAP over the past 12 months. It has been a priority for the GreenerGov Initiative to reduce the number of data gaps to improve overall data quality. By adding complete data, usage increased which worked to reduce the GHG savings originally reported.

### Electricity purchased and generated

The methodology for calculating zero-carbon electricity purchased and generated by the Executive Branch has also been revised. In the 2023 GreenerGov Progress Report, Class I renewables such as biogas, biomass, solar, and wind were included as zero-carbon sources along with waste-to-energy. Additionally, Class I fuel cells were included as a zero-carbon source because the operation of fuel cells does not immediately result in GHG emissions. However, fuel cells and waste have been excluded from the zero-carbon sources in the current 2024 Progress Report since the production of the hydrogen from natural gas that commonly provides the source fuel for these cells does result in GHG emissions. This report also includes nuclear energy produced in Connecticut, that, while not considered a Class I renewable source, is a large non-GHG emitting source for the state. As a result, the 2023 Progress Report indicated that 24% of the electricity purchased and generated for FY22 was zero-carbon, while this report shows that 76% is considered zero-carbon for the same fiscal year.

## Waste Data Methodology

The Executive Branch facilities currently have a mix of metered and unmetered waste disposal, static and seasonal occupancy, varying levels of access to recycling and other diversion programs, and systemic restraints on waste management practices. GreenerGov CT's goal for gauging program performance is to implement a consistent measurement methodology with the ability to incorporate facility-specific factors. GreenerGov CT continues to explore multiple approaches to this effort utilizing both internal and external resources, including utilizing vendors that can provide technical assistance for implementing sustainable management strategies.

Although comprehensive baseline data is lacking, some data is available that allows for certain estimates. For instance, one state facility that hosts six state agencies and about 1,500 employees saw an 80% decrease in waste generation in March 2024 compared with January 2020. Given the complexities of establishing a baseline and continued importance of this goal, the committee will focus on compliance with EO 21-3's food waste diversion target for agencies that generate a significant volume of waste due to the presence of substantial food services, such as cafeterias, food trucks, or catering services as that will likely be the most efficient strategy for the state. Therefore, priority facilities include the Department of Corrections, universities, technical high schools, and hospitals, among others, but not necessarily all of the 29 executive agencies.

## Water Data Methodology

The tracking of water consumption at state buildings is done through the EnergyCAP platform. Invoices from water utilities and municipal utilities are uploaded, by agencies or directly from utilities, into EnergyCAP for tracking. Additionally, the well data from Quinebaug, Burlington and Kensington Fish Hatcheries, as well as one DOC well at the Enfield/Somers Correctional Complex is also tracked. . Facilities that withdraw more than fifty thousand gallons of water during any twenty-four hour period are required to meter the wells and report annually to DEEP. That information is then manually uploaded to EnergyCAP to be reported as part of the overall water consumption. The GreenerGov team will continue to refine this process to ensure tracking of all water consumption data across the state's executive branch.

In Fiscal Year 2023, the state agencies received 5,656 water bills from utilities. However, approximately 1,262 of these bills were not uploaded into EnergyCAP, which accounts for 22% of the total.
The GreenerGov team compiled water bill reports detailing the months and number of bills that were not uploaded during FY23, and subsequently reached out individually to all agencies with the specific reports. The team also verified that the water bills were uploaded into EnergyCAP, and in cases where this was not completed, the team followed up with each individual agency. As a result of these efforts, most agencies have successfully uploaded their outstanding bills into EnergyCAP, and these are currently being processed within the system.

Due to this ongoing process, it is anticipated that the water reduction figure of –15.2% shown in this report will change, likely reflecting a smaller amount of water reduction compared to the FY19 baseline in next year's report.

It is also important to highlight that EO 1 sets forth a target for water reduction, designating Fiscal Year 2020 (FY20) as the baseline. For simplicity and to enable comparative analyses, FY19 has been used as the baseline in this report as well as in the previous GreenerGov Progress Reports. FY19 is the same baseline year used for GHG emission reduction reporting.

## Solar Data & Renewable Energy Credits (RECs)

It is important to note that to date, most solar projects completed by state agencies have not retained the associated Renewable Energy Certificates (RECs). RECs are the environmental attributes of electricity generated from renewable energy sources, and they are sold separately from the electricity generated. Every time a solar system produces one megawatt-hour (MWh) of electricity, it earns one REC. The REC certifies that the solar energy generated has been produced from renewable sources.

The relevant EO 21-3 target states that: "The state shall deploy an average of 10,000 kW DC of new solar capacity annually" but is silent on the need to retain RECs. A separate EO 21-3 target pertaining to emission- free electricity states that, "By 2030, all electricity purchased and generated by the Executive Branch will be 100% zero carbon."

In tracking compliance with these two targets, all solar generation (regardless of whether RECs are retained or not) is counted towards the 10,000 kW annual solar capacity target. However, only solar generation where RECs are retained counts towards the 2030 zero-carbon electricity target.

DAS, DEEP, and OPM are jointly working together to evaluate approaches for the state to retain or purchase RECs associated with solar projects more often. The state may also explore buying RECs more broadly in order to meet the 2030 zero-carbon electricity target. It is important to highlight that retaining or purchasing RECs as part of a solar project would reduce the electricity discount provided by the project.

Similarly, buying RECs separately from a specific solar project would drive up the cost of electricity for state agencies. Therefore, DAS, DEEP, and OPM continue to evaluate options to determine the most cost-effective way to achieve the 2030 zero-carbon electricity goal.

## Newly leased light-duty vehicle

The data reported under EO 21-3 states that "By 2023, all newly leased light-duty state vehicles shall be zero-emission vehicles." However, this does not include vehicles exempted by C.G.S. Chapter 58, Sec. 4a-67d,[4] which are as follows:

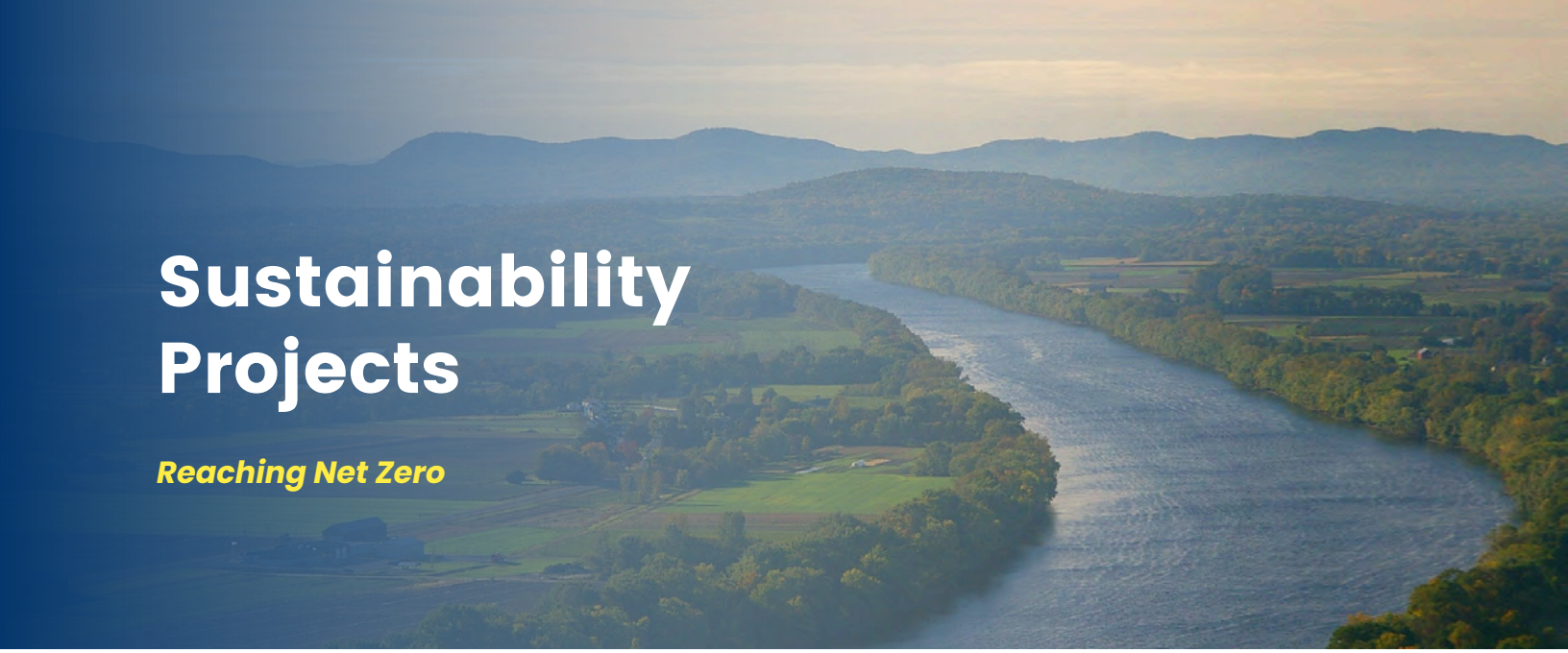
- Emergency vehicles
- Sport utility vehicles
- Buses or vans transport individuals in wheelchairs
- Specialty uplifted mother vehicles
- Camp trailers

Additionally, light-duty vehicles from agencies that occupy leased facilities, rather than owned facilities, are not currently included in this account. The GreenerGov Team continues to work through the challenges of installing electric vehicle charging at leased facilities.

Data was collected to show how many light-duty vehicles, outside of the above categories, are leased by DAS. The total count of leased vehicles at executive agencies stands at 3,597. After removing vehicles that are part of leased state facilities and excluding those listed under C.G.S. Chapter 58, Sec. 4a-67d—such as Law Enforcement vehicles, Wheelchair vans, K-9 vehicles, SUV's, plow vehicles, and special utility vehicles—the estimated number of vehicles eligible for the EO 21-3 target is approximately 1,000. In Fiscal Year 2023, there were a total of 43 newly leased electric vehicles. This equates to 4.3% of the estimated 1,000 light-duty vehicles to be transitioned to EVs in the state fleet. For Fiscal Year 2022, the total number of newly leased electric vehicles was 11, yielding a percentage of 1.1% for that fiscal year.



4 "https://www.cga.ct.gov/current/pub/chap_058.htm#sec_4a-67d"Chapter 58 - Purchases and Printing



# Sustainability Projects

***Reaching Net Zero***

## DEEP Western District Headquarters Facility

DAS oversaw the design and construction of DEEP's new Net Zero Energy Western District Headquarters Facility (WDHQ), which was completed on March 1st, 2024. This facility replaced nine buildings located in five separate towns, including the relocation of the previous WDHQ in Harwinton, CT, providing energy and cost savings while increasing business efficiency.

The new WDHQ site is in the Black Rock State Park in Watertown. The site was selected following an initial study in 2013 of several available locations. The sites topography and access to existing parking and roadways allowed for the construction of the building with minimal impact on the existing park operations or circulation infrastructure.

The WDHQ building accommodates staff from various divisions within DEEP, including Agency Support Services, State Parks, Inland Fisheries, Forestry, Law Enforcement, Boating, and Wildlife. The West District Headquarters has a gross area of 14,508 square feet, inclusive of a mechanical mezzanine and is designed with Sustainability goals including LEED v4 Platinum rating, Net Zero Energy (NZE), and Zero-Carbon emissions. The project also includes a Park Maintenance Garage and Shop with a gross area of 3,558 square feet that accommodates Park maintenance equipment storage and the West District's wood shop.

The Energy Use Intensity (EUI) target is 28 kBTU/ft2/year, which is about 32% to 40% lower than a baseline building designed to comply with current Connecticut building and energy codes.

Strategies used to achieve these goals included installing a geo-thermal heating and cooling system, a PV solar array, a thermal mass "Trombe" wall, earth sheltering, high efficiency lighting and substantial daylight, and natural ventilation.

In addition to energy use reduction, the building design incorporates water use reduction strategies to achieve a net decrease of approximately 50% from a baseline building's water use. Strategies for water reduction include low-flow, dual-flush toilets, waterless urinals, low-flow sinks and showers, and native and adaptive plantings that do not require watering or irrigation.

## Solar with CT Green Bank & Key Agencies Initiatives

GreenerGov, in partnership with the CT Green Bank, has completed contracting for a third round of solar PV deployment at four state facilities with three facilities projected to come online in 20256and one coming online in 2027.

The four facilities that completed contracting for the third round include the Department of Veteran Affairs' Skilled Nursing Facility and Main Campus and the Department of Mental Health and Addiction Services' Capital Region Mental Health Center and Connecticut Valley Hospital.

This effort directly supports the achievement of the EO 21-3 goal focused on deploying 10,000 KWDC in new solar capacity each year. Steps included completing project diligence, finalizing preliminary designs, and signing Power Purchase Agreements with the respective State Agencies. CT Green Bank also conducted a competitive solicitation to select a solar installer partner to construct the projects.

The estimated energy production of the solar panels installed in the facilities of the second round of solar PV deployment will be at least 4.1 Megawatts (MW) .

## Department of Corrections

The Department of Correction (DOC) is harnessing the power of the sun in order to produce clean energy and save taxpayer dollars. Over the past three years, the Department's Facilities Management and Engineering Unit has been working closely with the Connecticut Green Bank (CTGB) and SUNPOWER (now TotalEnergies) to pave the way for solar array installations on the grounds of DOC facilities.

The sites designated for construction of solar arrays included Maloney & Webster, Manson Youth, Osborn, Chesire, and Enfield /Willard. On April19, 2022 DOC along with the CT Green Bank was given an Impactful Project Award from DEEP. This was awarded for paving the road to 25 MWs of solar at state facilities.

The photovoltaic site at Osborn Correctional Institution is comprised of approximately 6.8 acres, with 4,238 solar panels, and 2.267 MW DC power, with an average annual savings of $174,086. Maloney & Webster have a very similar makeup as the Osborn site, of approximately 6.2 acres, with 4,524 solar panels, and 2.42 MW DC power average. The annual savings from the array at Maloney & Webster are estimated at $219,263. The site at Manson Youth is made up of approximately 6.2 acres, 4,108 solar panels, and 2.19 MW DC power with an average annual savings of $200,888.

In total, more than 12,800 solar panels were installed in five different facilities with a total average of $594,237 annual savings 1,980,790 energy saving (kWh) and an estimate of 177.17 metric tons of GHG emissions reduced per year.

## Military Department

The Norwich Armory of the Military Department will achieve net zero electricity by installing a 50kWDC rooftop PV Solar System, along with necessary electrical infrastructure upgrades. The PV array is designed to generate enough renewable energy to reach net-zero electricity consumption for the facility, reducing operational costs to approximately $0 per year.

## Upgrading to LEDs & Energy Efficient Appliances

Multiple agencies implemented projects to improve the efficiency of their lighting and appliances.

- The Department of Children and Families replaced outdoor lights with LEDs.
- The Department of Labor replaced lighting fixtures from compact florescent (CFLs) to LEDs, resulting in savings of $56,000 and 186,000 kWh annually. This initiative is expected to save 16.63 metric tons of GHG emissions per year.
- The Department of Motor Vehicles has upgraded lighting fixtures to LEDs in two facilities, Old Saybrook and Enfield, resulting in a decrease of 40% in energy consumption in Old Saybrook and 13.5% in Enfield. These projects are expected to save 3.4 metric tons of GHG emissions per year.

- The Department of Social Services replaced ballasted lighting fixtures with LED fixtures.
- The CT Housing Finance Authority replaced older appliances with new Energy Star appliances
- The Department of Veteran Affairs has upgraded interior lighting and controls.

## Upgrading Building Heating and Cooling

The following agencies implemented efficient heating and cooling upgrades.

- The Division of Criminal Justice has replaced the HVAC system at their Rocky Hill facility with a more energy-efficient unit.
- The Department of Emergency Services & Public Protection has updated their building management controls and HVAC systems to run more efficiently.
- The Department of Developmental Services has replaced air conditioning units and windows.
- The Department of Corrections installed new energy-efficient HVAC systems.

# Transportation

The Military Department is installing 42 charging stations across Connecticut at various facilities. This was achieved through the Statewide Electric Vehicle Charging Stations[5] project. In addition, the Department of Transportation (DOT) worked on electric vehicle (EV) charging buildout and Battery Electric Bus (BEB) deployment throughout 2023.[6]

DOT has installed five electric vehicle chargers at the Stamford Division of CTTransit. This allows for up to 10 BEBs to be charged. Additionally, DOT has purchased four BEBs that are expected to be used at the same location. BEBs are projected to save on diesel fuel costs, reduce emissions, and improve air quality. This project contributes to advancing one of the State's environmental goals to electrify at least 30% of its bus fleet by 2030. Connecticut Innovations also purchased two e-bikes to reduce vehicle use.

5 The Electric Vehicle (EV) Charging Program is a statewide program that provides incentives for residential and commercial light-duty EV charging equipment, as well as accompanying rate design offerings, to optimize charging behavior. Overall, the program aims to deploy over 65,000 residential and commercial EV charging ports by 2030. Website: https://portal.ct.gov/pura/electric/office-of-technical-and-regulatory-analysis/clean-energy-programs/electric-vehicle-charging-program

6 Section 1 [(c)] (d) (1) On and after January 1, 2030, at least thirty per cent of all buses purchased or leased by the state shall be zero-emission buses: AN ACT CONCERNING THE CONNECTICUT CLEAN AIR ACT.

# Water Saving Projects

## Quinebaug Valley Trout Hatchery

DAS oversaw the design and construction for DEEP's Quinebaug Trout Hatchery, which was completed on October 13th, 2023. This included the implementation of a modern recirculation system, aimed at significantly diminishing both its overall energy and water consumption.

The Quinebaug Hatchery consumes more water and energy than any other building or facility in DEEP's fleet of more than 1,000 buildings. It is the largest of the state's three hatcheries, where 80% of the State's stockable trout population is raised. Last year more than 423,000 stockable trout were raised here. It draws water from 11 high-volume production wells 24 hours a day and 365 days a year which equates to 1.3 billion gallons of groundwater annually and is the largest pumped-well hatchery facility in the East.

Previously, the facility relied on approximately 3,600 gallons per minute provided by onsite wells. However, the implementation of the new recirculation system is anticipated to reduce water usage by over 30% through the incorporation of drum filtration and ultraviolet disinfection into the hatchery's operational processes.

Moreover, the Quinebaug Hatchery is characterized by an energy resource-intensive operation, consuming 2.1 million kWh of energy annually, surpassing the energy consumption of the next largest DEEP facility by 162%. To address these energy demands, several upgrades have been implemented, including the expansion of motion detector usage, adoption of high-efficiency lighting and well pumps, utilization of liquid oxygen, incorporation of the recirculation system, and implementation of variable speed drives. These measures collectively contribute to an overall decrease of 7.9% in annual energy consumption, equating to 218,401 kWh per year.

The annual operational cost savings are estimated to exceed $100,000, considering the cumulative benefits of energy savings, reduced need for well cleanings, and diminished reliance on chemical fish treatments. Furthermore, the full execution of this project is projected to result in a reduction of 154 metric tons in greenhouse gas emissions.

## Other Water Savings Projects

- Department of Mental Health & Addiction Services has successfully completed 50% of the repairs on their 70-year-old steam pipe system, which was rusted and leaking. This project will generate cost savings by increasing the efficiency of steam distribution, reducing natural gas use, and reducing the amount of water and water treatment chemicals.
- CT Lottery Corporation has installed ultra-low water consumption features in their restrooms.
- Department of Corrections has installed low-flow fixtures and water management systems that are expected to reduce by 50% the use of water at the Carl Robinson Correctional facility, in Enfield CT. Also, at the Corrigan Correctional facility in Montville, DOC installed toilet flush valve controls, a new domestic hot water boiler, and a building management system which will control the number of times the toilets can be flushed, reduce the main heating boilers runtime during off peak season, and help to control the high efficiency boilers for domestic hot water. Estimated savings are 11,525,423 gallons of water.

# Waste Reducing Projects

## UConn Whitney Dining

**Whitney Dining at UConn** won the Green Restaurant Association (GRA)[7] award in the Waste category.[8] This Certified Green Restaurant® recycles plastic, glass, aluminum, paper, cardboard, grease, and fluorescent lamps. The dining hall also has back-of-house and front-of-house composting, makes quarterly food bank donations, filters and reuses vegetable oil, uses solid ware washing detergents, and has bulk packaging for 80% of condiments and 100% of milks and creamers.

Moreover, all eight of UConn dining halls have been four-star certified by the Green Restaurant Association. UConn is one of only two campuses in the U.S. to have all dining halls achieve the highest level of certification from the GRA. Founded in 1990, The Green Restaurant Association, an international nonprofit organization, has pioneered the Green Restaurant® movement, encouraging restaurants to green their operations using transparent, science-based certification standards to become more environmentally sustainable in Energy, Water, Waste, Food, Chemicals, Disposables, & Building.

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## Other Waste Reduction Projects

- The Connecticut Housing Finance Authority purchased a food waste composter and larger waste receptacles to consolidate trash and reduce the amount of plastic bags in the desk receptacles.
- Connecticut Innovations established a variety of strategies, one of which includes promoting the use of reusable plates, mugs, and silverware among staff. Additionally, whenever possible, they also encourage the use of biodegradable/recycled plates, cups, and containers for events.
- The Connecticut Library started to send invoices electronically to use less paper.

# Promoting Sustainable Projects

The GreenerGov Challenge was launched in May of 2024, with the objective of initiating sustainability efforts within the agencies that are part of the GreenerGov initiative. Participants in the Challenge were provided with a detailed framework to guide them in making significant progress towards sustainability goals.

The GreenerGov Challenge also featured a series of webinars presented by experts who discussed strategies for advancing in areas such as transportation, energy, and waste management. In addition, the Challenge provided a special opportunity for Senior Sustainability Officers and team members to collaborate with colleagues, exchange best practices, explore innovative approaches, and gain valuable insights during the Coffee Virtual Hour sessions.

All the webinars were attended by more than 50 participants, indicating the agencies' keen interest in improving sustainability practices and their dedication to building a more environmentally friendly future. The three agencies that completed most of the actions of the challenge and received an award at the GreenerGov CT Award Ceremony in June 2024 were DOT, DAS, and DOL.

7 Founded in 1990, The Green Restaurant Association, an international nonprofit organization, has pioneered the Green Restaurant® movement, encouraging restaurants to green their operations using transparent, science-based certification standards to become more environmentally sustainable in Energy, Water, Waste, Food, Chemicals, Disposables, & Building.

8 https://www.dinegreen.com/post/announcing-the-2023-green-restaurant-awards


# 2024 Awards Ceremony

In June 2024, GreenerGov Co-Chairs, Senior Sustainability Officers, and high-level representatives from the state executive and non-executive agencies gathered to recognize and celebrate the achievements of the 2024 GreenerGov CT award winners for their work in advancing environmental benefits through energy, water, and waste conservation.

**The four award categories and winners of each award were:**

## Agency Change Maker Award

Recognizes individuals striving to transform their state agency to generate significant and measurable improvements in environmental, energy, and water conservation, or waste management benefits.

- **Joseph Danao** is Deputy Commissioner at Connecticut Veterans Affairs (DVA) and has made exceptional contributions to improving energy, water, and waste management within his state agency. He led various projects, such as upgrading outside lighting to energy-efficient LED lamps and optimizing outside lighting timers to reduce energy consumption. He also supervised necessary repairs to HVAC equipment to improve energy efficiency. Under his leadership, the CT DVA secured significant funding through the State of Connecticut Lead By Example (LBE) Program, totaling over $7.5 million in 2022. The agency has successfully completed multiple projects, with several more in progress and planned until 2026, including initiatives like interior lighting upgrades, installation of solar exterior lighting, and collaboration with the CT Green Bank on solar installations. Mr. Danao's dedication, innovation, and commitment to sustainability make him a standout candidate for the Agency Change Maker award.

- **Zachary Giron** is a Transportation Planner 2 in the Sustainability & Resiliency Unit at the Department of Transportation (DOT). He has been with the Department for two years, beginning in February 2022. Zachary, working across bureaus, developed the Department's first Electric Vehicle (EV) charging infrastructure plan for fleet vehicles. He created a plan that will have a lasting impact on the Department's efforts to electrify the light-duty fleet. In 2023, Zachary conducted a rooftop solar analysis of the Department's facilities. Utilizing some of his background in GIS, he identified the facilities that would be most suitable for the deployment of solar power. Zachary worked with numerous stakeholders to develop this plan. As the lead for the Carbon Reduction Program, Zachary spearheaded the development of the Department's Carbon Reduction Strategy, which was approved this year by the Federal Highway Administration. Zach has made a lasting impact in the DOT's efforts to meet the requirements of Executive Orders 1, 3, and 21-3 and has served as a proponent of sustainability matters across the Department.

- **Ryan Ensling** is the sustainability manager at the Department of Administrative Services (DAS). As his colleagues note, he has displayed exemplary service to the state across the entire range of GreenerGov initiatives. He truly cares about the State's efforts to improve energy and water efficiency. He displays this through his knowledge, responsiveness, and willingness to assist at any time. Ryan is a trusted resource for all project improvements in energy and water efficiency. He always goes above and beyond his job duties to push for new initiatives, support and track existing efforts, and always acts in a responsive and helpful manner, not only for DAS, but for all State Agencies involved. Ryan is vital to the State's effort to improve energy and water efficiency and waste management.

## Innovation Award

Special distinction recognizing exceptional public sector sustainability innovation.

- **Eric Kruger,** from UConn Health, David Bruno, from Connecticut Innovations and Al Subloie from Budderfly, have led the UConn Health 12-month pilot program with the goal of achieving net zero emissions in its Child Care Center in Farmington. To reach net zero energy, several key initiatives will be introduced. New insulation will enhance thermal performance in the roof and floors, and traditional electric hot water heaters will be replaced with energy-efficient heat pump models. Ultra-high-performance HVAC systems will be implemented to optimize energy use, while fluorescent lights will be switched to LEDs. Each room will receive individual climate controls for improved comfort, and a structural analysis will ensure the rooftop's load-bearing capacity. This groundbreaking pilot program is funded by Connecticut Innovations through the Governor's Innovations Lab. Budderfly, a company based in Shelton, is leading the development and deployment of the novel technology used in this initiative.

## Impactful Project Award

Recognizes state projects that generated significant and measurable improvements in environmental, energy, and water conservation, or waste management benefits.

- **Bryan Decker, Pete Aarrestad, Dave Cooley, Alex Curry, Chris Martin (posthumous), Nacho Casal, Ira Henowitz, Peter Simmons and Jennifer Vigneault led the Quinebaug Fish Hatchery project.** The Quinebaug Fish Hatchery is a key facility that produces 80% of Connecticut's stockable trout, totaling over 423,000 fish. It relies on 11 high-capacity wells, operating continuously to extract 1.3 billion gallons of groundwater each year, making it the largest pumped well hatchery in the Eastern U.S. The Recirculating Aquaculture System (RAS) Project at Quinebaug will significantly conserve water, saving between 632 to 946 million gallons annually, and helping to reduce water use by 10% by 2030. It will also cut energy consumption by 218,401 kWh, equating to a 7.9% reduction, and is expected to lower greenhouse gas emissions by 154 metric tons. Additionally, the hatchery anticipates over $100,000 in annual operational savings from decreased energy use, less frequent well cleaning, and reduced reliance on chemical treatments.

- Michael Mendick, Scott Anderson, John Wyskiel, Carlos Sanchez, and Al Messore from the Department of Transportation (DOT) led the development of Stamford Transportation Center Garage's electric vehicle and bicycle charging stations. A new parking garage for the Stamford Transportation Center was built on South State Street, Stamford, and opened on February 26, 2024. The new garage, with a direct pedestrian bridge connection to the station over Washington Blvd., will relieve parking needs around the station and provide over 90 electric vehicle charging stations (10% of all available spaces). The increase in parking will allow easier access to public transportation and offer convenient charging for those driving electric vehicles. Additionally, 50 smart bicycle parking stations were installed with e-bike charging capability and 35 bicycle hoop racks will accommodate up to 70 bicycles. The new bicycle parking will increase first and last-mile commute options, further decreasing greenhouse gas emissions. The facility was designed and constructed to ParkSmart Bronze level[9]requirements (certification pending) as well as for a 75- year design life. Photo voltaic panels were incorporated into the architectural façade and the garage utilized an otherwise undevelopable sliver lot along the highway right of way. Parksmart is certification system designed to advance sustainable mobility through smarter parking structure design and operation. It offers a lifetime of returns on your parking structure through reduced operational costs, increased energy efficiency, and better lighting and ventilation. Website: **https://parksmart.gbci.org/**

## GreenerGov Challenge

Recognizes the most actions taken in the GreenerGov Challenge, which aimed at kickstart sustainability initiatives within the 29 executive state agencies and 11 non-executive ones.

- Edward Howell, from the Department of Labor (DOL)
- Emily Pysh and Peter Zelez, from the Department of Transportation (DOT)
- David Barkin, from the Department of Administrative Services (DAS)

9 Parksmart is certification system designed to advance sustainable mobility through smarter parking structure design and operation. It offers a lifetime of returns on your parking structure through reduced operational costs, increased energy efficiency, and better lighting and ventilation. Website: https://parksmart.gbci.org/

# Energy Auditing, Funding and Resources

## Audit Process and Results Overview

In 2020, the Department of Administrative Services' Division of Construction Services (DCS) led an initiative that hired five energy audit firms to conduct level 2 American Society of Heating, Refrigerating, and Air-Conditioning Engineers (ASHRAE) energy audits at 32 State facilities. The effort provided 24 complete audit reports. Based on these reports, DEEP was able to secure funding for $28 million in 2021 to fund the top 16 projects that the Technical Advisory Committee (TAC) prioritized based on emission reduction, water savings, and economic payback. These projects have moved into the design phase, with DCS managing multiple on-call design firms to prepare biddable contract documents for construction. Anticipated CO2e reductions from these projects is over 3,700 metric tons per year.

## Funding

Under Public Act No23-205, Sec 21 (f) (4) and Sec 2(h) (4), of June 29, 2023, DEEP was authorized to request up to $40 million from the State Bond Committee to fund projects in state buildings and assets that result in decreased environmental impacts, including projects that:

- Improve energy efficiency pursuant to section 16a-38l of the general statutes,
- Reduce GHG emissions from building heating and cooling, including installation of renewable thermal heating systems,
- Expand electric vehicle charging infrastructure to support charging on state property,
- Reduce water use,
- Reduce waste generation and disposal,
- Utilize renewable energy or combined heat and power in state buildings.

Since 2012, the Technical Advisory Committee has approved 138 projects through bond funding, saving over $10 million annually, over 2 million MMBtus, and with overall average project paybacks of approximately 17 years.

## Energize CT Program Participation

In May 2023, Eversource and United Illuminating hosted a webinar for all state agencies on the Conservation and Load Management programs. The webinar provided information on how each program operates and how state agencies can participate. The webinar was well received and included agency highlights to show the impact of these programs. A Master Agreement between DAS (on behalf of all State agencies), Eversource and United Illuminating, has been implemented to allow agencies to participate in the utility-administered programs, which provide cost-effective, turnkey energy-saving services.

# What's Next

## Supporting Solar Deployment and Project Pipeline

GreenerGov, in partnership with the CT Green Bank, is planning a 5th round of solar PV deployment at state facilities in the next couple of years, to achieve the EO 21-3 goal of deploying 10,000 KWDC in new solar capacity each year. The Green Bank is currently in its 4th round of solar PV deployment, with projects development beginning in 2023.

## Senior Sustainability Officer Reengagement

The GreenerGov team is developing a plan to reconnect with the Senior Sustainability Officers (SSOs) and Building Facility Mangers to reassess the GreenerGov Initiative in Connecticut. The team will assess the accomplishments made thus far, identify areas that need enhancement, and explore strategies for fostering collaboration among all SSOs to facilitate the exchange of ideas and experiences. This includes restructuring sub-committees, holding steering committee meetings, and developing objectives so that we can achieve the goals outlined in the Executive Orders and other state policies.

## Data Gathering & Access Enhancements

The GreenerGov Planning team will explore data gathering methodologies designed to gain better visibility into areas such as waste collection, water and well water consumption. These areas have presented challenges across state government and the GreenerGov Planning team will coordinate with State Sustainability Officers to devise innovative solutions to establish baselines and key performance indicators.

The GreenerGov team at DEEP is also exploring applications within EnergyCAP that can help agencies in their efforts to become more energy efficient. EnergyCAP offers data visualization tools that agencies can use to track their energy usage, monitor their energy savings, and identify energy-intensive buildings. With these tools, agencies can identify areas for improvement within their facilities and make informed decisions resulting in more sustainable energy practices and reductions in operational expenses. Additionally, EnergyCAP includes a bill audit function that assesses bills for data accuracy, unusual patterns of use, cost irregularities on the agencies' accounts, and missing bills. This audit function works to flag bills and highlight potential issues for manual review. The GreenerGov team has developed a Guide to View Bill Flags in EnergyCap to help agencies navigate the platform and address flagged utility bills.

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Furthermore, the GreenerGov team has worked with several agencies that have large data gaps to enroll them in the Bill CAPture system. This system facilitates the automatic upload of bills into the EnergyCAP Utility Management system for the following identified utilities: Aquarion Water, Connecticut Water, Greater New Haven Water Pollution Control Authority (GNHWPCA), MDC-Metropolitan District, Regional Water Authority. Enrolling these vendors in automatic delivery through Web CAPture will effectively reduce the data gaps previously encountered and provide the GreenerGov team with a more complete dataset for water and sewer commodities. Accounts enrolled in Web CAPture are closely monitored to ensure delivery delays for data are eliminated.

## Decarbonization Plan

Per Executive Order 21-3, DEEP and DAS are tasked with developing a plan to retrofit existing fossil fuel-based heating and cooling systems at state buildings to systems capable of being operated without carbon-emitting fuels. DAS has hired a consultant engineering firm, Arup, to begin the development of a decarbonization plan in collaboration with DEEP. Phase I of the project includes assessing the current state of energy management across all Executive Branch State Agencies in order to define the full scope of the study's future tasks.

## Transportation Electrification

DEEP and DOT will continue to meet to discuss supply and infrastructure considerations related to CT Transit's bus and train decarbonization vision and to ensure efficient operation and coordination around the pursuit of federal funding opportunities.

## UConn Waste Management Initiatives

The GreenerGov team will share the successful sustainability practices implemented at Whitney Dining at UConn with other college campuses and state agencies across Connecticut to promote responsible waste management and environmental stewardship. By disseminating these innovative approaches, including effective recycling programs, composting initiatives, and eco-friendly procurement practices, we aim to inspire and empower other institutions to adopt similar strategies.

## UConn Health Child Care Center at Farmington

This initiative is a 12-month pilot program with the goal of achieving net zero emissions. It is estimated that the 7,060 square foot facility currently generates approximately 24 tons of GHG emissions from electric and natural gas consumption annually.

To achieve net zero energy, several strategic initiatives will be implemented. Traditional electric-only hot water heaters will be replaced with heat pump hot water heaters to enhance energy efficiency. Additionally, new insulation will be installed to improve thermal performance by increasing insulation levels on the roof and under the floor. The integration of Ultra-High Performance (UHP) HVAC systems will further optimize energy usage. Furthermore, fluorescent lighting will be replaced with LED lighting. Individual climate controls will also be installed in each room for comfort and control.

# Appendix

## Executive Branch agencies and departments Sustainable Performance Plans (SPPs)

**The Agriculture Experiment Station, 2023. Web:**
https://preview.ct.egov.com/-/media/greenergovct/reports/2024-spps/spp_caes.pdf

**The Commission on Human Rights and Opportunities – SPP not submitted.**

**Connecticut State Library, 2023. Web:**
https://portal.ct.gov/-/media/greenergovct/reports/2024-spps/spp_csl.pdf

**Department of Mental Health & Addiction Services, 2023. Web:**
https://portal.ct.gov/-/media/greenergovct/reports/2024-spps/spp_dmhas.pdf

**Department of Administrative Services, 2023. Web:**
https://portal.ct.gov/-/media/greenergovct/reports/2024-spps/spp_ads.pdf

**Department of Aging and Disability Services, 2023. Web:**
https://preview.ct.egov.com/-/media/greenergovct/reports/2024-spps/spp_ads.pdf

**Department of Agriculture, 2023. Web:**
https://portal.ct.gov/-/media/greenergovct/reports/2024-spps/spp_doag.pdf

**Department of Banking, 2023. Web:**
https://portal.ct.gov/-/media/greenergovct/reports/2024-spps/spp_dob.pdf

**Department of Children and Families, 2022. Web:**
https://portal.ct.gov/-/media/GreenerGovCT/Reports/2023-SPPs/SPP_DCF.pdf

**Department of Consumer Protection, 2023. Web:**
https://portal.ct.gov/-/media/greenergovct/reports/2024-spps/spp_dcp.pdf

**Department of Correction, 2023. Web:**
https://portal.ct.gov/-/media/greenergovct/reports/2024-spps/spp_doc.pdf

**Department of Developmental Services, 2024. Web:**
https://portal.ct.gov/-/media/greenergovct/reports/2024-spps/spp_dds.pdf

**Department of Economic and Community Development, 2024. Web:**
https://portal.ct.gov/-/media/greenergovct/reports/2024-spps/spp_decd.pdf

**Department of Energy and Environmental Protection, 2024. Web:**
https://portal.ct.gov/-/media/greenergovct/reports/2024-spps/spp_deep.pdf

**Department of Housing, 2023. Web:**
https://portal.ct.gov/-/media/greenergovct/reports/2024-spps/spp_doh.pdf

**Department of Insurance, 2023. Web:**
https://portal.ct.gov/-/media/greenergovct/reports/2024-spps/spp_doi.pdf

**Department of Labor, 2024. Web:**
https://portal.ct.gov/-/media/greenergovct/reports/2024-spps/spp_dol.pdf

**Department of Motor Vehicles, 2023.Web:**
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