

Sustainability Performance Plan

FY 2023

*This report was written in compliance with
section 5 of Executive Order 1.*



Sustainability Performance Plan

Executive Order 1 (EO 1) calls on Executive Branch agencies to advance environmental leadership and cost savings for taxpayers by reducing greenhouse gas emissions and other sustainability objectives in energy use in buildings and vehicles, water use, and waste disposal.

The goals of EO 1 include:

- 45% reduction in GHG emissions below 2001 levels,
- 10% reduction in water consumption from a FY20 baseline, and
- 25% reduction in waste disposal from a FY20 baseline.

Sustainability Performance Plans are plans drafted each year by Senior Sustainability Officers to detail agency progress and necessary goals, actions, and responsible parties to achieve the targets set in EO 1.

This report includes details on sustainability initiatives and participation in the GreenerGovCT initiative in FY23.

Agency Details

Agency: Department of Administrative Services

Senior Sustainability Officer: David Barkin

Date Submitted: Enter date of submission here.

GreenerGov CT Participation Overview

1. How has your agency worked towards the sustainability goals of EO 1 in FY23?

DAS is a member of the EO1 Steering Committee and worked toward sustainability goals in many ways, including:

- Facilitated ASHRAE Level II energy audits across 24 state buildings;
- Coordinated state property evaluations for electric vehicle charging stations and related electric infrastructure upgrades;
- Has been the point-of-contact for the CEPA scoping process for the first round of solar electricity installations across several state agencies (e.g., DOC and DEEP properties, etc.). DAS is a signatory to solar power projects that use the Power Purchase Agreement to fund solar projects in coordination with the Connecticut Green Bank. This is the case for all Executive Branch building projects.
- Extended the Master Agreement with Eversource and Avangrid that allows state agencies to participate in the Utility's Conservation & Load Management Programs and assisted in getting legislative language passed to allow agencies to use the utilities on-bill financing mechanism.

DAS has reduced their overall utility costs and energy consumption by 13% and our GHG emissions by 19% in FY22 from a FY19 baseline.

DAS has hired a Sustainability Manager, with years of experience in working on the GreenerGov program, to provide guidance and assistance to move sustainable projects forward.

2. List key agency staff involved in EO 1 in FY23.

Michelle Gilman, Eleanor Michael, David Barkin, Michael Barrera, Ryan Ensling, Steve McGirr, Sarah Tierney, Nicholas Ross, Matthew Pafford, Doug Moore, Carol O'Shea, Darren Hobbs, Noel Petra

Sustainability Projects

3. How many projects has your agency implemented that had a positive impact on sustainability in FY23? Include projects relating to infrastructure improvements as well as behavioral changes that took place in owned, leased, or occupied space and were either in progress or completed in FY23.

6 projects

4. Provide a summary of the sustainability projects completed in FY23 at your agency. For each project include:

- a. **Project summary**
- b. **Project location**
- c. **Project status**
- d. **Project benefits**
- e. **Projected savings (in dollars and the appropriate unit of measurement if known)**

1) Developing a Decarbonization Plan across Executive Branch Properties

- a. **Project Summary:** DAS and DEEP are required to develop a decarbonization plan per EO21-3 section 3d. The decarbonization plan will be done in phases. DAS has taken the lead to issue an RFP to hire a consultant to help with phase 1 or discovery phase, which consists of inventorying heating & cooling equipment in state buildings.
- b. **Project Location:** Executive Branch Properties across the state
- c. **Project Status:** Currently interviewing consulting firms
- d. **Project Benefits:** The plan will help identify decarbonization opportunities within the portfolio of buildings, on an Agency specific basis. Efficiently screen and assess the identified opportunities based on their potential impact and feasibility. Develop discrete business cases for implementing the selected decarbonization opportunities. Formally complete the study effort.
- e. **Project Savings:** To be determined.

2) 24/38 Wolcott Hill Road HVAC Upgrade

- a. **Project Summary:** The HVAC system at 24-38 Wolcott Hill Road began in 2022 that lasted 13 months, completed in August 2023. The project included DDC Controls Upgrades, chiller replacements, steam control valves, and several other measures. Total estimated cost of \$1.5 million with a 9.6-year payback.
- b. **Project Location:** 24-38 Wolcott Hill Road, Wethersfield
- c. **Project status:** Complete
- d. **Project Benefits:** This project will provide better air quality and be more energy efficient to the facilities.
- e. **Projected Savings:** This project is estimated to save 552K kWh in electricity, 86K therms in natural gas, \$158K in energy costs, and 582 metric tons of CO2.

3) Quinebaug Fish Hatchery Water Treatment System

- a. **Project summary:** DAS and DEEP have completed work at DEEP's Quinebaug Fish Hatchery. The improvements include the installation of new filters and pumps, as well as the rehabilitation of the hatchery's water treatment system. The project was executed by the DAS and funded by DEEP's Lead By Example Program for \$6.7 million. The new improvements to the hatchery will save thousands of gallons of water daily, reduce the hatchery's environmental impact, and reach the State of Connecticut closer to the goals set in Governor Lamont's Executive Order 1 in reducing the state's water consumption by 10% by 2030.
- b. **Project Location:** Quinebaug Fish Hatchery, Plainfield, CT
- c. **Project Status:** Complete
- d. **Project benefits:** This project will conserve groundwater annually, reducing stress on the aquifer. The use of chemical treatments and well cleaning will be reduced. Significant energy, water, and GHG reductions.
- e. **Project Savings:** Well cleaning costs will be cut in half from \$120K to \$60K. 7.9% in energy reduction. Operating costs will save an estimate of \$113K annually. 154 metric tons of GHG will be reduced. Over 600M gallons of groundwater annually will be reduced.

4) SCSU New Business School Facility

- a. **Project summary:** First building constructed by the state of Connecticut that will be Net Zero Energy in terms of its carbon footprint. Solar panels will help generate 100% of the building's electrical needs, supplemented by a below-ground geothermal field at the rear of the construction site. The building is 64,000 square feet, costing \$52.4 million.
- b. **Project location:** 10 Wintergreen Avenue, New Haven
- c. **Project status:** Complete
- d. **Project benefits:** High efficiency envelope, ultra tight Air Barrier, 100% operational carbon neutral, geothermal heat pumps, geothermal hot water heat recovery, pretreated outdoor air with total heat recovery, tracking net zero, daylight harvesting, occupancy/vacancy sensors, space temperature reset based on occupancy, space CO2 and humidity monitoring, projected to save 144 metric tons of CO2/year as designed and over 240 metric tons as compared to a baseline code minimum building, 32% more efficient than a baseline building.
- e. **Projected savings:** We anticipate a total saving of 309,772 kWh per year over a baseline building. Electrical cost savings over a 25-year period of \$804,900 or better depending on how the building performs.

5) DEEP Western District Headquarters at Black Rock State Park

- a. **Project summary:** The Department of Energy & Environmental Protection is getting a brand-new headquarters to consolidate operations currently spread throughout western Connecticut. The new facility will have a gross area of 14,508 square feet in addition to a parking maintenance garage and shop with an area of 3,558 square feet.
- b. **Project Location:** Black Rock State Park, Watertown.
- c. **Project Status:** In construction. Start date: June 20, 2022 and expected to be completed in the spring of 2024.
- d. **Project Benefits:** This project meets CT High Performance Standards, and the main facility established sustainability goals of meeting LEED v4 Platinum, as well as targeting Net Zero Energy. A 16-bore ground source heat pump system provides primary heating and cooling, working in harmony with robust passive design elements including a Trombe Wall and passive ventilation strategies. The design includes roof-mounted solar voltaic panels.
- e. **Projected Savings:** Target EUI of 28 kBtu/ft²/year represents a 32% reduction in energy usage over a baseline building. The main facility requires no on-site burning of fossil fuels, allowing for elimination of on-site carbon emissions from building operation.

6) New Bullard Havens Tech School Facility

- a. **Project summary:** The Connecticut Technical Education and Career System is getting a brand-new school replacing the outdated Bullard Havens Technical High School. The new school will be

- a three-story facility at 214,508 square feet. There are four detached structures as part of the project: 12K SF garage, 2,500 SF field house, a 40 SF guard house, and a 40 SF ticket booth.
- b. **Project Location:** 500 Palisade Avenue, Bridgeport
 - c. **Project Status:** In construction. Start date: May 3, 2023 and expected to be completed May 11, 2027
 - d. **Project Benefits:** This project meets CT High Performance Standards. The 240 Geothermal well system provides carbon emissions reduction. Preservation of wetlands. Electric Vehicle Parking available. Permanent recycling area. No CFC, HCFC, or halon refrigerants. Designed for future solar panel installation.
 - e. **Projected Savings:** The project will have a 50% water reduction over baseline on site. 16.5% lower site energy use intensity.

Future Plans

5. What planned sustainability initiatives beyond FY23 does your agency have relating to GHG reduction, water use reduction, and waste reduction?

DAS has several initiatives happening next year.

- DAS is leading the initiative to hire a consultant for our Decarbonization Study and will begin Phase 1 (discovery phase) of our plan, in consultation with DEEP. Once phase 1 is complete of getting our inventory compiled, DAS will move forward with Phase 2.
- DAS is finalizing design on our first 5 locations for EV charging infrastructure, to comply with our statute of getting 50% of our electrification of DAS fleet vehicles. DAS has a consultant on board to help finalize those designs and roadmap for implementing EV chargers at other state properties that lease out fleet vehicles from DAS.
- DAS is working with the Connecticut Green Bank on solar installation at several DAS properties.
- DAS will be finalizing the study for the Capitol Area System (CAS) Loop project by end of 2023.
- DAS is working with multiple design engineers on a \$28M program of (16) projects to implement energy and greenhouse gas emissions reductions recommendations at some of the largest Executive Branch owned facilities.
 - Projects are in various stages of development with five locations entering or soon to commence contractor bidding for construction.
 - Four additional designs are schedule to complete by 1/2024 with the remaining seven by 4/2024.
 - The program is expected to save over \$1.5M in annual energy usage, reduce greenhouse gas emissions by nearly 4,000 metric tons of CO₂/year and save the State over 45 million gallons of water use.