

Sustainability Performance Plan

FY 2023



greenergovCT

A Lead by Example Initiative

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 Transportation

Senior Sustainability Officers: Peter Zelez and Emily Pysh

Date Submitted: 1/2/2024

GreenerGov CT Participation Overview

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

In FY2023, the CTDOT worked on EV charging buildout and Battery Electric Bus deployment, increased pollinator habitat, and installed energy efficient lighting. The Department drafted a roadmap for siting EVSEs at DOT facilities. There are numerous projects initiated in FY23 that will be completed during FY24 that include lighting retrofits, facility upgrades, and continued preservation of pollinator habitats.

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

| | |
|--------------------|-------------------|
| Peter Zelez | Yure E. Kuljis |
| Emily Pysh | Gary Pescosolido |
| Andrew S Morrill | Christopher Sanzo |
| Matthew R. Ramelli | Shawn Boisclair |
| Larry Vanterpool | Frederick Krauth |
| Zachary Giron | Samara K. Walton |
| Graham Curtis | Jon H. Andrews |
| Adam G. Fox | Adam J. Boone |
| Kevin F. Carifa | |

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 change that took place in owned, leased, or occupied space and were either in progress or completed in FY23.

Six (6) projects.

4. Provide a summary of the sustainability projects completed in FY23 at your agency. For each project include:
- Project summary
 - Project location
 - Project status
 - Project benefits
 - Projected savings (in dollars and the appropriate unit of measurement if known)

Project 1

Project Summary: Small Business Energy Advantage (SBEA) Project, lighting replacement at the Colchester facility.

The replacement of metal halide exterior wall-pack lighting with energy efficient LED lighting on the exterior of the building. Replacement of 46 metal halide pole mounted lighting with LED lighting on the exterior of the building.

Replacement of exterior exit signs with LED lighting with integral emergency back-up lighting.

Project Location: CT DOT Colchester.

Project Status: Construction was completed in April 2023.

Project Benefits: The installation of energy efficient lighting with energy-saving improvements which reduced utility bills. Installation of high-performance lighting reduced maintenance cost associated with re-lamping/fixture replacement. Replacement of metal halide lighting with high efficiency LED lighting improved the lighting lumen output.

Projected Savings: Estimated annual savings of 31,051 kWh/year.

Project 2

Project Summary: Construction completion of (04) four roadway lighting projects that included replacement of High-Pressure Sodium (HPS) lighting systems with more energy efficient LED type lighting systems.

Replacement and retrofitting of roadway lighting along state roadways.

Project Location: Various locations and state roadways.

Project Status: Construction was completed in June 2023.

Project Benefits: The installation of energy efficient lighting with energy-saving improvements which reduced utility bills. Installation of high-performance lighting reduced maintenance cost associated with re-lamping and fixture replacement. Replacement of lighting improved the lighting lumen output.

Projected Savings: Estimated annual savings of 644.7 MWh/year.

Project 3

Project Summary: Installation and commissioning of five (5) EV chargers for Battery Electric Buses (BEBs) at the Stamford Division of CTtransit.

Project Location: CTtransit Stamford – 26 Elm Court, Stamford

Project Status: Completed FY 2023.

Project Benefits: Per the CTDOT BEB charging strategy, the installation of 5 electric vehicle chargers allows for up to 10 BEBs to be used and charged at CTtransit Stamford. BEBs are expected to save on diesel fuel costs and emissions. This project helps to advance one of the State's environmental goals to electrify at least 30% of its bus fleet by 2030.

Project 4

Project Summary: Deployment of four (4) Battery Electric Buses (BEBs) at the Stamford Division of CTtransit.

Project Location: CTtransit Stamford – 26 Elm Court, Stamford

Project Status: Completed FY 2023.

Project Benefits: Each BEB deployed to Stamford for the CT Transit fleet is expected to save on diesel fuel costs and emissions. The vehicles offer a quieter and more comfortable ride. This project helps to advance one of the State's environmental goals to electrify at least 30% of its bus fleet by 2030.

Projected Savings: Deploying the zero-emission buses in place of the existing diesel vehicles will reduce CTDOT's annual greenhouse gas emissions by approximately 1,000 metric tons per year.

Project 5

Project Summary: Energizing solar panels on CT Fastrak New Britain Station.

Project Location: CT Fastrak New Britain Station – 327 Main Street, New Britain.

Project Status: Completed FY 2023.

Project Benefits: Energizing the solar panels at the CT Fastrak New Britain Station will allow for the photovoltaic (PV) system to supplement the power at the New Britain Station. This will reduce the daily power requirements from the street, and thus, will reduce utility bill costs.

Project 6

Project Summary: Creation of additional conservation areas (pollinator habitat) along highways.

Current total area is 208 acres.

Project Location: New areas added along I-84, I-95, and Route 8.

Project Status: On-going (new conservation areas added annually).

Project Benefits: Reduction of GHG (Green House Gas) emissions and cost savings associated with avoided mowing.

Future Plans

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

Several projects have already been completed in the beginning of FY2024, and others are currently on track to be completed within the fiscal year. This includes projects to place EV chargers at DOT facilities, replacement of roadway lights with LEDs, and continue bus electrification. CTDOT has projects planned beyond FY2024 including projects to install solar panels, to conduct a Railroad Electrification Study, and other innovative projects.

Project 1

Project Description - Capital improvement project, New Milford Maintenance Facility

Project Location: New Milford

Project Status: Construction was completed in July 2023.

Project Benefits: This is a new building that will replace a facility determined to be at the end of useful life. It will include a new Building Automation System (BAS), more efficient occupancy controlled and more energy efficient LED type lighting, automated heating and cooling, and an overall better insulated building envelope.

Projected Savings: Estimated annual savings to be determined.

Project 2

Project Summary: Small Business Energy Advantage (SBEA) project - Phase II - Roadway lighting along I-91 from East Windsor to Hartford

This project consists of the replacement of existing exterior High-Pressure Sodium (HPS) type lighting fixtures with energy efficient LED type fixtures along Interstate 91 from interchange 42 in Windsor Locks to interchange 33 in Hartford.

Project Location: I-91 from East Windsor to Hartford.

Project Status: Construction was completed in October 2023.

Project Benefits: The installation of energy efficient lighting with energy-saving improvements will reduce utility bills. Installation of high-performance lighting reduces maintenance associated with re-lamping/fixture replacement. Replacement of HPS lighting with high efficiency LED lighting will provide improved quality of the roadway lighting.

Projected Savings: Estimated annual savings of 816,983 kWh.

Project 3

Project Description: Wallingford Rest Area Lighting Improvements

Project Location: CT DOT Wallingford Rest Area I-91 Southbound in Wallingford.

Project Status: Construction was completed in October 2023.

Project Summary: The replacement of existing interior fluorescent and compact fluorescent lighting with energy efficient LED type fixtures. Replacement of exterior metal halide and HPS lighting with energy efficient LED lighting.

Project Benefits: The installation of energy efficient lighting with energy-saving improvements which reduced utility bills. Installation of high-performance lighting reduced maintenance cost associated with re-lamping and fixture replacement. Replacement of lighting improved the lighting lumen output.

Projected Savings: Estimated annual savings of 47,982 kWh/year.

Project 4

Project Summary: Complete Replacement of Roadway Illumination in District 3

Project Status: Construction of Site 1 was completed in November 2023. Site 2 is anticipated to be complete by April 2024.

Project Benefits: The installation of energy efficient lighting with energy-saving improvements which will reduce utility bills. Installation of high-performance lighting will reduce maintenance costs associated with re-lamping and fixture replacement. Replacement of lighting will improve the lighting lumen output.

Projected Savings: Estimated annual savings to be determined.

Project 5

Project Description: DOT Hartford Bridge and Electrical Facility EV Charging Station Installation

Project Location: DOT Hartford Bridge and Electrical Facility, 49 Jennings Road, Hartford.

Project Status: Currently in construction. Anticipated completion December 2023.

Project Summary: The general scope of this project is the installation of electric vehicle (EV) charging stations at the CTDOT Hartford Bridge Facility to support the purchase of electric crash trucks and CTDOT's fleet of electric vehicles. Work includes four (4) pole-mounted, dual EV charging stations and, three (3) level 3 DC Fast Chargers.

Project Benefits: The installation of these charging units will allow for the charging of employee, visitor, and DOT fleet EVSEs. The subject charging systems will be utilized to energize both the level II and level III (DC fast charging) EV vehicles utilized and/or stored at the subject facility. Department use of electric vehicles will contribute toward achieving the State of Connecticut's carbon emission reduction goals.

Project 6

Project Summary: New Stamford Parking Garage w/ EV charging

Project Location: Stamford

Project Status: Construction to be completed in FY2024.

Project Benefits: The project is a new parking garage on South State Street, Stamford. The new garage, with direct pedestrian bridge connection to the station over Washington Blvd, will relieve parking needs around the station and provide over 90 EV charging stations. Additionally, 50 smart bicycle parking stations were installed with e-bike charging capability and 35 bicycle hoop racks will accommodate up to 70 bicycles.

Projected Savings: To be determined.

Project 7

Project Summary: Canopy-mounted solar panels for CT DOT HQ parking lot & motor pool

Project Location: Newington, CT

Project Status: In progress (due to be completed in FY26).

Project Benefits: Project will install 2.2 MW of solar and offset 65% of site electricity usage.

Projected Savings: \$1.4M over life of power purchase agreement.

Project 8

Project Summary: Rooftop solar panels for Hamden Bus Garage (CT Transit).

Project Location: Hamden, CT

Project Status: In progress (due to be completed in FY25).

Project Benefits: Project will install 1.1 MW of solar and offset 48% of site electricity usage.

Projected Savings: \$0.6M over life of power purchase agreement.

Project 9

Project Summary: Railroad Electrification Study.

Project Location: The Danbury Branch Line between Norwalk and Danbury, the Waterbury Branch Line, between Milford and Waterbury, and the Hartford Line between New Haven and Springfield, MA.

Project Status: The project is in the study phase. The purpose of this study is to investigate the feasibility of electrifying the Danbury, Waterbury, and Hartford Lines. Currently, the lines are not electrified, and the current rail equipment are diesel locomotives with coaches.

Project Benefits: New electrified M8 equipment will operate once a decision is made to electrify the lines.

Projected Savings: To be determined.