

Sustainability Performance Plan

FY 2022

*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 FY22.

Agency Details

Agency: Department of Correction

Senior Sustainability Officer: Chris Iwanik

Date Submitted: 12/29/2022

GreenerGov CT Participation Overview

1. How has your agency worked towards the sustainability goals of EO 1 in FY22?

DOC continues to be an active participant in EO1. We have completed several projects, are in the process of other projects, as well as, in the planning stages of new projects. Projects encompass energy savings both electrical and fossil fuel, water conservation projects, as well as, a pilot food waste program. DOC recognizes it is the agency with the most energy usage and continues to take advantage of doing projects to minimize our carbon footprint and impact on the environment.

2. List key agency staff involved in EO 1 in FY22.

Chris Iwanik, Tom Levesque and Rich Pease

Sustainability Projects

- 3. How many projects has your agency implemented that had a positive impact on sustainability in FY22? 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 FY22.**

11

- 4. Provide a summary of the sustainability projects completed in FY22 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)**

Carl Robinson Bathroom Renovation

- a. Complete demolition of 12 dormitory style bathrooms and installation of low flow fixtures for the new bathrooms as well as an electronic water management system.
- b. Carl Robinson Correctional – Enfield CT
- c. Ongoing 8 of the 12 bathrooms have been completed
- d. Reduce water usage and control or water devices to prevent overflowing and excessive water use, 312 low flow plumbing fixtures are being installed
- e. Reduction of water use will be approximately 50% less water used for these bathrooms

Osborn LED upgrade

- a. Complete upgrade of interior and exterior light fixtures. Some fixtures were retrofitted and others were replaced all to LED.
- b. Osborn Correctional – Somers CT
- c. Completed
- d. Reduce cost savings of electrical as well as provide longer life of the fixtures
- e. Energy savings approximately 18,823,802 kWh over the life of the measures

Northern LED upgrade

- a. Complete upgrade of interior and exterior light fixtures. Some fixtures were retrofitted and others were replaced all to LED.
- b. Northern Correctional – Somers CT
- c. Completed
- d. Reduce cost savings of electrical as well as provide longer life of the fixtures
- e. Energy savings approximately 8,130,220 kWh over the life of the measures

MacDougall/Walker LED upgrade

- a. Complete upgrade of interior and exterior light fixtures. Some fixtures were retrofitted and others were replaced all to LED.
- b. MacDougall/Walker Correctional – Suffield CT
- c. Completed
- d. Reduce cost savings of electrical as well as provide longer life of the fixtures
- e. Energy savings approximately 4,411806 kWh over the life of the measures

MacDougall/Walker EMS system upgrade

- a. Complete upgrade of the existing pneumatic energy management system that was inoperable to a new DDC energy management system.
- b. MacDougall/Walker Correctional – Suffield CT
- c. Ongoing completion planned for spring of 2023
- d. Reduce fossil fuel usage by being able to properly control temperatures and set back of temperatures in unoccupied areas. Electrical energy savings by installing Variable frequency drives on pumps and motors.
- e. Expected annual energy savings: Electric – 46,078,104 kWh and Gas – 277,120 CCF

Osborn EMS system upgrade

- a. Complete upgrade of the existing energy management system that was inoperable to a new DDC energy management system.
- b. Osborn Correctional – Somers CT
- c. Ongoing completion planned for spring of 2024
- d. Reduce fossil fuel usage by being able to properly control temperatures and set back of temperatures in unoccupied areas. Electrical energy savings by installing Variable frequency drives on pumps and motors.
- e. Expected annual gas energy savings to be 51,368 CCF

Statewide Solar Arrays

- a. Install solar arrays at various facilities statewide
- b. Cheshire, Enfield, & Somers
- c. Ongoing designs are finalized work to begin in summer of 2023
- d. Reduce cost savings of electrical costs
- e. Energy savings approximately 6,950 KW AC

New Haven LED upgrade

- a. Complete upgrade of interior light fixtures. Fixtures were retrofitted to LED.
- b. New Haven Correctional – New Haven CT
- c. Completed
- d. Reduce cost savings of electrical as well as provide longer life of the fixtures
- e. Energy cost savings approximately \$76,842 annually.

York CI Chilled Water Loop

- a. Replacement of existing heating and chill/hot water loop; Replacement of boilers and chillers; Upgrade to energy management system.
- b. York Correctional Institution – Niantic CT
- c. Warranty phase – substantial completion June 2021
- d. Higher efficient boilers and chillers, control of HVAC equipment reducing runtimes of equipment, VFD motor controls providing lower energy costs.
- e. Calendar year 20/21 saw an energy reduction of 1,000,000 kWh, Calendar year 21/22 has seen a continued reduction of 1,000,000 kWh, as from the year before.

York CI Lighting Upgrade

- a. Replacement of existing metal halide exterior lighting and interior fluorescent lighting with in-house staff
- b. York Correctional Institution – Niantic CT
- c. On-going
- d. Installation of new LED lighting, reduction of electrical use and better light coverage of area

- e. Replaced 28 – 1500 watt to 500 watts, 500-32 watt to 14 watts and 10-400 watt to 100-watt light fixtures. Savings are plus or minus 9, 100 watts overall. Savings contributed to the 1,000,000 kWh electrical reduction.

Food Waste Collection Pilot Program

- a. DOC engaged with food service staff, DEEP, the Center for Eco Technology and waste disposal contractors to help assist with a food waste program for this facility, with future expansion to other DOC locations. We are currently waiting on proposal submittals.
- b. Willard/Cybulska CI – Enfield CT
- c. In Progress
- d. Food waste reduction and associated cost savings in order to help meet DOC's 25% waste reduction goal. Our efforts will also include the reduction of food service foam trays and using re-usable plastic trays.
- e. DOC's next step will be to go through the annual waste disposal invoices and calculate cost savings based on weight percentages of food waste vs. total trash.

Future Plans

5. What planned sustainability initiatives beyond FY22 does your agency have relating to GHG reduction, water use reduction, and waste reduction?

- 1. Fuel Cell – York CI – Installation of a new fuel cell will provide hot water via fuel cell bypass water and a fixed cost for kWh.
- 2. Water Conservation - MacDougall/Walker CI – Retrofit plumbing fixtures to reduce water usage, and in some cases, replace fixtures to achieve water reduction, as well as, installation of an electronic water management system.
- 3. Energy Audits – Have been performed by Department of Construction Services at Bridgeport Correctional, Brooklyn CI, Cheshire CI, Corrigan CI, Garner CI, Hartford Correctional, Robinson CI and Willard CI. These audits will be used to provide information about a facility's energy/water usage and as a basis for planning energy cost reduction projects.