

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 Labor

Senior Sustainability Officer: Patrick Tallarita

Date Submitted: 12/22/2022

GreenerGov CT Participation Overview

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

As many of our staff members are returning to work in the offices, we have update and restructure our recycling guidelines, so the waste is disposed responsibly. Since the building usage has been reduced due to post-pandemic work model our measurements are not comparable to pre-pandemic years, but we keep tracking the water use based on the changing and evolving needs of our offices.

We are continuing to improve our Office equipment such as copier, printers and IT related equipment to ensure the reduction of electrical consumption.

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

Patrick Tallarita (Director of Facilities Operations)
Jeffrey Benoit & Carl Heath (Property Coordinators)
Kathleen Mangiafico (Architectural Design Reviewer II)

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.**

Completed

Update of trash and recycling guidelines
Update of design guidelines for all DOL offices redesign and or new construction
Task list to manage Janitorial and building maintenance tasks
Energy efficiency Project Scope definition and proposal
Upgrade of Multifunction devices (copiers//printers)

In progress

Upgrades to HVAC systems for Central Office (200 Folly Brook Boulevard)

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

Update of recycling guidelines

- Update of recycling guidelines to be easier to understand and to adhere to current trends and/or requirements
- All DOL Locations
- Material distributed and discussed with the staff
- The sorting of waste helps us to cut expenses for disposing. We also have a fund to buy plants during spring/summer time obtained from the disposal fee of returnable

Update of Facilities design and management guidelines

The Facilities department have created various resources to accommodate our current building usage and construction trends while keeping a cohesive communication between our programs and commitment to achieve a greener operation.

- Visuals to create awareness of the importance of recycling

- Clear signage to differentiate recycling areas throughout the building
- Strategically placed recycling bins
- Encourage employees to “think before they print”
- Incorporation of recycled materials in the design of our offices.

Reuse of furniture and/or equipment

Our offices have been furnished to accommodate all employees returning to work in the offices. An extensive audit of the condition of our chairs was done and were replaced with better ergonomic tasks chairs while the not fit for used furniture was disposed by a contracted company to be recycled.

Task list to manage Janitorial and building maintenance tasks

As part of our efforts to reduce the water utilization our janitorial tasks have been organized so there is less waste of resources, and we continue to enforce the use of greener cleaning materials to reduce the effect of cleaning products on the air quality.

We are following a strict protocol to change filters for our HVAC system to ensure that we get the best indoor air quality and balance our equipment emissions.

Energy Efficiency Project scope definition and proposal

An evaluation of State of Connecticut – Department of Labor current energy solutions was requested and performed. The evaluating company has identified energy conservation measures (ECMs) of interest that will result in a potential to save energy.

The proposed energy efficiency actions include:

- High efficiency network-controlled LED lighting solution (tier 3).
- Tridium Niagara Honeywell WEBs building automation system.
- Energy controls measures include demand-based ventilation, dual enthalpy control, optimum start-stop, VAV static pressure reset, and hot water outdoor air-based temperature reset

Upgrade of Multifunction devices (copiers//printers)

As part of our initiative to make our facility more efficient, we have upgraded all multifunction devices to a better performing system. Newer technology for IT equipment has shown a better design which is more oriented towards energy efficiency

This measure, paired with the track of printing tendencies of our staff will help our organization become more productive, improve energy efficiency, and reduce material use and related waste by streamlining their print environment and processes. With toner yielding more pages per cartridge and drum units the result is fewer wasted cartridges. We participate in a program to dispose used cartridges where this are boxed and when the boxes are filled they are sent to a holding facility where they are recycled.

Future Plans

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

Energy Efficiency Project scope definition and proposal- Implementation Phase

The proposal encourages to replace the obsolete Automated Logic Building Management System (BMS) with a new Tridium Niagara system for control of HVAC equipment throughout the facility. The buildings current air handling units, rooftop units, VAV boxes, and boilers will be updated with energy controls including demand-controlled ventilation, dual enthalpy control, optimum start-stop control. VAV static pressure reset, and HW outdoor air temperature reset.

Measure Details

ECM-2a: Demand Controlled Ventilation

The outdoor air (OA) damper is currently open at a constant minimum when occupied. Demand Controlled Ventilation will modulate outdoor air proportional to space ventilation requirements based on CO2 levels in the return air. Savings are based on reducing the heating and cooling of outdoor air.

ECM-2b: Dual Enthalpy Control

Currently there is a “dry bulb” temperature-only economizer in the HVAC units. Economizer controls must be able to decide when it is appropriate to provide free cooling or integrated economizer operation versus minimum ventilation airflow.

ECM-2c: Optimum Start – Stop Control

The existing system is scheduled to warm up and cool down at the same time every day. Optimum start-stop is a self-correcting strategy to use indoor/outdoor temperature differential to start and stop HVAC equipment to match runtime with space occupancy. The Optimum Start-Stop Routine anticipates when the unit will need to ramp up at the beginning of the day and be able to coast down at the end of the day based on historical operation and only brings the unit on at the time when needed to minimize energy waste (bringing the space up to temperature too early, waiting until after everyone leaves to allow the space to drift to setback). Warm up and cool down will be properly staged to monitor and prevent creating of any unnecessary demand peaks. Savings are based on reduced supply and return fan operation.

ECM-2d: VAV Static Pressure Reset

This measure the evaluator proposes to add static reset to the existing VAV boxes using DDC control. This can send information about the status of the VAV box and valves and receive instructions from the BMS. This measure uses the VAV box position to adjust the static pressure to be maintained in the system so that the fans can reduce speed when less cooling is needed.

ECM-2e: Hot Water Supply Temperature Outdoor Air Reset the evaluator proposed to add outdoor HW reset for the boiler. The current hot water loop is maintained at a constant

temperature throughout the entire heating season. This proposed measure will allow for the hot water loop to reset to a lower temperature when outdoor temperatures reach a certain setpoint or when the space is unoccupied. The hot water loop will increase proportionally to the heating requirements as the outdoor temperature drops. This measure will decrease heat losses in the loop so that less heat will need to be added to maintain loop temperatures.