

Sustainability Performance Plan

FY 2021

Department of Energy & Environmental Protection

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Senior Sustainability Officers

Approved by Katie Dykes
Commissioner

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



greenergovCT
A Lead by Example Initiative

EO 1 Background

On April 24, 2019, Governor Lamont launched the GreenerGov CT initiative by signing Executive Order 1 (EO 1) which directs 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.

EO 1 calls on agencies to recommit to and expand the state's Lead by Example (LBE) program to reduce the operating costs and environmental impacts of state government facilities and operations. EO 1 builds on the foundation of the state's LBE program by setting new sustainability goals, listed below, for Executive Branch agencies and invoking deeper levels of commitment and participation.

GHG

45% reduction in
GHG emissions
below 2001 levels

WATER

10% reduction in
water consumption
from a FY20 baseline

WASTE

25% reduction in
waste disposal from a
FY20 baseline

Since the GreenerGov CT initiative was launched, significant progress has been made towards laying the groundwork for expanded LBE initiatives in the future: governance structures were established, baseline data was collected, and financing and project strategies were developed. Additionally, agencies reported completing or making progress on 90+ sustainability projects in FY20 in the annual agency Sustainability Performance Plans. 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.

In 2020 and 2021, agencies continued to navigate the COVID-19 pandemic. As many agencies returned to the office in 2021, the GreenerGov CT leadership encouraged agencies to use the return to the office from teleworking as an opportunity to refresh staff practices and to take on new sustainability initiatives. The FY21 Sustainability Performance Plan includes a summary of sustainability actions initiated as part of the "Returning to the Office Greener" call to action.

EO 1 Participation Overview

DEEP's Mission

The Connecticut Department of Energy and Environmental Protection is dedicated to conserving, improving and protecting our natural resources and the environment - and increasing the availability of cheaper, cleaner and more reliable energy.

FY21 Participation Overview

As a chairing agency, DEEP participates in almost every facet of this initiative. In addition to chairing the steering committee and running monthly meetings, DEEP staff are on each one of the nine project teams. Dennis Thibodeau and Robert Girard serve as DEEP's SSOs with Paula McDowell and Nat Santiago as contact persons for EnergyCAP data collection. Lastly, four DEEP staff serve as EnergyCAP liaisons to all agencies with state building and fleet data.

Participating Agency Staff

Katie Dykes	Robert Girard	Jennifer Weymouth	Kyle Ellsworth
Victoria Hackett	David Johnson	Doug Hoskins	Andrea Lane
Betsey Wingfield	Eric Ott	Nicole Lugli	Dave Cooley
Mary Sotos	Paul Farrell	Rose Croog	Mary French
Michael Li	Kirsten Rigney	Nancy Dittes	
Dennis Thibodeau	Ryan Ensling	Connie Mendolia	



Sustainability Projects

including projects relating to infrastructure improvements or behavioral change that took place in owned, leased, or occupied space and were either in progress or completed in FY21

Sustainability Projects

Project 1

What: Optimizing DEEP's facilities footprint – 10% reduction in building square footage by 2030.

DEEP manages and maintains a wide variety of buildings that collectively amount to approximately 1,692,164 of gross square footage. Strategically merging facilities and operations and properly disposing of unnecessary building space will result in lower energy and water consumption, and lower operation and maintenance costs.

Using asset management software and the National Park Service's asset priority index (API) methodology, DEEP will evaluate each of its buildings to determine their importance and priority in supporting the agency's mission. Asset management software that contains key information such as building condition, efficiency, location, and utilization will be used to help inform the agency's decisions on what buildings are worth maintaining and investing in, and what buildings should be disposed of. Recognizing that all buildings consume energy and numerous resources, rightsizing DEEP's facilities footprint is a critical piece of its strategy for achieving sustainability.

In FYs 2020 & 2021, DEEP conducted several training events with agency leadership and its facility managers on: the agency's newly adopted Asset Management Program, the asset management software being used to implement this program, performing API evaluations, and how to use collected data to make informed decisions.

In FY 2021 facility managers and DEEP engineering staff completed API evaluations for all of DEEP's 1,006 buildings at its 98 locations. The complete portfolio of API scoring provides a quantitative means to determine which buildings are mission critical and which aren't and should be properly disposed of. This data is now being used to assist DEEP with properly prioritizing proposed construction and maintenance projects for FY 2021 and beyond.

DEEP has also leveraged its newly adopted Asset Management Program to demonstrate the agency's data driven and sustainable approach to pursuing construction and maintenance projects, when seeking necessary funding.

Where: Agency-wide

Project type: Structural - Combination

Status: In progress in FY 2021

Benefits: Lower energy and water consumption; and lower operation and maintenance costs.

Project 2

What: Energy Efficient Lighting Upgrades and weather stripping/air sealing installed. Finished in spring 2021.

Where: 10 Franklin Square, New Britain

Project type: Structural - Combination

Status: Completed in FY 2021

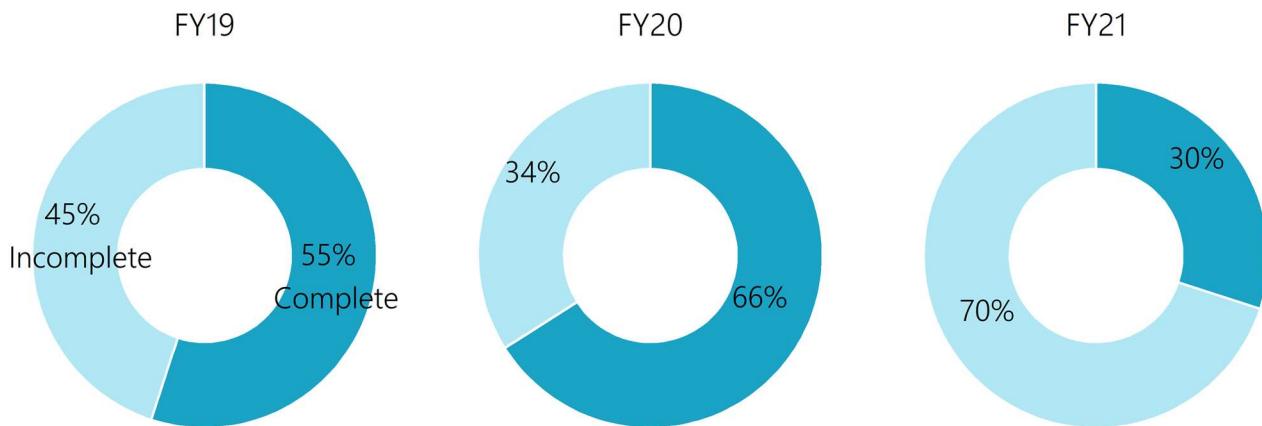
Benefits: Lower energy and consumption; and lower operation and maintenance costs.

Performance Data

The following data was pulled from EnergyCAP, the state's utility tracking software, on December 9, 2021. Note that utility data on agencies occupying space owned by another state agency may not be linked to their EnergyCAP accounts.

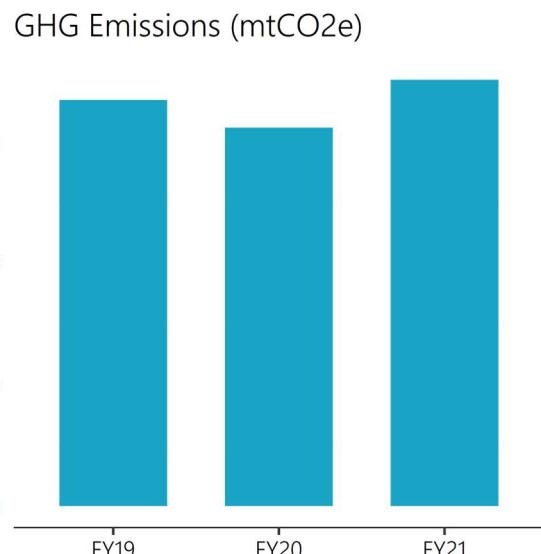
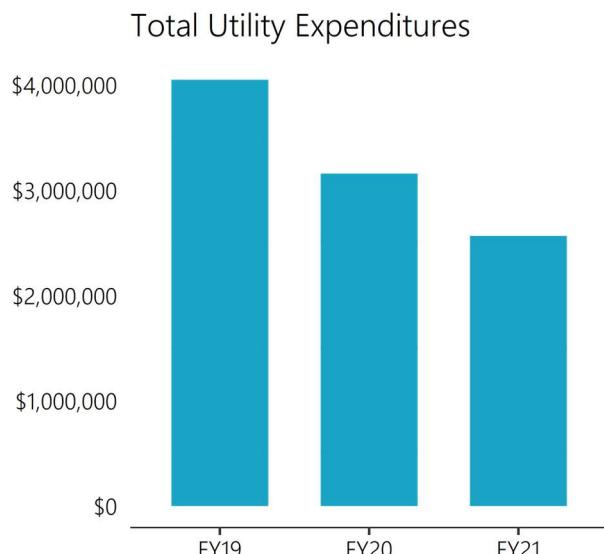
Data Completeness

The charts below display the estimated percent of utility data for DEEP entered into EnergyCAP. More recently uploaded data may still be 'in queue' awaiting processing by EnergyCAP and will not be reflected in this report.



Data Trends, FY19-FY21

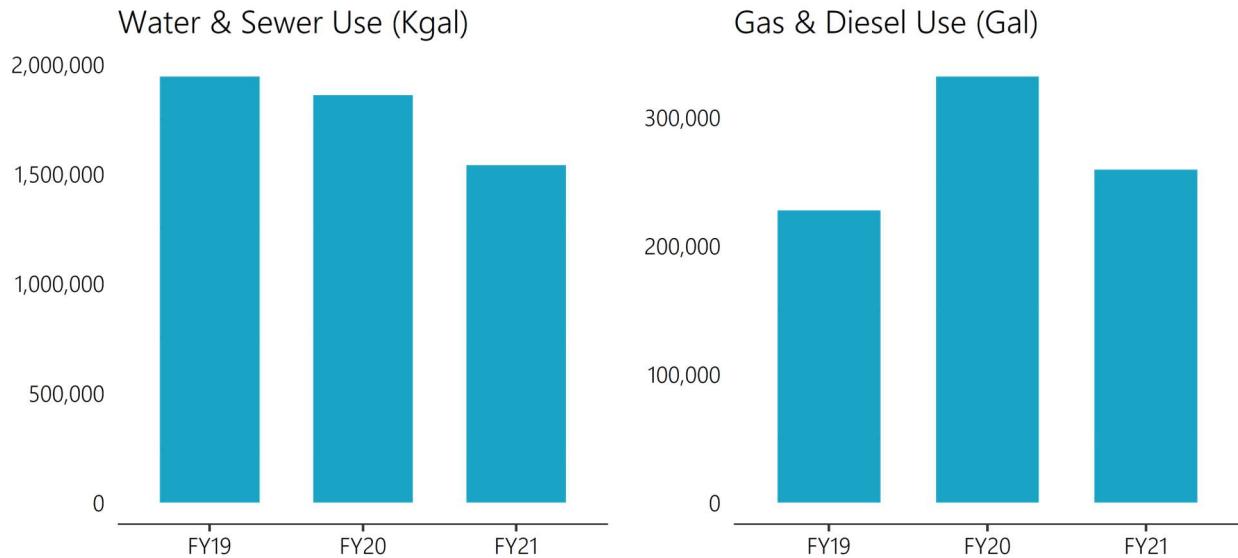
The charts below summarize the total utility expenditures and total GHG emissions for DEEP for FY19-FY21. Keep in mind that data that is missing or not yet processed in EnergyCAP may cause these numbers to be artificially low.



Performance Data cont.

Data Trends, FY19-FY21 - Continued

The charts below summarize the water and gas/diesel use for DEEP for FY19-FY21. Keep in mind that data that is missing or not yet processed in EnergyCAP may cause these numbers to be artificially low.



Detailed Utility Use and Cost Data

The table below summarizes the utility use and cost data for DEEP for FY19-FY21 according to data pulled from EnergyCAP on December 9, 2021. As mentioned previously, keep in mind that this data may be incomplete.

Commodity	Unit	Use			FY19-21 Change	Cost			FY19-21 Change
		FY19	FY20	FY21		FY19	FY20	FY21	
Electric	kWh	6,374,346	6,093,832	5,985,506	-6.1%	\$1,132,011	\$1,020,938	\$1,020,184	-9.9%
Natural Gas	CCF	43,513	47,451	50,064	+15.1%	\$72,845	\$74,280	\$82,428	+13.2%
Oil	Gal	290,740	155,231	304,142	+4.6%	\$213,576	\$258,093	\$165,567	-22.5%
Propane	Gal	2,395	1,459	1,506	-37.1%	\$3,812	\$1,508	\$1,883	-50.6%
Vehicle Gasoline	Gal	218,091	321,802	248,205	+13.8%	\$586,664	\$778,761	\$627,959	+7.0%
Vehicle Diesel	Gal	9,562	10,003	11,138	+16.5%	\$31,077	\$29,609	\$31,299	+0.7%
Total GHG Emissions	mtCO2e	6,695	6,241	7,027	+5.0%	-	-	-	-
Water	Kgal	1,924,908	1,846,278	1,507,046	-21.7%	\$75,824	\$96,850	\$44,348	-41.5%
Sewer	Kgal	19,298	12,796	33,288	+72.5%	\$1,934,872	\$899,006	\$593,252	-69.3%
Total	-	-	-	-	-	\$4,050,681	\$3,159,045	\$2,566,920	-36.6%

*Gasoline and diesel costs estimated based on average monthly cost from EIA.gov, \$2.53 for gasoline and \$2.81 for diesel in FY21; \$2.42 for gasoline and \$2.96 for diesel in FY20; \$2.69 for gasoline and \$3.25 for diesel in FY19.

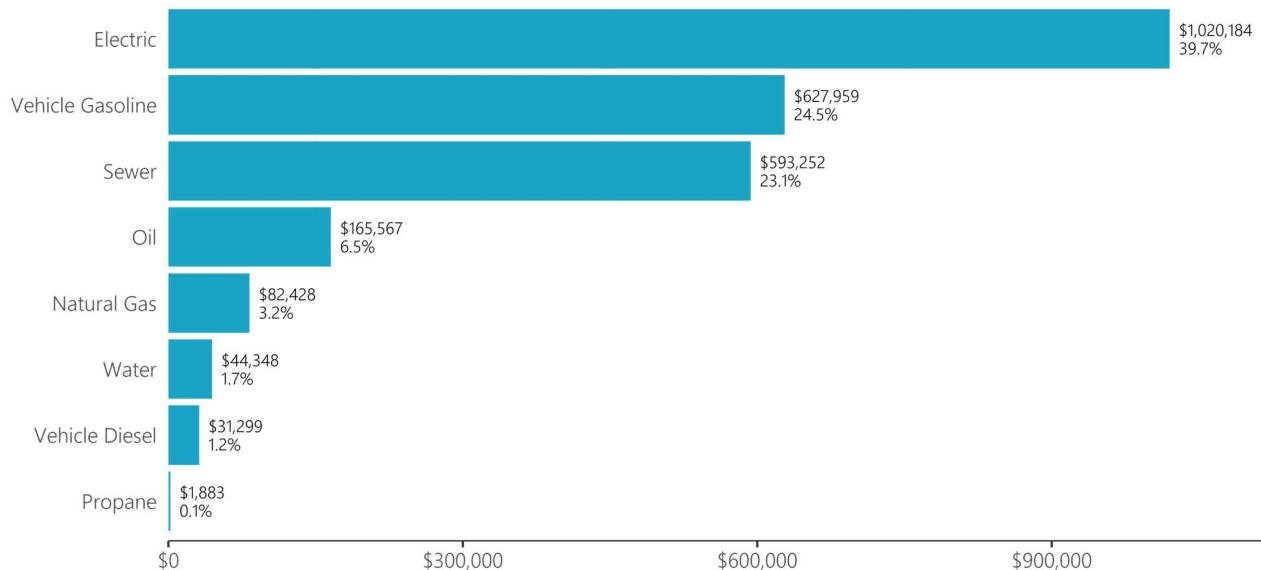
Performance Data cont.

FY21 Data Snapshot

The charts below highlight the breakdown of utility expenditures and GHG emissions by commodity for FY21.

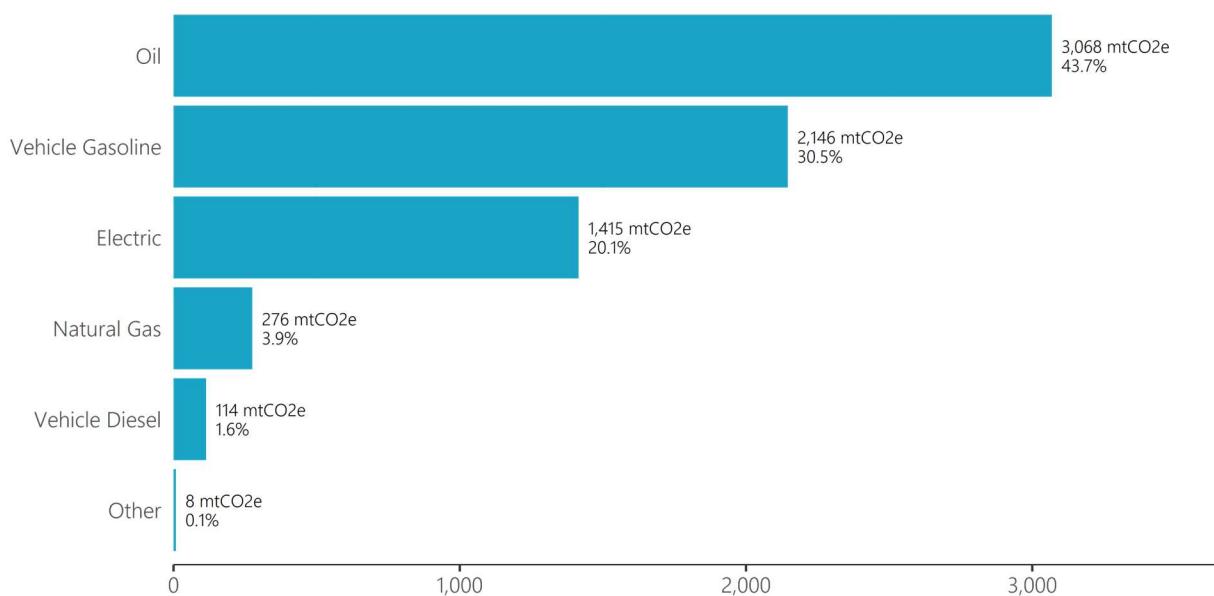
Commodity Cost Breakdown, FY21

The chart below represents the breakdown of commodity costs at DEEP in FY21.



GHG Emissions Breakdown, FY21

The chart below represents the breakdown of GHG emissions by commodity at DEEP in FY21.



Return to the Office Greener

In FY21, the GreenerGov CT leadership encouraged agencies to use the return to the office from teleworking due to the COVID-19 pandemic as an opportunity to refresh staff practices and habits and to take on new sustainability initiatives. Eleven actions were presented as possible strategies for a more sustainable return to the office, and agencies were asked to pick three actions not already in process. The actions for DEEP are highlighted below.

Returning to the Office Greener Suggested Actions

1. Identify agency vehicles which could be transitioned to electric models. ✓
2. Have a No-Cost retro commissioning scoping study to identify HVAC improvement and controls opportunities. ✓
3. Sign up a building to participate in Eversource's Strategic Energy Management program. ✓
4. Have a free building energy audit performed to identify basic opportunities to upgrade lighting or weatherization. ✓
5. Perform a water audit to identify opportunities for fixture replacement or conservation actions. ✓
6. Check for water leaks using the Fix-A-Leak Checklist. ✓
7. Assess the feasibility of hosting solar on your buildings or property. ✓
8. Optimize your dumpster size and pickup schedule. ✓
9. Start an organics diversion/collection program. ✓
10. Tune up recycling practices. ✓
11. Make a Green Team of staff invested in making space and operations more sustainable. ✓
12. Other actions

COVID-19 Impact

Impact of COVID-19 on DEEP's ability to make progress on the goals of EO 1 in FY21

Acquiring necessary funding.

COVID-19 changes that have led to a positive sustainability outcome that will continue after the pandemic

Strategically evaluating building footprint needed for agency work



Reassessing agency fleet



Holding virtual meetings as a more regular practice



Increased telework as a regular practice



No changes to report

Other

Future Planning

GHG Reduction

Net Zero Energy Western District Headquarters Facility: DEEP plans to consolidate operations spread across its Western District through the construction of a LEED v4 platinum rated, Net Zero Energy, Western District Headquarters. This facility will replace 9 buildings located in 5 separate towns and will save energy, money and increase business efficiency.

- **Plans have been completed:** Project is scheduled to go out to bid by 12/31/21.

Solar Photovoltaic Installations: DEEP is proceeding with solar photovoltaic installations at the Kensington and Quinebaug Fish Hatcheries, the Portland Depot Complex, and the Marine Headquarters facility.

- **Progress has been made:** Kensington project is furthest along in the process.

Dinosaur State Park HVAC Upgrades: An antiquated and inefficient HVAC system is being replaced with an energy efficient system.

- **Progress has been made:** Consultant performed energy savings analysis and bidding complete.
Project to be constructed in winter 2022

Vehicle Fleet Optimization: DEEP is using asset management software to promote more efficient vehicle use through regionalized motor pools resulting in fewer miles traveled, fewer vehicles and improved opportunity for expanding the number of electric vehicle (EV) charging stations and the EV fleet. Older vehicles are being replaced with the most fuel-efficient options and where possible EVs and other low emission vehicles are being purchased. DEEP will develop a plan to transition its light duty fleet to include at least 50% zero emission vehicles by 2030.

- **Progress has been made:** DEEP continues to populate vehicle and equipment related data into its asset management software to make better informed purchasing decisions and increase the use of its vehicle motor pools and other equipment sharing opportunities. DEEP continues to pursue increasing the capacity of its vehicle charging infrastructure.

Water Use Reduction

DEEP plans to construct a modern recirculation system at its Quinebaug Valley Trout Hatchery that will significantly reduce overall water usage. The facility currently consumes approximately 3,600 gallons per minute provided by onsite wells. The planned recirculation system will reduce water consumption by more than 30% by incorporating drum filtration and ultraviolet disinfection into the hatchery's operations. This new system will reduce the potential to spread disease and increase water quality in the hatchery's 50ft diameter production ponds.

- **Plans have been completed:** Project going out to bid in December 2021.

Future Planning cont.

Waste Reduction

DEEP plans to streamline cubicle waste and recycling collection by utilizing centralized recycling stations and removing deskside trash. DEEP will improve recycling rates by updating office recycling and trash signage at its field facilities to mirror the statewide What's IN, What's OUT campaign. DEEP will perform facility waste audits to identify opportunities for waste minimization pending funding mechanism through EO 1 initiative.

The DEEP Safety Office will continue to work directly with its numerous facility managers to review and organize their product inventories and to discontinue using as many hazardous products as possible. The Agency has a longstanding written policy of prioritizing the purchase of environmentally preferable products that minimize environmental impacts. The Safety Office will assist facilities to ensure that all products that are set aside for removal are properly stored and disposed of. A work group will be formed to evaluate how the agency can better standardize the products that are used across its 98 locations and purchase them in necessary quantities to avoid waste and unnecessary disposal costs.

- **Progress has been made.**

Resources Needed

Barriers encountered while making EO 1 progress in FY21

Funding	✓
Staffing	✓
Technical expertise	✓
No barriers encountered	
Other	

Specific type of support or resources needed to make progress on future sustainability projects

Additional funding and staffing