State of Connecticut

FY 2020

Sustainability Performance Plan

Department of Energy & Environmental Protection

Prepared by Robert Girard and Dennis Thibodeau
Senior Sustainability Officers

Approved by Katie S. Dykes
Commissioner

greenergovCT

A Lead by Example Initiative

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

2

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 120+ sustainability projects in FY19 in the first 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, the COVID-19 pandemic brought significant changes to the operations of state agencies as agencies responded to the crisis. The impact of the pandemic on the sustainability goals of EO 1 is not yet known, but some effects will be documented in the FY20 Sustainability Performance Plans and the GreenerGov CT Progress Report.

3

DEEP and EO 1

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.

DEEP's FY20 participation overview

As a chairing agency, DEEP participates in almost every facet of this initiative. In addition to having our commissioner, Katie Dykes and Mary Sotos, chair the steering committee and run monthly meetings, we also have DEEP staff on each one of the nine project teams. Dennis Thibodeau and Robert Girard serve as DEEP's SSOs with Eric Ott and Paula McDowell as contact persons for EnergyCAP data collection. Lastly, four DEEP staff serve as EnergyCAP liaisons to all agencies with state building and fleet data.

DEEP staff involvement in EO 1

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

3

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 FY20

4

Sustainability Projects

1

Location: Agency-wide

Project Type: Structural - Combination

Description: 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 FY2020, DEEP conducted a number of training events with the agency's 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. Facility managers are now actively performing API evaluations and have completed them for approximately 16% of DEEP's 1,006 buildings and 13% of its 98 locations. All API evaluations required to be completed by 6/30/2021. A complete portfolio of API scoring will provide a quantitative means to determine which building are mission critical and which aren't and should be properly disposed of. The partial data in 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.

Status: In progress in FY 2020

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

2

Location: Burlington Hatchery 34 Belden Road, Burlington, CT 06013

Project Type: Structural - GHG - Building energy efficiency

Description: An antiquated and inefficient #2 oil fired boiler and #2 oil fired furnace were replaced with two high efficiency propane furnaces and two high efficiency propane fired ceiling mounted heaters.

Status: Completed in FY 2020

Benefits Summary: Reduced GHG emissions, reduced criteria air pollutant emissions, and cost savings. An underground #2 oil storage tank was also removed as part of the project.

3

Location: Sessions Woods Wildlife Center 341 Milford Street Burlington, CT 06013

Project Type: Structural - GHG - Building energy efficiency

Description: Antiquated and inefficient #2 oil fired furnace was replaced with a high efficiency propane fired furnace. Duct work was balanced to ensure more accurate and efficient distribution of heat.

Status: Completed in FY 2020

Benefits Summary: Reduced GHG emissions, reduced criteria air pollutant emissions, and cost savings.

Performance Data

The following data was pulled from EnergyCAP, the state's utility tracking software, on March 15, 2021. Note that utility data on agencies occupying space owned by another state agency may or may not be linked to their EnergyCAP accounts.

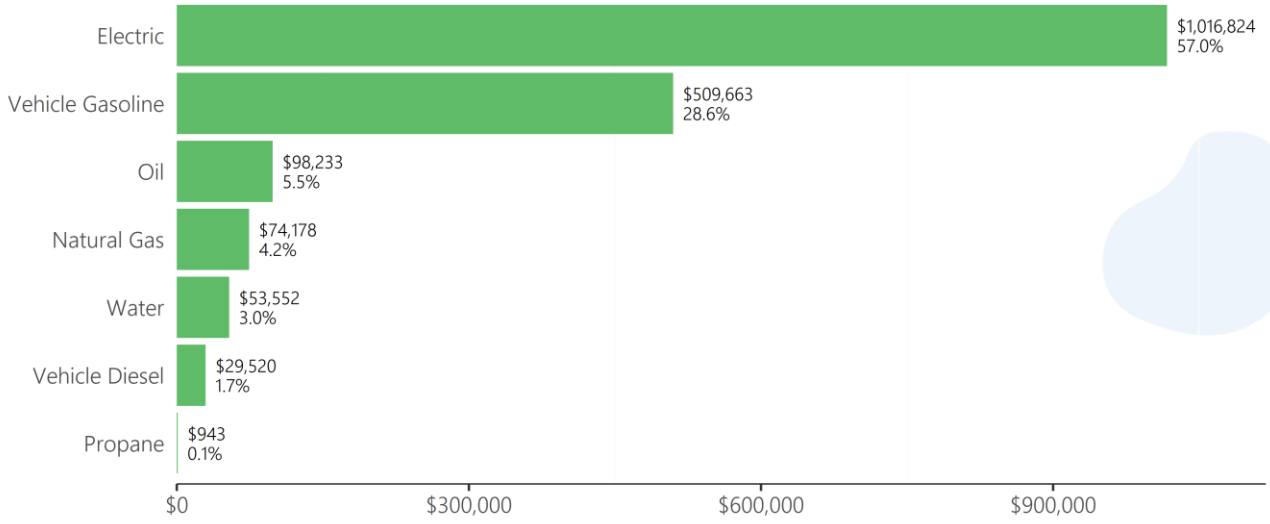
Total Utility Costs

		Use			Cost		
Commodity	**Unit**	**FY19**	**FY20**	**Change**	**FY19**	**FY20**	**Change**
Electric & Natural Gas	MMBtu	25,704	25,613	-0.4%	$1,165,975	$1,091,002	-6.4%
Other Building Energy	MMBtu	41,242	7,019	-83.0%	$228,691	$99,175	-56.6%
Vehicle Gasoline	Gal	224,531	215,048	-4.2%	$577,045	$509,663	-11.7%
Vehicle Diesel	Gal	9,562	9,973	+4.3%	$30,407	$29,520	-2.9%
Total GHG Emissions	**mtCO2e**	**6,850**	**4,268**	**-37.7%**	-	-	-
Water	Kgal	1,468,948	1,636,439	+11.4%	$26,708	$53,552	+100.5%
Total	-	-	-	-	**$2,028,826**	**$1,782,912**	**-12.1%**

*Gasoline and diesel costs estimated based on average weekly cost from EIA.gov, $2.37 for gasoline and $2.96 for diesel in FY20 and $2.57 for gasoline and $3.18 for diesel in FY19.
**Other Building Energy sources include oil, propane, steam, and chilled water.

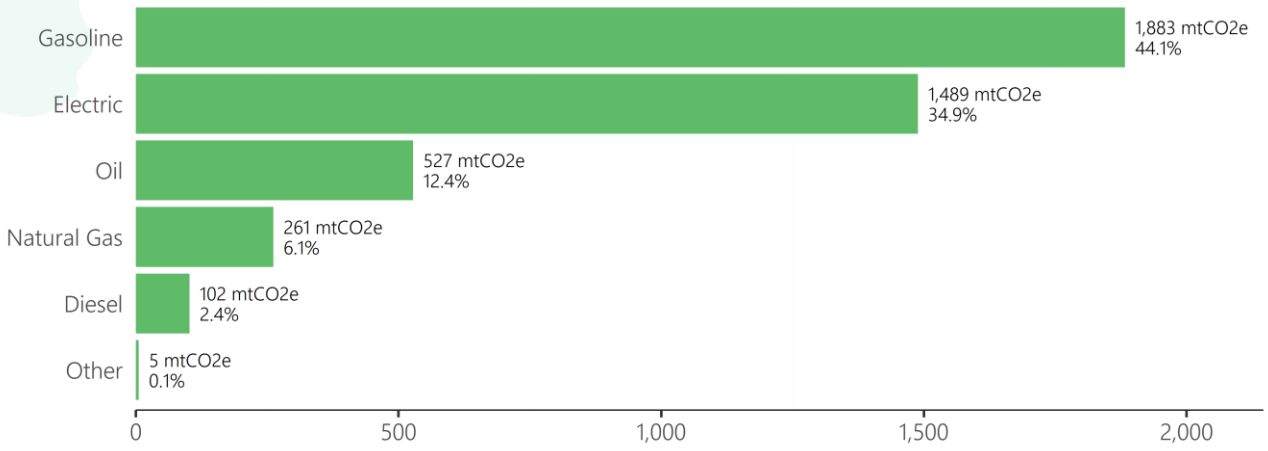
Commodity Cost Breakdown, FY20

The chart below represents the breakdown of commodity costs at DEEP in FY20.



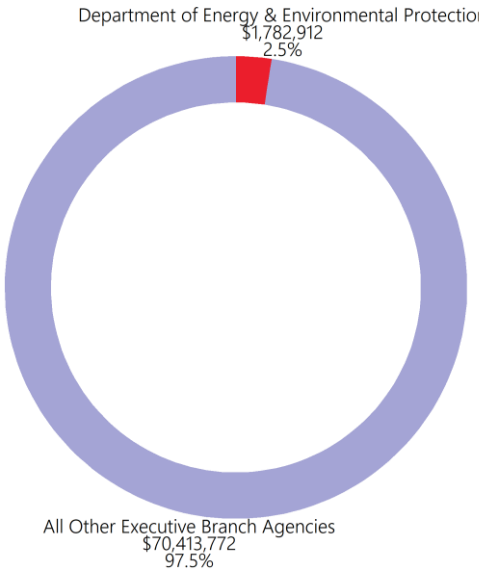
GHG Emissions Breakdown, FY20

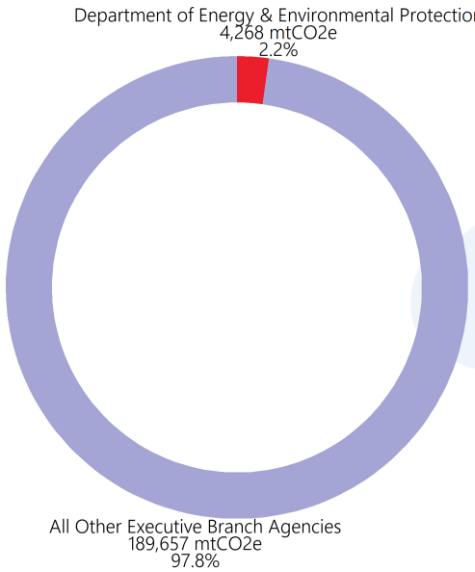
The chart below represents the breakdown of GHG emissions by commodity at DEEP in FY20.



Share of Utility Costs and GHG Emissions

The two charts below display DEEP's proportion of the FY20 total utility cost and the total GHG emissions of all agencies participating in EO 1.





7

Future Planning

GHG Reduction (energy/fleet related)

Status of FY19 Plans

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.

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

- **Progress has been made**: RFP is being prepared.

Vehicle Fleet Optimization: DEEP will use 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 will be replaced with the most fuel-efficient option and where possible EVs and other low emission vehicles will be 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.

Planned FY21 Projects

10 Franklin Square Office Building. Energy Efficient Lighting Upgrades and weatherstripping/air sealing are being implemented.

Dinosaur State Park HVAC Upgrades. Antiquated and inefficient heating HVAC system is being replaced with an energy efficient system. Consultant is currently performing energy savings analysis.

Future Planning cont.

Water Use Reduction

Status of FY19 Plans

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.

- **Progress has been made**: Funding has been secured and proposal from consultant is being refreshed due to the age of the previous proposal.

Planned FY21 Projects

DEEP plans to used revised audit form at its numerous small stand-alone facilities and install low flow plumbing fixtures as resources allow.

Waste Reduction

Status of FY19 Plans

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 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.

- **Unable to implement during pandemic**: Since March 15, 2020, DEEP's two major office buildings have been largely vacant due to the COVID-19 pandemic. One of the state's primary mitigation strategies to address this public health crisis was to direct employees to work remotely when possible. During this time, it's estimated that office paper consumption at these two locations has fallen by greater than 50% and the scheduled trash pick-ups have fallen by approximately 50%. When staff are able to return to these two workplaces, DEEP will begin implementing this strategy.

Planned FY21 Projects

The DEEP Safety Office is working 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 it's 98 locations and purchase them in necessary quantities to avoid waste and unnecessary disposal costs.

COVID-19 Impact

Impact of COVID-19 on agency's ability to make progress on the goals of EO 1 in FY20

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

Resources Needed

Barriers encountered while making EO 1 progress in FY20

- ✓ **Funding**
- ✓ **Staffing**
- ✓ **Technical expertise**

No barriers encountered