

Sustainability Performance Plan FY 2021

Military Department

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Approved by Major General Francis J. Evon, Jr.
The Adjutant General

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



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

MIL's Mission

The Military Department is a unique dual-status agency, having both federal and state missions. The federal mission is to maintain properly trained and equipped National Guard units for prompt federalization in the event of war, domestic emergencies or other emergencies. The state mission is to coordinate, support and augment federal, state and local authorities in emergency response, to provide emergency response planning and to conduct community service programs.

FY21 Participation Overview

As we make progress in increasing our resiliency at each facility we have converted a number of facilities and standby generation from fuel oil to natural gas or propane in FY21 that now reflect on our FY22 usage. This conversion has caused our usage to increase for natural gas consumption, but has reduced the fuel oil consumption from the 2003 baseline by 95%.

Participating Agency Staff

Philip Mader - Energy Manager
Robert Dollak - Environmental Manager
Michael Carragher - Fiscal Manager



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: Project will replace the existing fuel oil tank with propane gas and upgrade the existing HVAC system with new condensing boilers.

Where: Camp Nett

Project type: Structural - Combination

Status: In progress in FY 2021

Benefits: Increased efficiency, lower cost, lower GHG emissions

Project 2

What: Design awarded to replace the existing boilers, air handlers, duct distribution and controls gas with high efficient equipment including condensing natural gas boilers.

Where: New Haven Armed Forces Reserve Center

Project type: Structural - GHG - Building energy efficiency

Status: In progress in FY 2021

Benefits: Results will include lower utility usage and increased ventilation to create a safer working environment for the health and welfare of our war-fighters.

Project 3

What: Construction of an emergency generator

Where: Groton

Project type: Structural - GHG - Building energy efficiency

Status: In progress in FY 2021

Benefits: Energy resiliency

Project 4

What: Add Air conditioning and humidity control to areas of the Readiness Center which previously was absent.

Where: Niantic Readiness Center

Project type: Structural - GHG - Building energy efficiency

Status: In progress in FY 2021

Benefits: Increase in working conditions for soldiers

Project 5

What: Replace the aging generator at the facility and convert it from fuel oil to natural gas.

Where: New London Armory

Project type: Structural - GHG - Building energy efficiency

Status: In progress in FY 2021

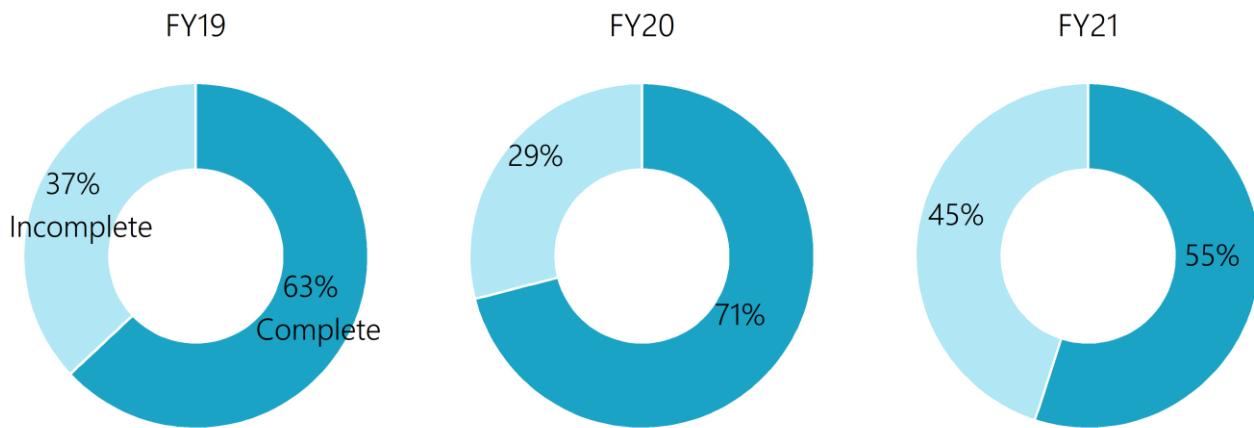
Benefits: This project will increase energy efficiency and lower both cost and GHG emissions.

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.

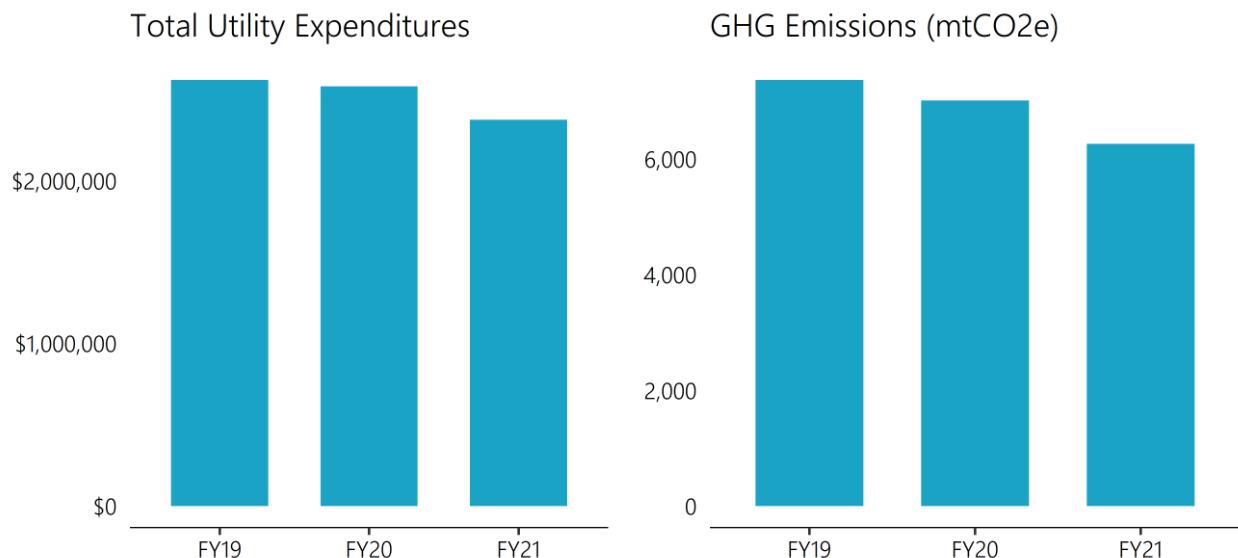
Data Completeness

The charts below display the estimated percent of utility data for MIL 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

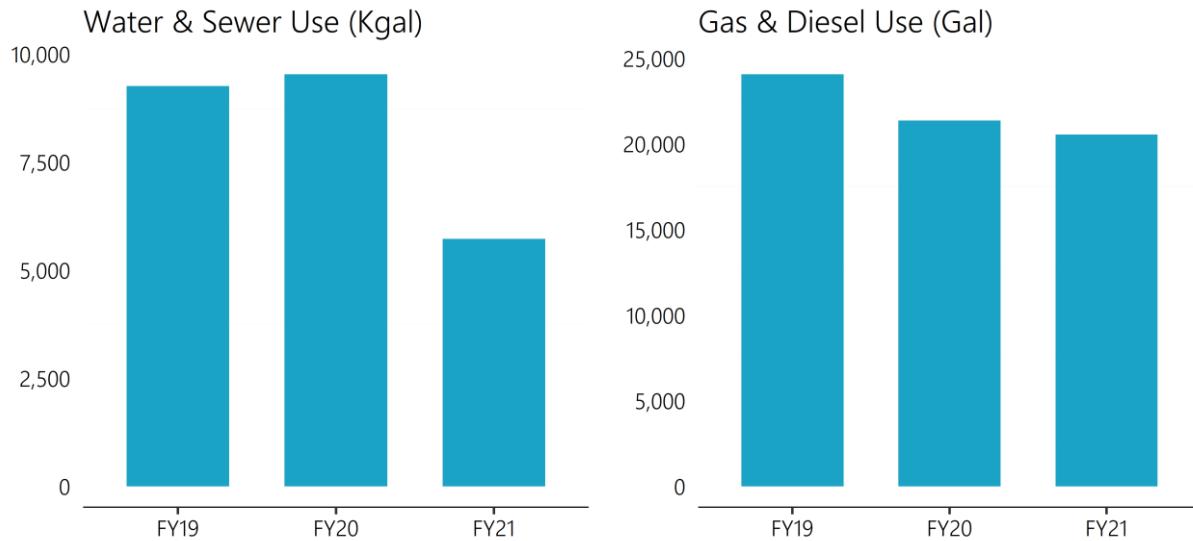
The charts below summarize the total utility expenditures and total GHG emissions for MIL for FY19-FY21. Keep in mind that data that is missing or not yet processed in EnergyCAP may cause these numbers to be artificially low.



Performance Data cont.

Data Trends, FY19-FY21 - Continued

The charts below summarize the water and gas/diesel use for MIL 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 MIL for FY19-FY21 according to data pulled from EnergyCAP on December 9, 2021. As mentioned previously, this data may be incomplete.

Commodity	Unit	Use			FY19-21 Change	Cost			FY19-21 Change
		FY19	FY20	FY21		FY19	FY20	FY21	
Electric	kWh	11,485,447	11,304,727	9,954,767	-13.3%	\$1,748,872	\$1,693,197	\$1,508,241	-13.8%
Natural Gas	CCF	438,371	465,607	485,214	+10.7%	\$510,874	\$510,993	\$561,701	+9.9%
Chilled Water	Ton Hr	184,876	194,621	187,113	+1.2%	\$93,495	\$78,554	\$109,418	+17.0%
Oil	Gal	22,670	8,313	4,775	-78.9%	\$44,237	\$15,253	\$8,432	-80.9%
Propane	Gal	57,545	107,826	37,216	-35.3%	\$73,755	\$113,555	\$54,348	-26.3%
Vehicle Gasoline	Gal	19,239	16,473	15,565	-19.1%	\$51,754	\$39,864	\$39,380	-23.9%
Vehicle Diesel	Gal	4,837	4,907	4,991	+3.2%	\$15,721	\$14,523	\$14,026	-10.8%
Total GHG Emissions	mtCO2e	7,369	7,015	6,266	-15.0%	-	-	-	-
Water	Kgal	5,804	5,283	4,311	-25.7%	\$43,823	\$51,437	\$41,443	-5.4%
Sewer	Kgal	3,463	4,254	1,418	-59.1%	\$36,981	\$62,513	\$38,619	+4.4%
Total	-	-	-	-	-	\$2,619,511	\$2,579,889	\$2,375,608	-9.3%

*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.

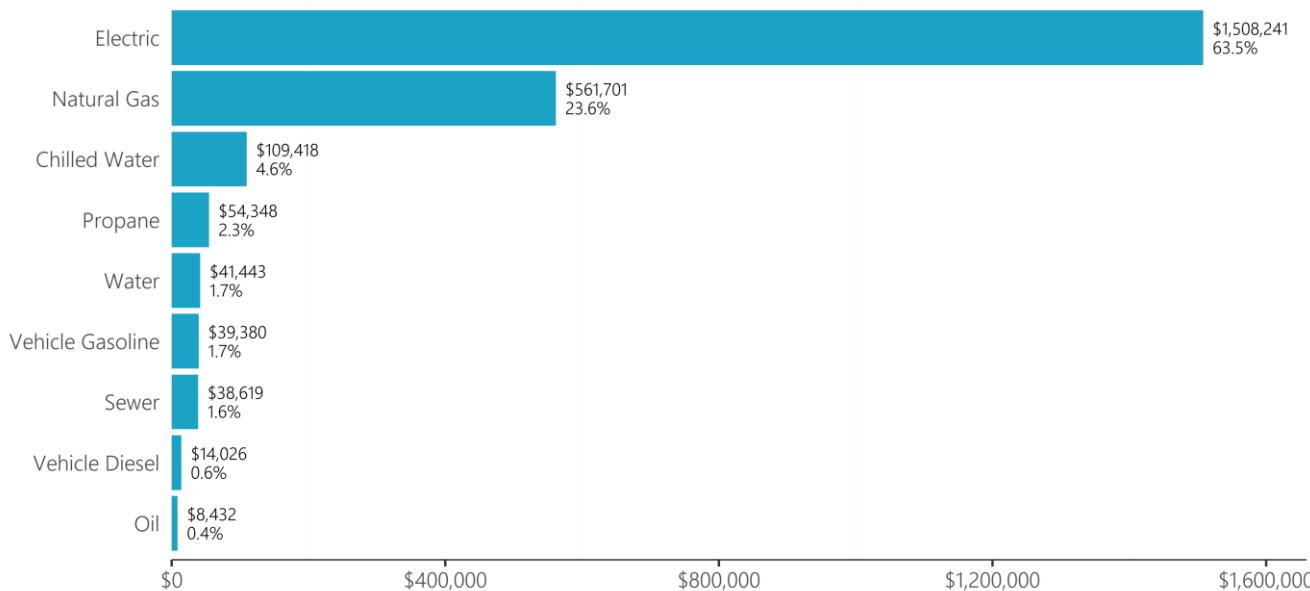
Performance Data cont.

FY21 Data Snapshot

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

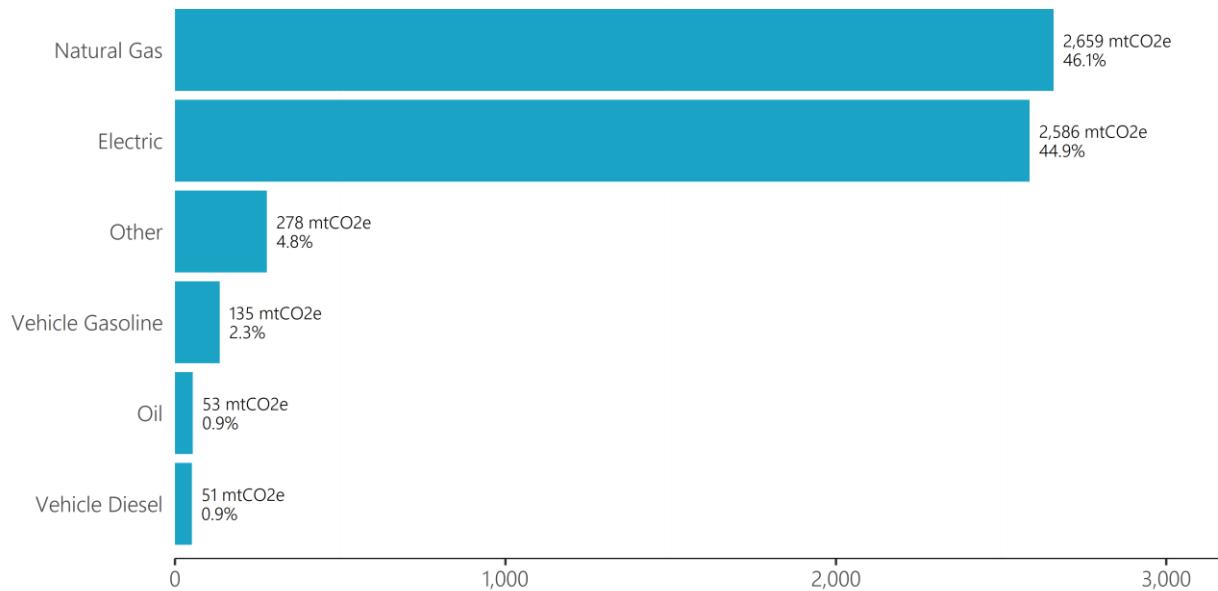
Commodity Cost Breakdown, FY21

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



GHG Emissions Breakdown, FY21

The chart below represents the breakdown of GHG emissions by commodity at MIL 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 MIL 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

Additional details on the return to the office:

The Military department has made sustainability and energy savings a top priority. We've made great strides in digitizing our files to reduce paper usage, ensured all lighting is automatically controlled, and posted signage to encourage recycling efforts in all our buildings.

COVID-19 Impact

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

Major hurdles during FY21 continues to be the COVID 19 pandemic and the affects that it had on the usage of our facilities and the increase in operations from natural disasters. With the return to normal operating conditions energy usage has increased and will show little reduction in the foreseeable future.

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

Status of FY20 Plans

	Progress has been made	Progress has stalled	Plans have been completed.	Stated plans no longer a priority	Other
GHG Reduction	✓				
Water Use Reduction	✓				
Waste Reduction	✓				

Sustainability Plans Beyond FY21

GHG Reduction

Many of our facilities are being modernized to include more efficient condensing boiler and AC systems as well as retrofitting facilities with LED lighting.

Water Use Reduction

The Military department has continued to install low flow fixtures, automatic flushing equipment, and continues to convert water fountains to touchless filtered bottle filling stations. Efforts continue to replace and update multiple domestic hot water heaters and upgrades to more efficient condensing boilers at our facilities. Multiple infrastructure failures for water occurred this year in Q2 driving up water usage. Smart meters have been installed in (33) facilities. (55) Electric and (37) Gas (37) Water meters that are remotely monitored by the department for utility usage. All facilities have working building management systems (BMS). At two locations NGB contractors installed six (6) Advance Meters to monitor electricity and natural gas in AASF in Windsor Locks and in the Stratford Armory. Installation of Advanced Metering is ongoing and USACE contractors will be returning in FY22 when funded, to install advanced meters using the EEDRs system on an additional four sites increasing the monitored facilities to 60% of facilities.

Waste Reduction

The CT Military Department is taking every opportunity to move towards digital data handling wherever feasible to reduce the use and waste of paper. We have installed recycling receptacles in all of our facilities and ensure that maximum volume eligible waste is diverted to be recycled.

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

The main barrier we encounter is funding. The Federal government provides the majority of funding for energy reduction/efficiency projects we undertake. A more aggressive push by the State could leverage this funding to help implement the plans we have for future sustainability.