

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: The University of Connecticut

Senior Sustainability Officer: Michael Jednak Associate Vice President of Facilities Operations, Senior Sustainability Officer

Date Submitted: Enter date of submission here.

GreenerGov CT Participation Overview

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

The University of Connecticut participated in the EO1 and Greener Gov CT initiative as a non-mandated partner in order to continue its ongoing efforts to reduce energy, water and waste consumption. The university has undertaken multiple projects in accordance with their goals to become carbon neutral by 2030 under the vision of UConn's President Maric.

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

Michael Jednak, Senior Sustainability Officer, Associate Vice President of Facilities Operations
Stanley Nolan, Director, Utility Operations & Energy Management, Facilities Operations
Katie Milardo, Associate Director, Energy, Water & Compliance, Facilities Operations
Mark Bolduc, Energy & Compliance Manager, Facilities Operations
Patrick McKee, Senior Sustainability Program Manager, Office of Sustainability

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.

20+

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)

Project 1:

What: UConn's Facilities Operations department completed the first major phase of implementing new LED lighting upgrades across the Storrs campus, SLED Group 1. This project impacted 18 dorm buildings and 18 other academic and administrative buildings totaling for over 1 million square feet. These lighting upgrades include improvements to building aesthetics along with improving energy efficiency.

Where: UConn Storrs campus.

Project Type: Structural – GHG – Building Energy

Status: Completed in FY 2022

Benefits: SLED Group 1 utilized technology such as occupancy sensors and daylight harvesting sensors to improve energy savings. These energy savings will account for a reduction in greenhouse gas emissions and costs for energy consumption.

Savings: The estimated savings from SLED Group 1 account for 1,155 metric tons of carbon reductions. There is also an estimated savings of about 1,900,000 kWh and \$190,000 annually.

Project 2:

What: UConn implemented additional LED lighting retrofit for academic, administrative and athletic buildings on the Storrs Campus. The following buildings benefited from these projects: Tasker, Burton, Firehouse, Art Ceramic Studio, Facilities Operations Mechanical Spaces and Co-op. Additionally, lighting projects were undertaken at the Stamford Campus and the Waterbury campus.

Where: UConn Storrs, Stamford and Waterbury Campus.

Project Type: Structural – GHG – Building Energy

Status: Completed in FY 2022

Benefits: Implementing LED retrofits results in a reduction of energy consumption and greenhouse gas emissions along with energy cost savings.

Savings: The estimated savings from the LED retrofits described above have an estimated carbon reduction of 490 metric tons. There is an estimated annual savings of nearly 826,000 kWh and almost \$83,000.

Project 3:

What: UConn implemented a variety of repairs to the Steam Trap systems on the Storrs, Avery Point and Hartford campuses. These projects were undertaken to improve the efficiency of the Steam Trap technology in order to utilize the maximum power of the Steam generated energy.

Where: Storrs, Avery Point and Hartford campuses.

Project Type: Structural – GHG – Building Energy

Status: Completed in FY 22

Benefits: The repair projects completed will result in energy cost savings along with a reduction of energy consumption and greenhouse gas emissions.

Savings: The steam trap repair projects will result in an estimated savings of over 103,000 CCF and \$102,500 annually. In addition, there is estimated greenhouse gas reductions of 140 metric tons.

Project 4:

What: EcoMadness is a sustainability competition among 27 campus residence halls to encourage energy and water use reduction and proper recycling habits. In 2021, recycling education and behavior tracking was added to the program. Throughout the month of September and October students in the residence halls work to reduce their consumption from the baseline in the first week of September. The office of Sustainability and its intern team recruits and trains volunteers as EcoCaptains to lead their hall in the competition. This includes presenting educational materials about energy use and consumption to introduce behavioral changes. These captains also play an essential role in conducting weekly recycling compliance reviews and engaging their peers in the competition. The waste and recycling audits were conducted in common areas to assess the recycling behaviors of each hall and score the hall on their compliance with the program criteria. Residents of the winning hall receive a coupon for a free scoop of Dairy Bar ice cream. The Office of Sustainability's social media page and direct emailing to students provides updates and tips to improve behaviors.

Where: UConn Storrs Campus

Project Type: Behavioral – Combination

Status: Completed in FY 2022

Benefits: During the fall EcoMadness campaign, winning residence halls reduced water consumption by 9%, electricity by 20% and were 100% in compliance with all recycling guidelines. Overall, the 2021 EcoMadness competition resulted in a cumulative reduction from the September baseline of: 3.4% for electricity usage, equivalent to 51,561 kWh. Student recycling behaviors improved so that only 25% of recycling containers contained any amount of contamination.

Project 5:

What: RecycleThon – April 2022. With the help of 17 resident student EcoCaptains, the Office of Sustainability conducted a monthlong recycling competition in residence halls in February 2022. During the competition, weekly emails with recycling education and tips to live more sustainably, were communicated to all of UConn's resident students.

Where: UConn Storrs Campus

Project Type: Behavioral – Combination

Status: Completed in FY 2022

Benefits: This improved overall recycling compliance (a measure of assessing contaminants in recycling and trash waste streams) by 5%.

Performance Data

The following data was pulled from Energy CAP the states utility tracking software, on December 2, 2022.

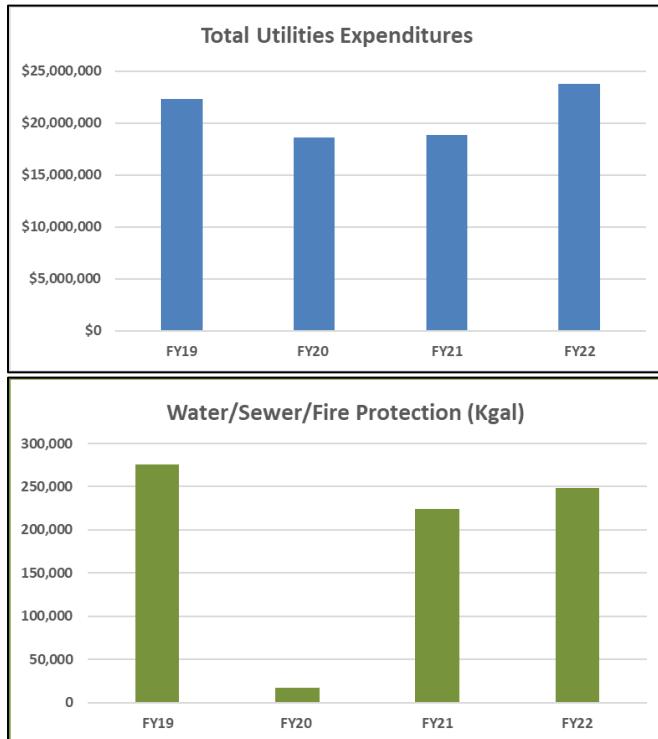
Detailed Utility Use and Cost Data

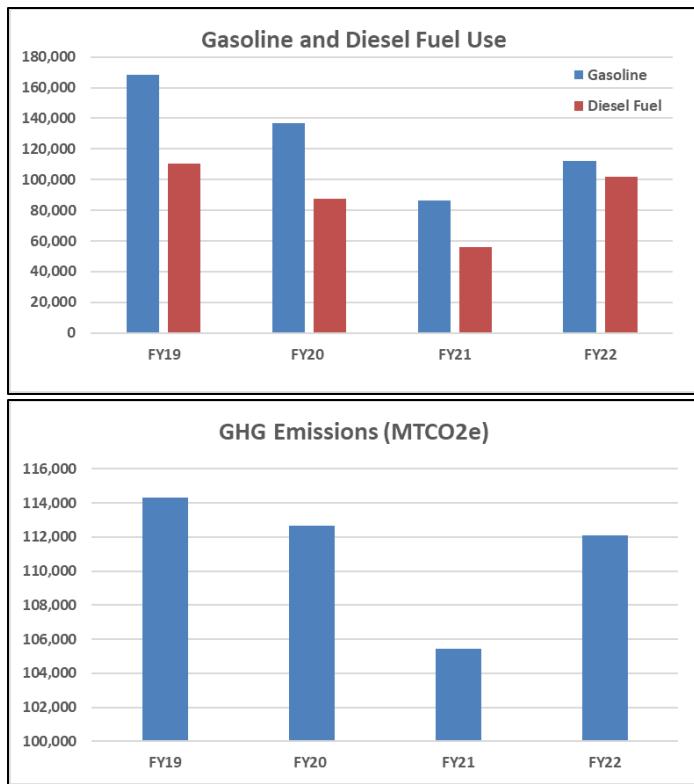
Commodity	Unit	Use					Cost				
		FY19	FY20	FY21	FY22	Change	FY19	FY20	FY21	FY22	Change
Electric & Natural Gas	MMBtu	860,379	391,314	792,908	840,014	-2.4%	\$16,722,149	\$15,382,062	\$14,535,132	\$18,510,805	10.7%
Other Building Energy	MMBtu	932,778	963,863	928,018	923,046	-1.0%	\$3,643,722	\$2,574,829	\$2,954,574	\$3,559,264	-2.3%
Vehicle Gasoline	Gal	168,441	137,054	86,417	112,276	-33.3%	\$358,779	\$291,925	\$142,324	\$239,149	-33.3%
Vehicle Diesel	Gal	110,202	87,605	56,107	101,651	-7.8%	\$206,078	\$163,821	\$87,015	\$266,925	29.5%
Total GHG Emissions	MTCO2e	114,300	112,668	105,436	112,112	-1.9%	-	-	-	-	-
Water/Sewer/Fire Protection	Kgal	275,407	17,693	224,098	248,503	-9.8%	\$1,393,572	\$196,824	\$1,151,892	\$1,211,145	-13.1%
Total	-	-	-	-	-	-	\$22,324,299	\$18,609,462	\$18,870,937	\$23,787,289	6.6%

Notes:

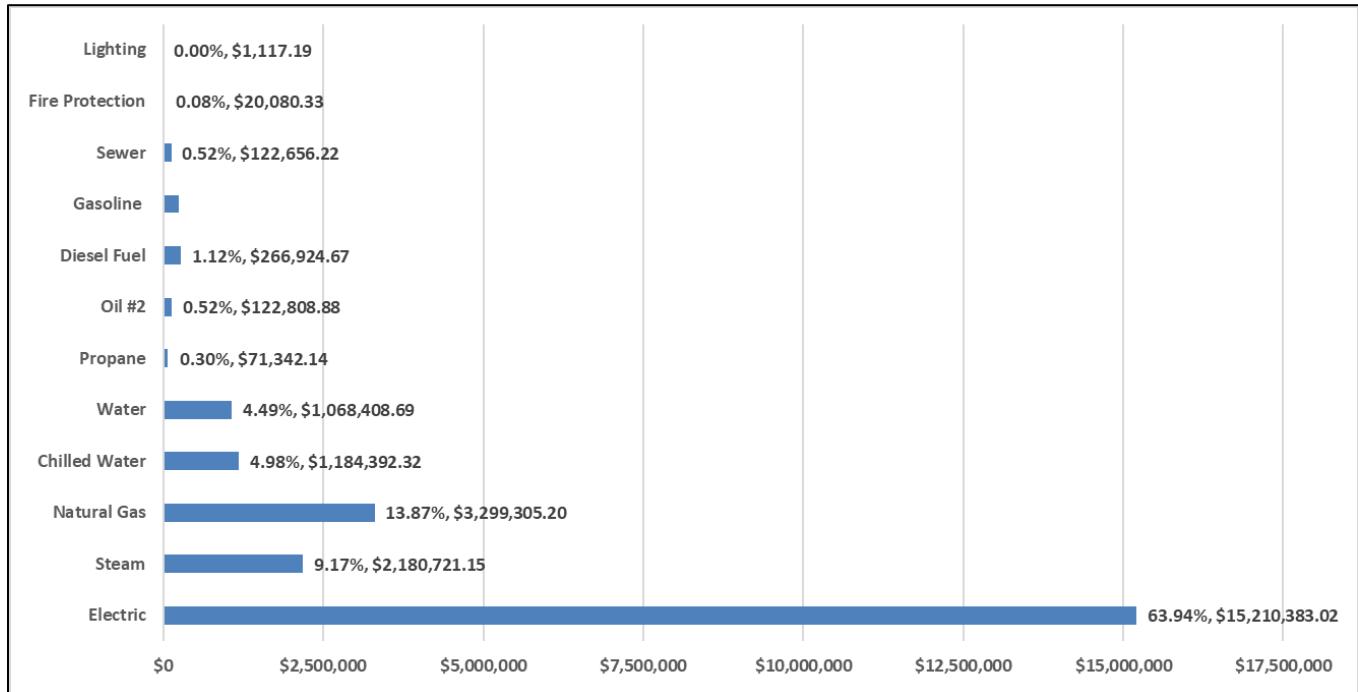
1. Other Building Energy includes steam, chilled water, propane and fuel oil.
2. Summary includes Storrs, Avery Point, Stamford, Downtown Hartford, Depot, Law School, Waterbury and County Cooperative Extensions.
3. Total GHG Emissions (Scope 1 and 2) obtained from SIMAP (Storrs Campus) or Energy Cap (all other campuses). With the exception of Avery Point, emissions from purchased power is not included since that is covered by the purchase of RECs.

Data Trends FY19-FY22





Commodity Cost Breakdown, FY22



Future Plans

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

Energy Conservation Projects – Subject to the availability of funding, UConn will continue to execute energy conservation projects in FY 2023 across multiple campuses to complete LED lighting retrofits with lighting controls, building retro-commissioning, building control optimization, condensate return repairs as well as steam trap surveys and repairs. In addition, UConn has an on-going program to conduct ASHRAE level energy audits in all campus buildings to identify potential energy conservation project savings. At date, approximately 30 building audits have been completed resulting in the planning of numerous energy savings projects which will start in FY 2023. These FY 2023 projects will result in energy savings of over 442,000 kWh, over 4,000 kilo-pounds of steam, 300,000 cubic feet of natural gas, \$66,000 in annual energy avoided costs and 440 metric tons of greenhouse gas reductions. These projects were intended to start in FY 2021 but were delayed due to funding issues.

Solar PV Installation – UConn's new Science I building's 520 kW solar PV array covering its rooftop is installed and will be operational in FY 2023. Additional Solar PV installations are being evaluated for parking lots, garages, bus shelters and roof tops. Planning for the additional solar installations is on-going with the bus shelter solar to be completed in FY 2023. Other potential solar installations are anticipated to be on-line in FY 2024 subject to the availability of funding.

Fuel Cell and Hydrogen Fuel Development - UConn seeks to expand on its internationally known expertise in clean energy research by partnering with several other East Coast states to site a regional Northeast Hydrogen Hub near the Storrs campus. UConn is planning to construct and operate this hydrogen hub for further research and the production of hydrogen fuel that can be used to power future UConn-owned hydrogen vehicles for use on campus. This Hydrogen Hub will be located near the Storrs campus Innovation Partnership Building. UConn is also seeking to install several fuel cells to provide additional electrical power as well as heat recovery for buildings on campus. The planning for these installations is on-going in FY 2023 and is anticipated to be on-line by FY 2024.

Water Metering Project – UConn has set a goal to upgrade or install water meters in buildings which use significant amounts of water. The metering project will improve leak detection and allow for leaks to be repaired sooner. 182 locations for metering upgrades have been selected with 63% complete to date. Continued progress will be made on this project in FY 2023 to address the remaining locations.

Barriers for EO 1 while making progress in FY22

The availability of funding, staffing and technical expertise continue to be barriers in the progress of implementing sustainability initiative goals at UConn. Current market conditions makes it difficult to compete with the private sector in the hiring and retention of skilled staff needed for the implementation of these projects as well as maintaining the equipment once installed.