

University of Connecticut

Carbon Reduction Working Group

Spring Semester 2024

02/02/24

1881

Agenda

- Facilities Project Updates
- GHG Status Updates
- Hydrogen/EV Charger install project update



Ongoing Energy Conservation Measures/Projects:

1. SLED Group 4 – Projects In Construction/In Scoping Phase; Dodd, School of Business, ITEB, Castleman, Babbidge, Gampel, Atwater, Wilbur Cross, Student Union, Jorgensen
 2. Dining Hall Demand Controlled Ventilation – Northwest Dining phase complete. In Design for Towers Dining Hall.
 3. ASHRAE Energy Audit Group 1 – Tentative completion date end of March 2024
 4. Stamford RCx Implementation – Tentative completion date end of February 2024
 5. Energy Savings Performance Contract (ESPC) Phase 2 – \$500,000 BOT approved to complete the IGA. RFP in process, contractor selection Spring 2024 and audit to start late Spring/Summer 2024.
 - Replacement and Upsize of an approximate 3,000 linear foot steam/condensate line from McMahon Dormitory to just before the new South Campus Dormitory
 - Water Conservation, Building Envelope Evaluations, Steam Trap install and repairs
 - Interior/Exterior lighting retrofit to LED technology at 44 buildings on Storrs Campus totaling 2.1 million square feet
 - Retro-Commissioning Project for 2.87 million square feet at 24 proposed buildings
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Greenhouse Gas (GHG) Reduction Status

Various Baselines:

- 2001 Baseline – 152,712 metric tons
- 2007 Baseline – 142,715 metric tons

Current Reduction Goal: Carbon Neutrality (or 152,712 metric tons) by 2030 based on 2001 Baseline (UConn President's Goal)

Past Reduction Goals:

- 45% reduction (or 68,720 metric tons) by 2030 based on 2001 Baseline (Governor's Goal)
- 30% reduction (or 42,815 metric tons) by 2025 based on 2007 Baseline (UConn CAP Interim Goal)
- 40% reduction (or 57,086 metric tons) by 2030 based on 2007 Baseline (UConn CAP Interim Goal)
- 50% reduction (or 71,358 metric tons) by 2035 based on 2007 Baseline (UConn CAP Interim Goal)
- Carbon Neutrality (142,715 metric tons) by 2050 based on 2007 Baseline (UConn CAP Goal)

Greenhouse Gas Reduction as of Fiscal Year 2022:

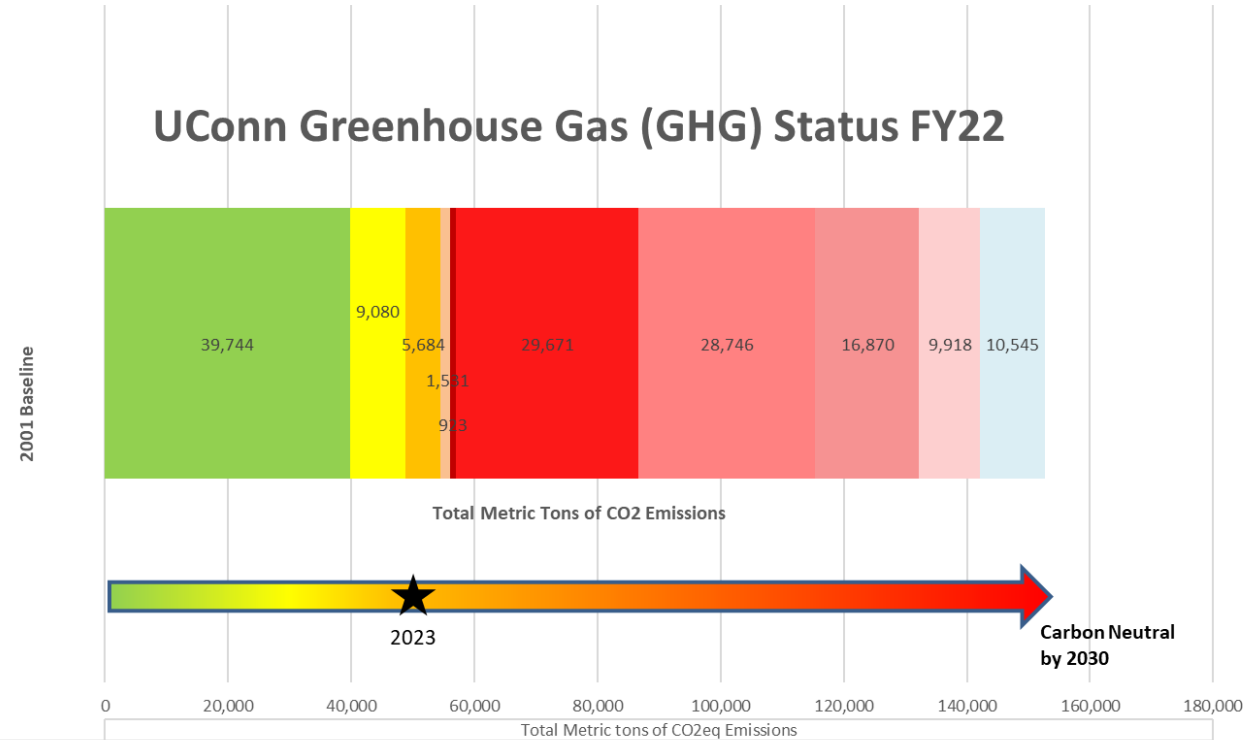
- 26% (or 39,774 metric tons) achieved based on 2001 baseline
- 11% (or 17,218 metric tons) additional projects ongoing/being investigated by Facilities

Greenhouse Gas Reduction Projections Development (on-going)

President has working group to research how to reach reduction goal by 2030. Development of Plan is ongoing.

GHG Status Graph

UConn Greenhouse Gas (GHG) Status FY22

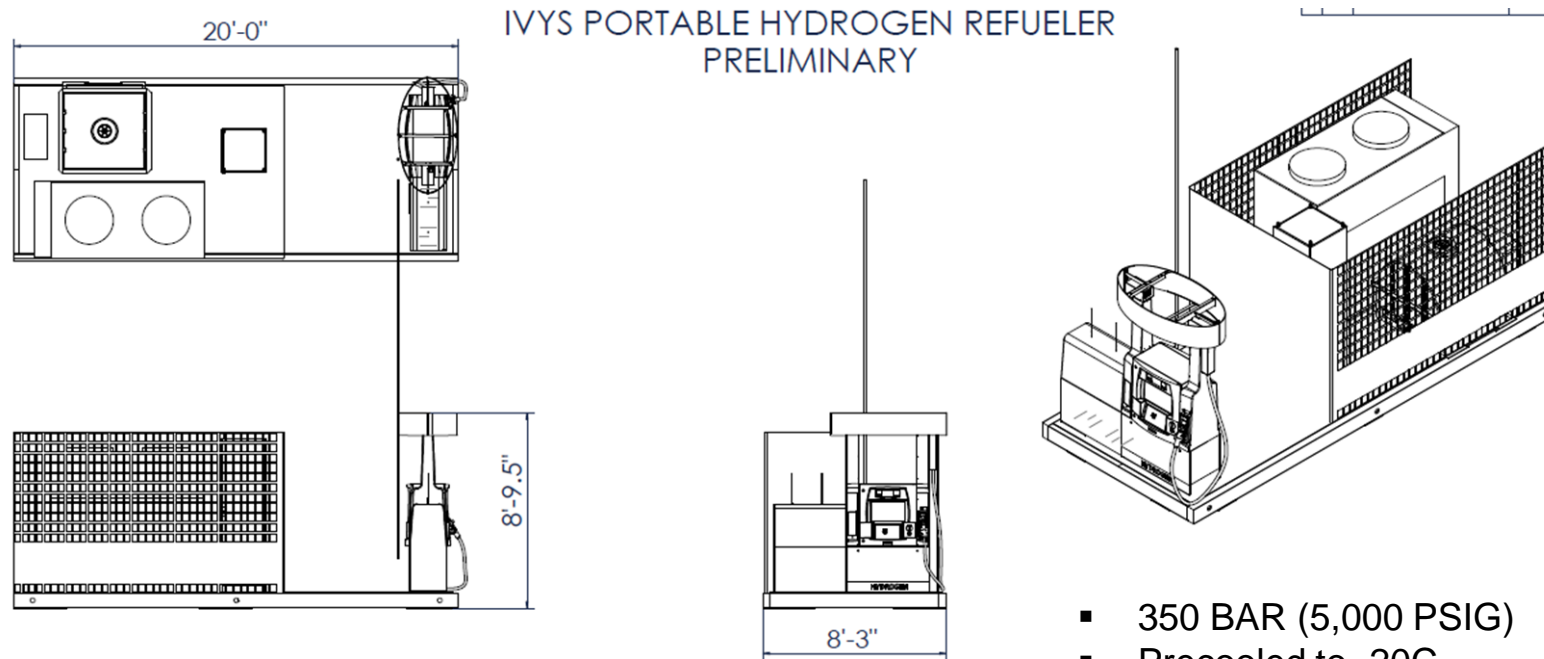


Completed 2001-2022	39,744
Energy Conservation Program	9,080
On-Site Solar Parking Lot Canopies	5,684
ESPC Phase 2	1,531
Fuel Cells	923
COGEN Thermal Production (Gas & Oil)	29,671
COGEN Electric Production (Gas & Oil)	28,746
OTHER Scope 1	16,870
Scope 2	9,918
Scope 3	10,545

Hydrogen Fuel Dispenser FO502031

Hydrogen Fuel Dispenser FO502031 and Fuel Cell Electric Vehicles (FCEVs)

- UConn Capital - \$2.5 Million
- Fleet of 12-24 FCEVs plus Fueling Capability



- Contract nearing finalization
- Compliance Testing
- Vehicle Manufacturer Acceptance
- Lead Time
- Purchase FCEVs

Hydrogen Fuel Dispenser FO502031



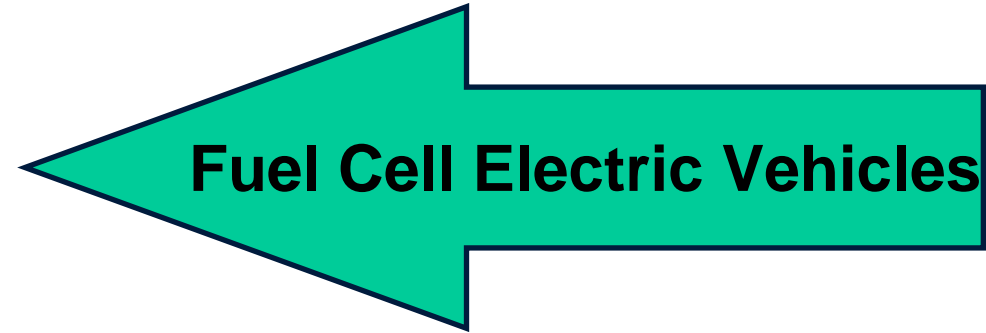
Option H2 Transport Module
450 BAR, 145 kg

Green Hydrogen from local source: ~100 kg/month

Proposals are being reviewed



Hydrogen Fuel Dispenser FO502031



Hyundai NEXO

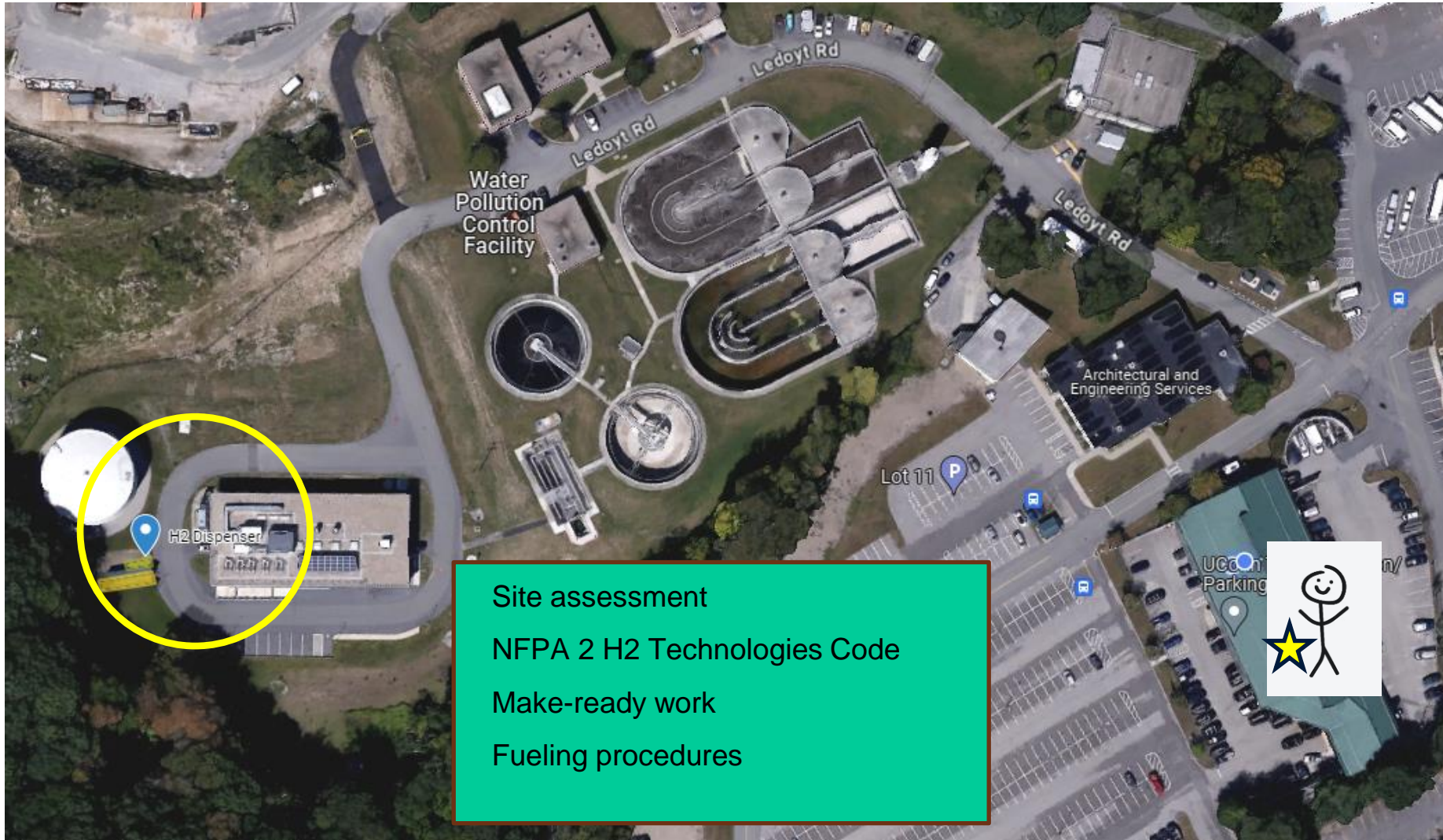
Toyota MIRAI



<https://www.hyundaiusa.com/us/en/vehicles/nexo>

<https://www.toyota.com/mirai/>

Hydrogen Fuel Dispenser FO502031



Electrical Vehicle Charging Infrastructure FO502039 UCONN

Electric Vehicle Charging Infrastructure FO502039

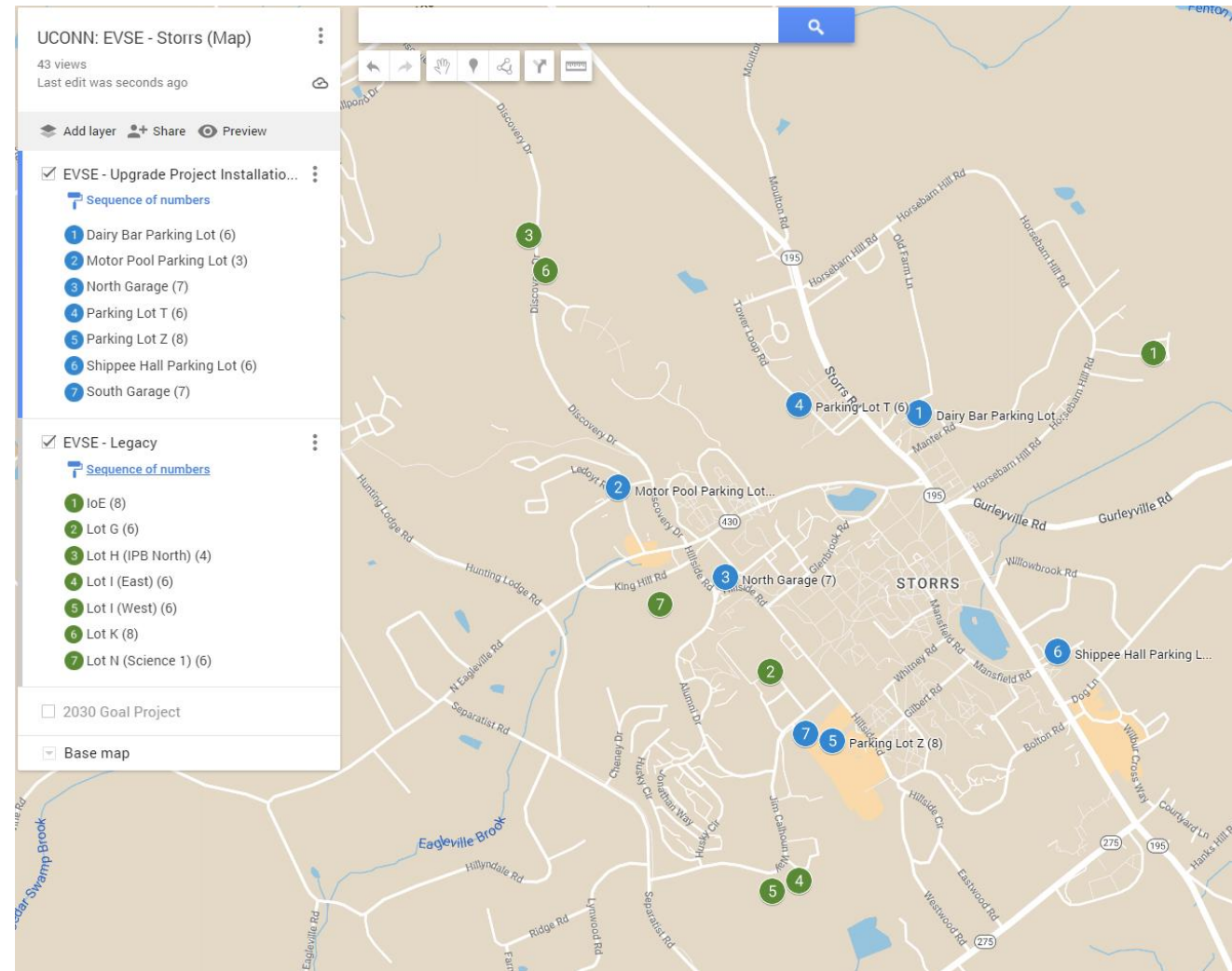
- UConn Capital - \$1 Million

2013 Multi-State Zero Emission Vehicle MOU EV registration target for 2030 is 500,000.

- If attained, ~18% of CT's registered vehicles will be PEVs
- NREL requires 3.6 ports/100 PEV
- We have met the 2030 requirements assuming 18% of the Storrs campus parking spaces will be occupied by PEVs on average in 2030

EV CHARGING UPGRADES

- 7 Location
- 18 Chargers (12 Dual / 6 Single)
- 30 Additional Level 2 Ports
- ChargePoint Network
- Legacy Charger Integrations
- Dashboard Reporting
- Turn-key Management
- Customer Service Enhancements



SCOPE 3 NEWS

CY2023 in Review

- Gasoline Fuel Consumption down by 40%
- Diesel Fuel Consumption down by 56%
- Rental Vehicle (miles traveled) down by 25%
- Air Travel up by 28%

Biweekly Meetings:

- Meeting #2 - 2/16, TBD
- Meeting #3 - 3/1, Guest Speaker Sean Bradshaw (Pratt & Whitney)
- Meeting #4 - 3/22, UPDC
- Meeting #5 - 4/5, TBD
- Meeting #6 - 4/19, Recap and Closing meeting

Events:

- Spring Fling – 4/17



Open Discussion

