


SOLAR





MAP


Marketplace
Assistance
Program

for State Government

- A blue circular icon with a white number 1 inside, representing the first step.

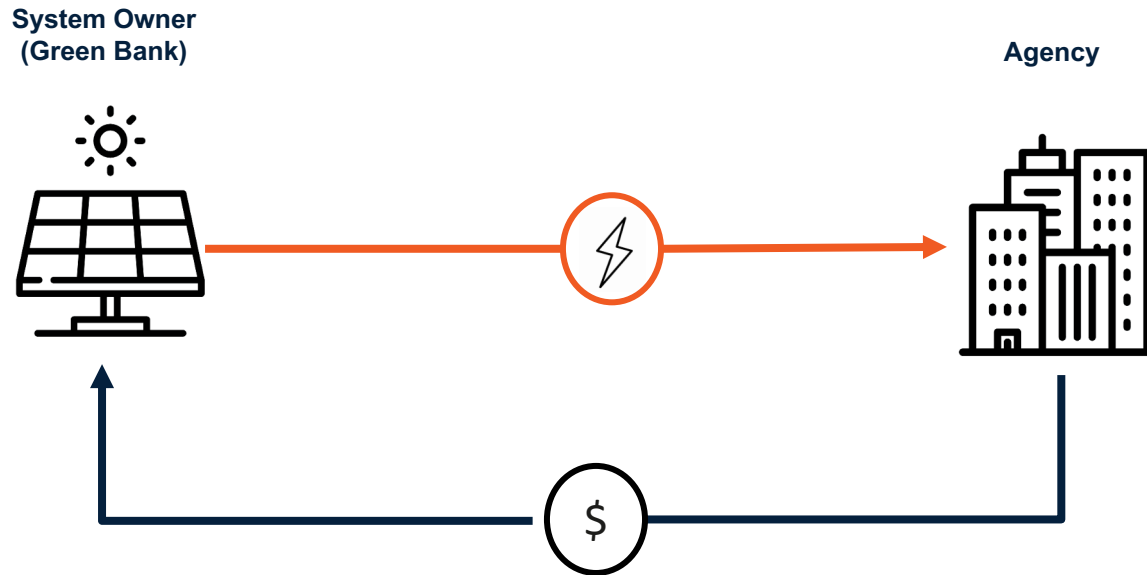
Engage. The SolarMAP team will meet with you to understand your goals, gather information and identify key participants, and explain the SolarMAP process in more detail.
- A blue circular icon with a white number 2 inside, representing the second step.

Design. Using the information you provide, the SolarMAP team will perform analysis of sites, review energy demand, and develop system designs.
- A blue circular icon with a white number 3 inside, representing the third step.

Review. Work with you to finalize the projects that meet your needs. Once finalized the SolarMAP team will solicit proposals from qualified solar contractors and select the best proposal.
- A blue circular icon with a white number 4 inside, representing the fourth step.

Execute. Once a proposal has been selected, the SolarMAP team will work with you to execute the PPA and begin construction of the solar project(s).

How a Power Purchase Agreement works:



What are the Benefits of a PPA?



No upfront costs

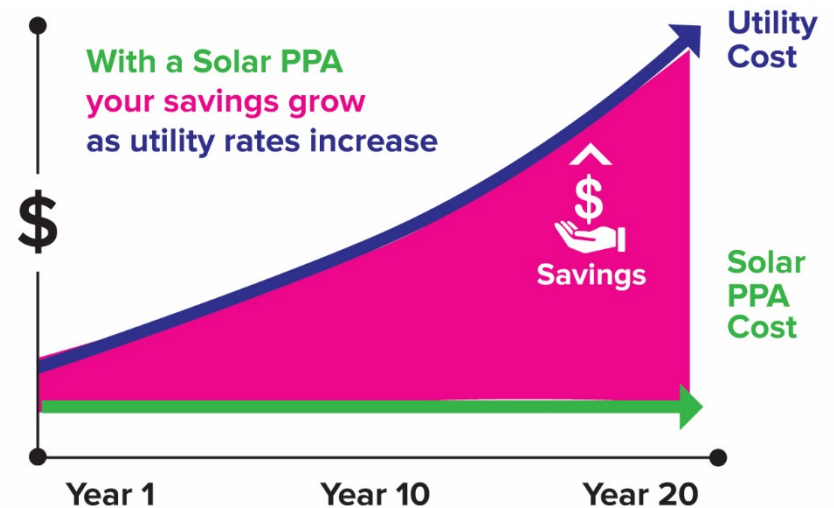
Lock in low electricity rate

Positive cash flow

No operations & maintenance costs

Preserve capital & credit lines

Managed by a third-party solar system owner

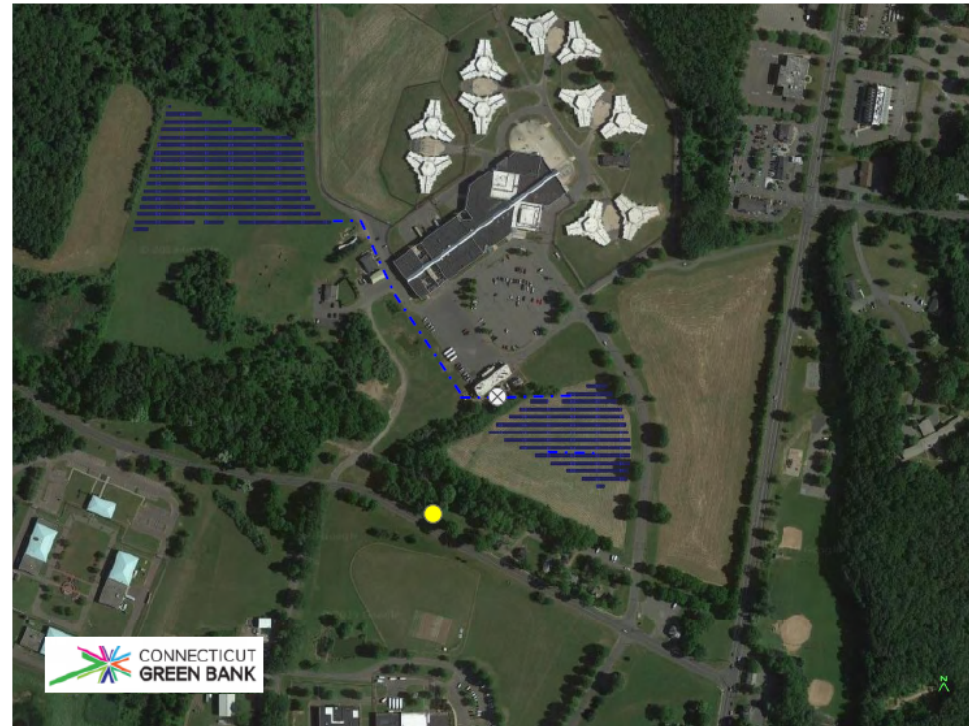


SolarMAP Round 1



Equal to over PPA term

- 39,100 cars off the road for one year
- Carbon sequestered by 239,875 acres of forest
- Electricity for one year for 31,100 homes



Nearly \$750,000 in annual savings

\$18.4m in savings over PPA term

Left – 165 Capitol Ave, Hartford

Top – Manson Youth Institution, Chesire

SolarMAP Round 1



Agency	Site Name	Property Address	Project Type	Project Size (kWdc)	Utility rate (\$/kWh)	NTE PPA Price (\$/kWh)	% reduction on utility rate	Average Annual PPA savings (\$)	25-year savings (\$)
DAS	State Office Building	165 Capitol Ave, Hartford, CT 06106	Roof	150	\$ 0.089	\$ 0.075	15.3%	\$6,134	\$153,353
DEEP	Kensington Hatchery	120 Old Hatchery Rd, Kensington, CT 06037	Ground	123	\$ 0.097	\$ 0.075	23.0%	\$7,561	\$189,031
DOC	Cybulski	264 Bilton Rd, Somers, CT 06071	Ground	870.48	\$ 0.101	\$ 0.075	25.4%	\$58,502	\$1,462,549
DOC	Robinson D	285 Shaker Rd, Enfield, CT 06082	Ground	514.8	\$ 0.115	\$ 0.075	34.8%	\$45,568	\$1,139,195
DOC	Enfield	289 Shaker Road, Enfield CT 06082	Ground	237.12	\$ 0.096	\$ 0.075	21.7%	\$13,987	\$349,665
DOC	Robinson C	285 Shaker Rd, Enfield, CT 06082	Ground	1132.56	\$ 0.101	\$ 0.075	25.4%	\$75,156	\$1,878,903
DOC	Manson Youth Institute	176 Jarvis St, Cheshire, CT 06410	Ground	2190.24	\$ 0.100	\$ 0.075	25.3%	\$145,009	\$3,625,228
DOC	Maloney and Webster (Cheshire Correctional)	Jarvis St, Cheshire, CT 06410	Ground	2433.6	\$ 0.100	\$ 0.075	25.3%	\$164,011	\$4,100,274
DOC	Osborn	100 Bilton Rd, Somers, CT 06071	Ground	2274.48	\$ 0.101	\$ 0.075	25.4%	\$147,418	\$3,685,451
DOC	Willard	391 Shaker Rd, Enfield, CT 06082	Ground	758.16	\$ 0.101	\$ 0.075	25.4%	\$50,408	\$1,260,202
DOC	Robinson B	289 Shaker Rd, Enfield, CT 06082	Ground	274.56	\$ 0.096	\$ 0.075	21.7%	\$16,087	\$402,182
DOC	Robinson A	289 Shaker Rd, Enfield, CT 06082	Ground	118.56	\$ 0.096	\$ 0.075	21.7%	\$6,934	\$173,355
							TOTAL	\$736,775	\$18,419,385

SolarMAP Round 2

Agency	Site Name	System Size kWd
CTECS	Eli Whitney Technical High School	748
CTECS	Emmett O'Brien Technical School	885
CTECS	Henry Abbott Technical High School	566
CTECS	H.H. Ellis Technical High School	898
CTECS	Howell Cheney Technical High School	700
CTECS	W.F. Kaynor Technical High School	373
CTECS	A.I. Prince Technical High School	637
DEEP	Quinebaug Fish Hatchery	398
DOT	DOT Hamden 1	1,726
DOT	DOT Hamden 2	638
DOT	DOT HQ	2,340



Top – DOT HQ, Newington

Left – DEEP Quinebaug Fish Hatchery



Questions?
Sites? Send addresses and electric bills to
mackey.dykes@ctgreenbank.com

STEERING COMMITTEE ON STATE SUSTAINABILITY

NOVEMBER 10, 2020



greenergovCT

A Lead by Example Initiative

DEDICATION TO LEE SAWYER



AGENDA



greenergovCT

A Lead by Example Initiative

Data Update (5 mins)

Recent Fleet and Solar Accomplishments (15 mins)

Water Actions to Take Today (10 mins)

Waste Actions to Take Today (10 mins)

Energy Actions to Take Today (10 mins)

What's Next (5 mins)

The background features a white canvas with several abstract, organic shapes. A large teal shape is in the top-left corner. A yellow shape is in the bottom-right corner. Scattered throughout are various light blue and light green shapes, some resembling water droplets or bubbles. The text 'DATA UPDATE' is centered in the middle of the page.

DATA UPDATE

WHERE WE STAND?

70% OF AGENCIES HAVE UPLOADED ALL FY19 DATA

30% OF AGENCIES HAVE UPLOADED ALL FY20 DATA

Deadline

By December 31, 2020, all agencies must upload all FY19 and FY20 utility bills (excluding Eversource, UI, SCG, CNG) to EnergyCAP

Your individual agency liaison can help determine what's missing.

FY19



**CT GENERAL ASSEMBLY
AGRICULTURE EXPERIMENT STATION
CONNECTICUT HOUSING FINANCE AUTHORITY
CT LOTTERY CORPORATION
CT STATE LIBRARY
DEPARTMENT OF AGING AND DISABILITY SERVICES
DEPARTMENT OF AGRICULTURE
DEPARTMENT OF CHILDREN AND FAMILIES
DEPARTMENT OF CORRECTION
DEPARTMENT OF DEVELOPMENTAL SERVICES
DEPARTMENT OF ECONOMIC & COMMUNITY DEVELOPMENT
DEPARTMENT OF LABOR
DEPARTMENT OF MOTOR VEHICLES
DEPARTMENT OF PUBLIC HEALTH
DEPARTMENT OF REVENUE SERVICES
DEPARTMENT OF TRANSPORTATION
DEPT OF EMERGENCY SERVICES & PUBLIC PROTECTION
DIVISION OF CRIMINAL JUSTICE
JUDICIAL DEPARTMENT
PUBLIC DEFENDER SERVICES
UCONN**

FY20



**AGRICULTURE EXPERIMENT STATION
DEPARTMENT OF AGING AND DISABILITY SERVICES
DEPARTMENT OF CORRECTION
DEPARTMENT OF DEVELOPMENTAL SERVICES
DEPARTMENT OF ECONOMIC & COMMUNITY DEVELOPMENT
DEPARTMENT OF LABOR
DEPARTMENT OF TRANSPORTATION
PUBLIC DEFENDER SERVICES
UCONN**

DEADLINE

By December 31, 2020, all agencies must upload all FY19 and FY20 utility bills (excluding Eversource, UI, SCG, CNG) to EnergyCAP

Your individual agency liaison can help determine what's missing.

WHY IS THE DATA IMPORTANT?

- Managing costs
- Benchmarking to prioritize investments - EPA Portfolio Manager, EPA Water Score
- Show impact of different interventions/activities
- Working directly with vendors
- Accurately and transparently share where we stand in achieving our state goals

SURVEY DUE 11/20

Thank you to those who have completed the data collection contacts survey!

Capital Resource Development Authority

CT State Colleges & Universities

Department Mental Health and Addiction Services

Department of Aging and Disability Services

Department of Consumer Protection

Department of Correction

Department of Transportation

State Department of Education

<https://www.surveymonkey.com/r/95KQG8C>

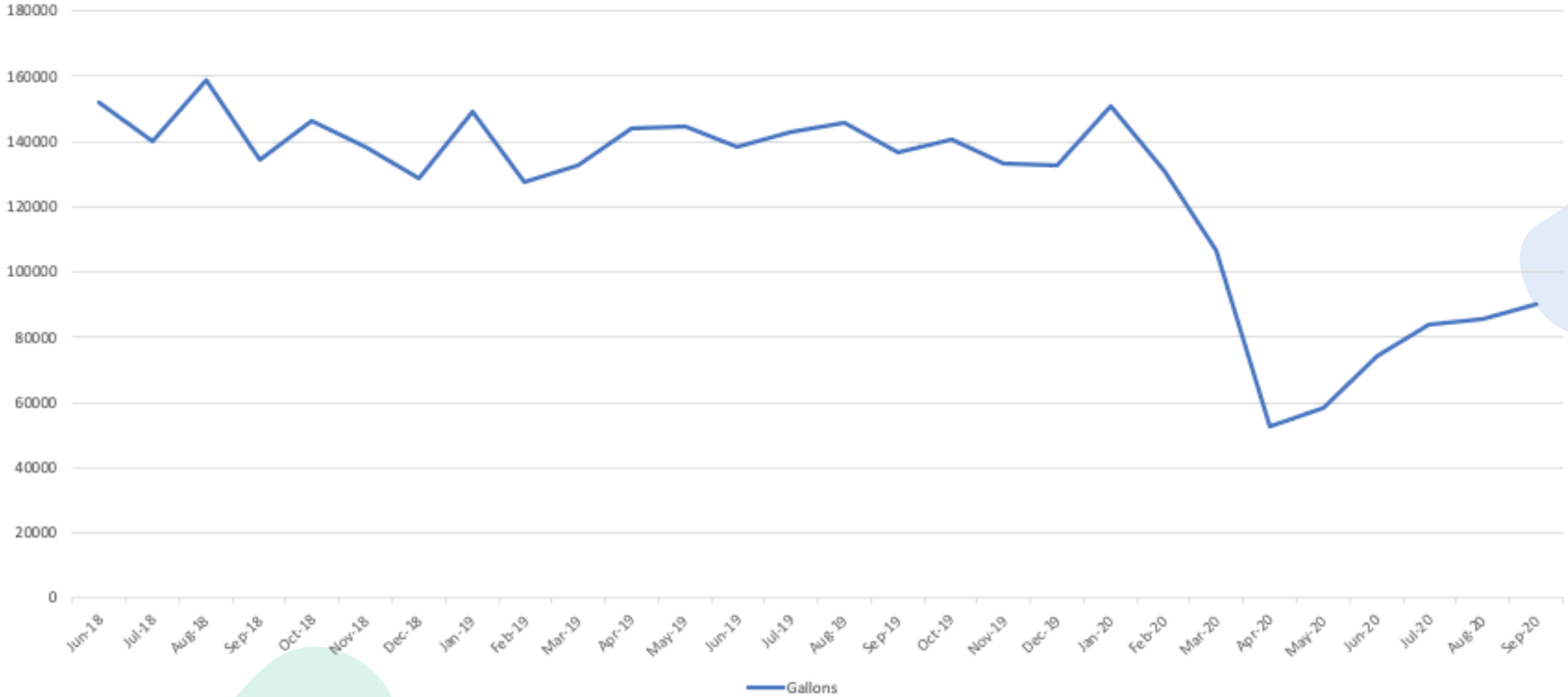


RECENT FLEET ACCOMPLISHMENTS

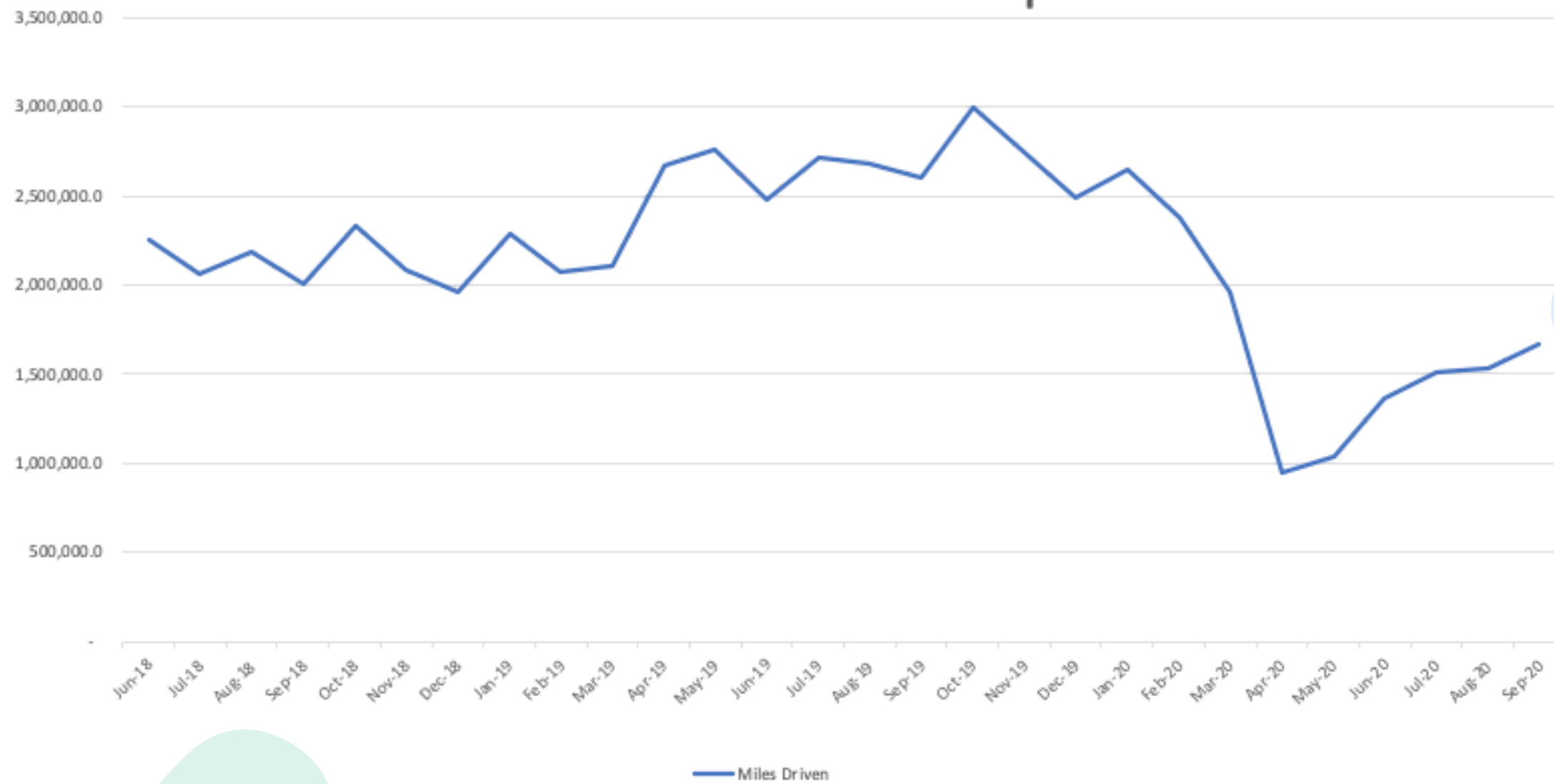
DAS - FLEET OPERATIONS UPDATE

- **Fleet Fuel Data** - Observed usage June 2018 - September 2020
- **Fleet Mileage Data** - Observed totals June 2018 - September 2020
- **Fleet Average Miles Per Gallon Data** - Observed through June 2018 - September 2020

Gallons Reported June 2018 – Sept 2020



Miles Driven June 2018 – Sept 2020



MPG June 2018 – Sept 2020



FLEET OPERATIONS DATA CHALLENGES

Fleet Fuel Data - comes from Fuel Master/DOT Fuel Control

- Does not capture fueling cards used by agencies for commercial stations
- Data must be scrubbed monthly
 - Receive 32,000 to 35,000 transactions - Everything NOT DOT
 - 14,000 to 16,000 are actual fleet transactions
 - Approximately 1000 of these need odometer corrections - User data entry/software conflict

Fleet Mileage Data - Fleetwave fleet management software

- Agency inputs monthly - user data entry
- Garage visits - user data entry
- Fuel transactions - see above

Additional Questions - Fundamental for transitioning to electric.

- Where are all fleet vehicles located?
- What is the trip cycle profile of each vehicle?

FLEET OPERATIONS DATA SOLUTIONS

Vehicle Allocations Report

- 9 months for 85.5% reconciliation (assignments and parking locations)
- 3110 of 3639 vehicles
- 94 agencies and departments
- Zip Code, Building, Street

Telematics Pilot Program - Pilot Completed

- 40 vehicle pilot with OCME, DAS Courier, DCF, CT Lottery, and Fleet Rental units.
- Approval from OPM/OLR to move forward - lowest fleet rate since at least 2013
- Benefits - Agency administrative workload, fuel costs/idling, roadside assistance, maintenance and repair, accident liability, driver safety and coaching, vehicle utilization
- Fine tuning the details with business office, and vendors. 2021 start installing units and 6-12 months for full implementation. Main goals - June 2022, January 2030.

FLEET OPERATIONS DATA SOLUTIONS

Major Telematics Benefit for Clean and Efficient Transportation Team Initiatives - EVSA

- Includes EVSA – Electric Vehicle Suitability Assessment. Intended to help fleet managers identify a variety of suitable Electric Vehicles (EV) to replace their current non-electric fleet vehicles. Takes out the guess work!
 - Supports passenger cars, crossover/SUV's, light-duty vans

EV SUITABILITY ASSESSMENT

- **Temperature Range for our area**
 - Factors impact of weather and heater/AC usage for EV range analysis
- **Telematics Data**
 - At least one month of data is needed, the more the better. Seasonal regions, like CT, should have longer assessments.
(Drive cycle, usage patterns)
- **Supports passenger cars, crossover/SUV's, light-duty vans**
 - Our current contract pricing and vehicle options can be added
 - Full electric, Plug-in, Hybrid
- **Cost estimates for both EV and non-EV**
 - Purchase price, maintenance, residual
 - Electric rates and fuel cost
- **Assessment Results recommendation summary**
 - Results for all assessed vehicles (BEV, PHEV, No EV fit)
 - Lifetime costs summary - replace with EV or non-EV (does NOT include infrastructure or back-end software) Additional summaries - Fuel and Electricity, CO2 emissions, range assurance



RECENT SOLAR ACCOMPLISHMENTS

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STATE DROUGHT UPDATE

Connecticut Drought Declarations

Updated October 5, 2020

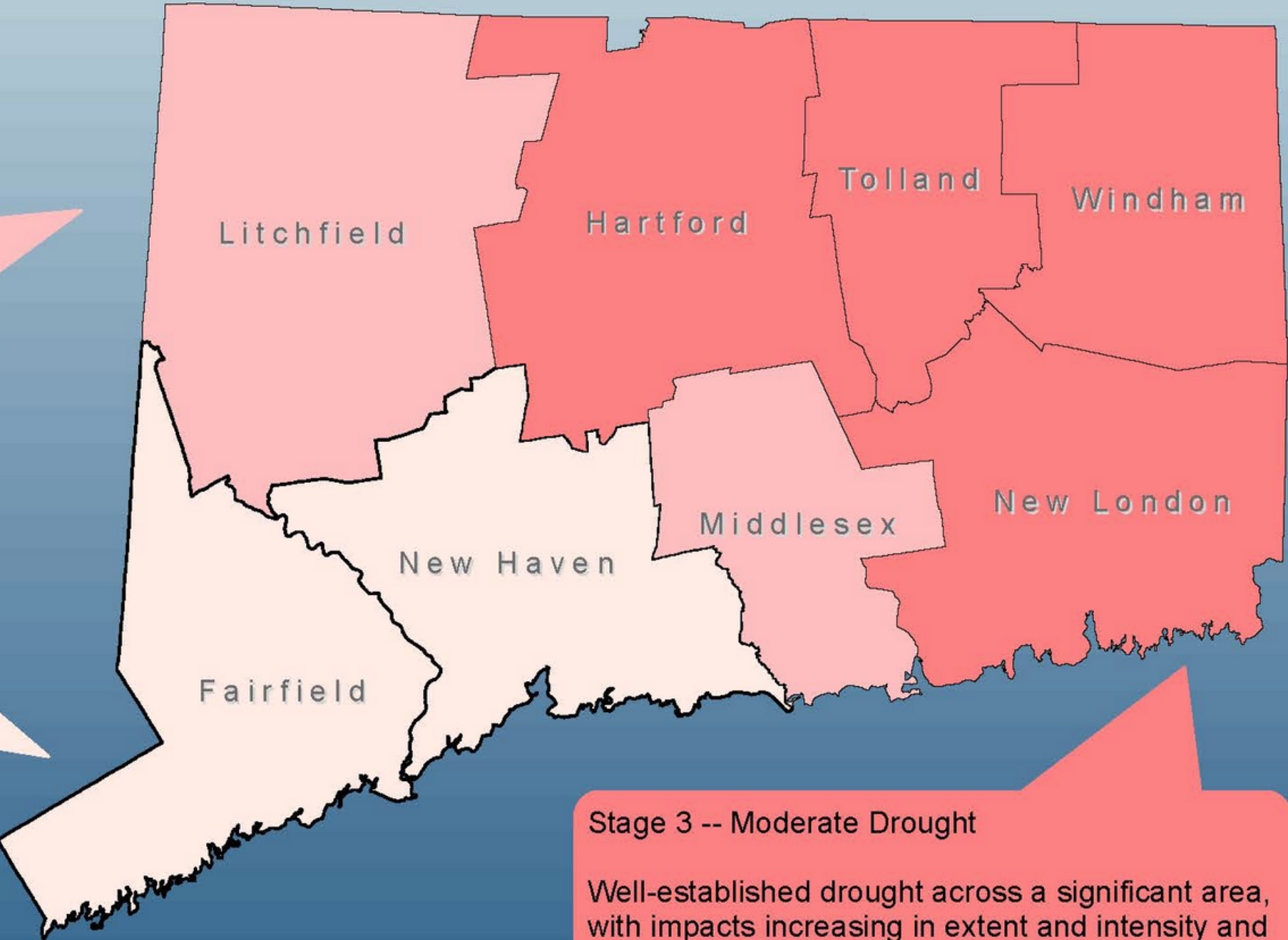
Stage 2 -- Incipient Drought
Emerging drought event, potentially impacting water supplies, agriculture, or natural ecosystems.

Stage 1 -- Below Normal Conditions
Early signals of abnormally dry conditions and the possibility of a developing drought.

Stage 3 -- Moderate Drought
Well-established drought across a significant area, with impacts increasing in extent and intensity and potentially including isolated severe impacts

Drought Stage

-  Stage 1 -- Below Normal Conditions
-  Stage 2 -- Incipient Drought
-  Stage 3 -- Moderate Drought



Assessment made by the Connecticut Interagency Drought Workgroup in accordance with the Connecticut Drought Preparedness and Response Plan

Further information available at www.ct.gov/waterstatus



**WATER ACTIONS
TO TAKE TODAY**

WATER AUDIT OPPORTUNITY

Goal of Water Audit: to determine current water usage and evaluate how to best achieve sustainability and conservation

Audit Overview

- Walks you through water usage/consumption and daily cost calculations
- Water fixture/faucet usage, water consumption, and daily costs
- Helps Calculate fixture replacement costs and return on investment time frames
- Identifies immediate efforts with minimal costs
- At the end of the Audit, facilities should be able to identify strategies to begin achieving sustainability and/or conservation.

SEEKING PILOT-TESTERS

The Sustainable Water Use Team requests several small facilities be identified for a pilot/test of the Audit.

Any volunteers?



**WASTE ACTIONS
TO TAKE TODAY**

TWO POTENTIAL WASTE-SAVING ACTIONS

1

Optimize Waste Hauling - Change to an on-call vs. weekly pickup

2

Composting - Reach out to Mary. Sotos@ct.gov to connect with the Sustainable Materials Management Group. This group will help plan for your office composting needs/opportunities in a higher office utilization scenario

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ENERGY ACTIONS TO TAKE TODAY

THREE ENERGY-SAVING ACTIONS

1

Examining usage in EnergyCAP reports - Change to an on-call vs. weekly pickup

2

Building Re-tuning Checklist - Have your facilities manager run optimize your building performance using our GreenerGov CT developed checklist.

3

SBEA Audit - Have your building assessed by participating in our state-run energy efficiency programs. The initial SBEA audit will identify a combination of deeper measures and faster payback measures. **Email Ryan.Ensling@ct.gov if you are interested!**



NEXT STEPS

2020 SPP REPORTING PREVIEW

- The Sustainability Performance Plan reporting process for FY2020 will begin in January 2021, after the December 31 deadline for uploading utility data to EnergyCAP.
- To ensure that the Reporting Team can include the most complete data for your agency in the SPP for FY19 and FY20, make sure to upload your data to EnergyCAP by December 31, 2020.
- More information on the SPP reporting process coming soon.
- If you have questions about the FY20 Sustainability Performance Plan, reach out to Pauline Zaldonis at pauline.zaldonis@ct.gov.



ENERGY AUDITS



**THANK
YOU!**