GC3 Mitigation Working Group: DAS Summary Activities



2022 DAS: GC3 Mitigation Working Group

- Adoption of 2022 Building Code
- Adoption of International Green Construction Code for State managed Construction
- Application of carbon reduction strategies at large urban project (Bullard Havens)
- Study decarbonization options for the Capitol Area System upgrades; including administration of Connecticut Environmental Policy Act
- Studying deployment of Electric Vehicle charging stations for DAS vehicles



2022 DAS: GC3 Mitigation Working Group

- Enforcement of Public Act 22-25 for carbon reductions and air quality
 - Retrofitting older buildings with state-of-the-art energy efficiency equipment - 16 statewide projects (GreenerGov) with 7 in dense urban areas
 - New Center & Memorial Unit Bridgeport
 - Capitol Region Mental Health Center Hartford
 - Roland Government Center Waterbury
 - · 3,700 metric tons Greenhouse Gas reduction
- Facilitate Power Purchase Agreements between
 Agencies and Solar Providers
 - Installation at the State Office Building





December 6, 2022

Summary of Energy Topics Covered

2022 GC3 Mitigation Strategies Working Group



Work on Buildings Decarbonization
 Federal Funding & Comment Opportunities
 The Comprehensive Energy Strategy



Buildings and Decarbonization

- High Performance Building Standards
 - Help to achieve goals related to GHG emissions reductions & energy cost and consumption reductions.
 - Minimum requirements established 2007
 - Apply to new construction and renovation of state facilities and public schools
 - PA 21-3 Direct DEEP to adopt up to date sustainable construction code (2021 IGCC) Goal to implement by June 2023.
- Greener Gov (Executive Order 1)
 - CT Executive Branch to commit to efficient use of energy, water, reduction in waste disposal and reduction of GHGs
 - 45% reduction in GHGs, and other targets
 - Power purchase agreement affiliated with 3 different rounds of solar projects
 - \$43.7 million for EO 1 Projects
 - Public facing dashboard
 - Plans to do more comprehensive decarbonization planning
- Connecticut Clean Economy Council
 - Will identify opportunities to leverage State and Federal funding to scale economic opportunities associated with clean energy, climate, sustainability, investments, and concurrently to maximize local economic development benefits from investments that are needed to meet climate and sustainability goals
 - The Council will form working groups that address workforce development within specific sectors of clean energy and sustainability. Working groups are still being formed and will probably meet monthly.
 - Report from the Council should be coming out shortly



Federal Feedback Opportunities

Inflation Reduction Act (IRA) & Infrastructure Investment and Jobs Act (IIJA)

- Described how climate and energy funds are expected to flow through federal agencies
- Highlighted current opportunities to provide feedback to federal agencies (e.g., the Greenhouse Gas Reduction Fund through the Environmental Protection Agency (EPA))
- Provided links to critical federal websites where folks can track comment and funding opportunities



Comprehensive Energy Strategy (CES)

DEEP's Approach & Timeline

- Described the objectives and requirements of the Comprehensive Energy Strategy
- Highlighted DEEP's approach to the 2022 CES
 - Lenses
 - Strategies
 - Key Factors
- Highlighted the current development timeline & process
 - Provided updates at the start of each meeting regarding opportunities for public comment and/or upcoming technical sessions

Discussion on Stakeholder Engagement

• Described ideas for making the CES development process more accessible and equitable



Tentative CES Development Timeline

- Sept-Dec 2022 Technical Sessions
 - Dec 8th: Session 7
 - Dec 15th: Session 8
- November 2022 January 2023 Drafting & Public Comment Periods for at least 3 White Papers
 - White papers to be based on topics covered in technical sessions
- Q1 & Q2 of 2023 CES Drafting, Public Comment Opportunities, & Listening Sessions

Technical Session Topics

- 1. Hard-to-Decarbonize End Uses
- 2. Heat Pump Market Barriers & Strategies
- 3. Building Thermal Decarbonization Support Strategies
- 4. Building Thermal Decarbonization Economic Potential & Technology Targets [written comment opportunity only – no live technical session]
- 5. Electric Demand Response
- 6. Alternative Fuels
- 7. Methane/Natural Gas Planning & Policies
- 8. Market-Based Decarbonization Programs & Low-Carbon Incentives

CES Webpage:

https://portal.ct.gov/DEEP/Energy/Comprehensive-Energy-Plan/Comprehensive-Energy-Strategy



CTDOT Summary: GC3 Mitigation Working Group

Emily Pysh Transportation Supervising Planner Sustainability & Resiliency Unit Connecticut Department of Transportation <u>Emily.Pysh@ct.gov</u>



CTDOT Current & Future Goals

- Accomplish Actions That Reduce Carbon Emissions and Adapt to the Climate Crisis through E.O. 21-3
 - Installation of EVSE & Fleet Electrification
 - Battery Electric Bus (BEB) Fleet Conversion and Supporting Infrastructure
 - Solar Analysis & Implementation





CTDOT Headquarters Project

Energized March 8th 2022

- Motor pool (Location 1)
- Executive Garage (Location 2)
- ADA Employee/Visitor Parking (Location 3)
- Employee/Visitor (Location 3A)
- Employee/Visitor Charging (Location 4)





Cttransit Battery Electric Bus (BEB) Projects

- ▶ 11 BEB currently in Fleet
 - Hamden Garage
- Stamford & Hartford Bus Depot currently in construction phase
- 12 Transit districts currently in power/feasibility study phase
 - Design will begin upon completion
 - Construction estimated to begin 2024-2029



CTDOT Facilities

Train Stations

- Level 2 chargers along Metro-North, Shoreline East & Hartford Line
- Service Plazas
 - Tesla & Universal Fast Charging along I-95 & CT-15
- District Headquarters & Maintenance Facilities
 - Several projects in design/construction phase for visitor/employee/fleet charging





Future CTDOT EVSE Projects

Highway Operation Facilities

- Level 2 Charging for Employee/Visitor/Fleet
- DCFC for MHD Fleet
- Maintenance & Repair Garages, Bridge Facilities
 - Milford, Old Saybrook, Rocky Hill, Colchester, Darien, Trumbull, Willington, Winsted
- CT Transit Facilities
 - ▶ Hartford, Hamden, Waterbury, Stamford





Funding Climate Mitigation with the Bipartisan Infrastructure Law

Carbon Reduction Program - Formula funding from FHWA to reduce transportation emissions

\$79 million in formula funding for Connecticut over 5 years

- Development of a Carbon Reduction Strategy
 - In consultation with MPOs
 - Update every 4 years
- Projects may include
 - Intelligent Transportation Systems
 - Replacement of lighting and traffic control devices
 w/ energy-efficient alternatives
 - Roundabouts
 - Project to support deployment of alt.fuel vehicles

National Electric Vehicle Infrastructure (NEVI) - Formula funding from FHWA to build reliable network of fast chargers

\$52 million in formula funding for Connecticut over 5 years

- NEVI Plan approved in September 2022
 - High-Level Plan for Phase 1
- Phase 1
 - DCFCs on Alternative Fuel Corridors
 - 1-mile drivable distance from exit ramp
 - Publicly accessible
 - 50-mile maximum gap between chargers
- Next Steps
 - DOT preparing rules and procedures for applicants to apply for funding to own/operate charging stations



GC3 – Ag & Forestry Working Group Report

Climate Smart Agriculture & Forestry Grant Update December 6, 2022



GC3 Ag & Forestry Working Group

- 3 public meetings
 - Sept. 1 Farmland Restoration Grant & CSAF Grant concept
 - Sept. 29 Climate Smart Forestry Practices & Considerations
 - Oct 28th Review CSAF Grant & Inflation Reduction Act Forestry opportunities



Farmland Restoration and Climate Resiliency Plan (PA 22-118 Sec 145. Sect 22-6c(b) and 22-6d)

Farm Considerations

- Lesser of \$20,000 or 50% of the project cost share for private land
 - Up to 90% for state/municipal lands
- Priority award consideration
- 50% cost advance to develop, implement, and comply with a plan
- Includes purchases of farm equipment
- New considerations
 - Urban farms and woodlots
 - Soil Health Improvements
 - Improvement of water sources



Farmland Restoration and Climate Resiliency Plan

Grant Program

- Application Period Oct 14 through Dec 9
- Webinar Nov 8 at 10:00 am
 - <u>Farmland Restoration Grant</u> to register
 - Farmland Restoration Guidance
- Questions directed to Lance Shannon, <u>Lance.Shannon@ct.gov</u> or Simon Levesque, <u>Simon.Levesque@ct.gov</u>



Farmland Restoration and Climate Resiliency Plan (PA 22-118 Sec 145. Sect 22-6c)

Grants can be for the following:

- 1) Provide technical assistance,
- 2) distribute grant funding to producers,
- 3) coordinate training programs,
- 4) coordinate projects that pilot or demonstrate conservation practices,
- 5) create tools that help reduce barriers to accessing assistance for conservation practices on farms,
- 6) establish equipment-sharing programs, or
 7) other activities that will increase the number of farmers who are implementing climate-smart agriculture and forestry practices



GC3 Ag & Forestry Working Group

Climate Smart Ag & Forestry – Update

Direct Outreach American Farmland Trust Working Lands Alliance CT Land Conservation Council CT Farm Bureau Association UConn CAHNR

CT GreenBank CGGA CT RC&D Legislative Outreach



Open Comment Period - Sept. 30 – Oct 14

Webinar

Climate Smart Ag & Forestry – Update

Revisions

- Include New/Beginning/Underserved as a priority
- Expand practices beyond NRCS practices
- Additional award categories
 - \$100,000 \$250,000, 18 month timeline
 - \$250,000 \$499,999, 2 years
 - \$500,000 \$999,999, 2-3 years
 - \$1,000,000+, 3-5 years



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Climate Smart Ag & Forestry – Update

Timeline

- Application open: November 15, 2022
- Webinar: December 14, 2022 at 10:00am
- Application deadline: January 15, 2023
- Awards Announced: February 10, 2023
- Contracts will start May 1, 2023



**Awardees will receive an advance upon contract execution

Questions, Comments, Feedback





CONNECTICUT DEPARTMENT OF PUBLIC HEALTH



GC3 Governor's Council on Climate Change Public Health & Safety Working Group December 6, 2022



Lori Mathieu, Public Health Branch Chief, Environmental Health & Drinking Water Branch

Agenda



- Review Public Health & Safety Working Group focus and meeting highlights
- Provide update on Equity and Environmental Justice (EEJ) Working Group Meeting
- Provide update on food security
- Discuss Public Health & Safety Working Group next steps



PH&S Working Group Membership

Co-Chairs		
Name	Affiliation	
Deputy Commissioner Heather Aaron	Department of Public Health (DPH)	
Deputy Commissioner Brenda Bergeron	Division of Emergency Management and Homeland Security (DEMHS)	



Name	Affiliation
Kendal Bobula	DEMHS
Laura Bozzi	Yale Center on Climate Change and Health
Richard Branigan	Red Cross
Mindy Chambrelli	Darien Health Department
Cynthia Costa	CT Dept. of Public Health Food Protection Program
Michele Deluca	Norwalk- office of emergency management
	City of Milford Board of Education Member/Quinnipiac
Meghan Doyle	University Sustainability Fellow Yr 2022-2023
Mariana Fragomeni	University of Connecticut
Betsy Gara	CT Council of Small Towns (COST)
Christine Hahn	Department of Public Health
Anne Hulick	Clean Water Action
Alana Kroeber	United Way 211
Ariel Lago	Town of Colchester
Diane Lauricella	Norwalk Zero Waste Coalition
Sarah Lowe	Yale School of Public Health
Diane Mas	Fuss & O'Neill, Inc.
Huan Ngo	New Haven Public School
Jennifer O'Brien	Community Foundation of ECT
Martha Page	Self-Employed Consultant
Michael Pascucilla	East Shore District Health Department
Dave Reyes	DPH Office of Health Equity
Anna Shugrue	NECCOG
Chris Silver	DPH Office of Health Equity
Bridget Teevan	DPH Office of Health Equity
Steven Wallett	CT DPH Drinking Water Section
	CT Commission on Women, Children, Seniors, Equity &
Steven Hernandez (EEJ Liason)	Opportunity
Aicha Woods (EEJ Liason)	New Haven resident
Kimberly Zigich	DEMHS

Fall 2022 PH&S Meeting Highlights

- The Public Health and Safety Working Group met three times during Fall 2022
- Two areas of interest emerged: food security and mental health
- Formed PH&S Food Security Subcommittee; met once in October to initiate focus on Connecticut food system action planning and climate change
- Met with EEJ Working Group to share updates and to received feedback on ways to ensure inclusion of the four concepts of equity: distributive, procedural, contextual, corrective

PH&S Meeting Schedule		
Date	Committee	
September 19	PH&S	
October 3	PH&S	
October 24	Food Security	
October 31	PH&S	
November 15	EEJ	



How does equity relate to climate change? (cont.)

Component	Description
Distributive Equity (or Equitable Outcomes)	Equitable mitigation and adaptation strategies places the most vulnerable communities at the forefront. Such strategies would provide our most vulnerable communities with work opportunities and quality-of-life benefits.
Procedural Equity (or Equitable Planning)	Equitable mitigation and adaptation strategies must be planned in partnership with low-income communities and communities of color.
Contextual Equity	Equitable mitigation and adaptation strategies take into account that low-income communities and communities of color are often more vulnerable to climate change, and the development of mitigation and adaptation strategies must take into account the special mapping of these vulnerabilities.
Corrective Equity	Equitable mitigation and adaptation strategies would provide communities with clear processes to hold the state accountable to its commitments to pursue equity.



Feedback from EEJ Team

- Importance of collaboration with EJ community members and working in high need areas
 - Consider "citizen science" and map preparation with community members for engagement and empowerment
- Participants pleased that nontraditional health topics are being explored
- Awaiting public comments from EEJ members – DEEP providing by 12/9







Public Health & Safety Working Group Focus

- PH&S working group is guided by the *Report to the Connecticut Governor's Council on Climate Change: Public Health and Safety Working Group*, November 2020.¹
- PH&S working group works to implement the public health & safety action items in Governor Lamont's GC3 Report: *Taking Action on Climate Change and Building a More Resilient Connecticut for All*, January 2021.²
- **Overarching goal:** develop a coordinated and collaborative framework for public health and safety priorities; forging partnerships with stakeholders:



Collaboration with State and Local Organizations

Proactive approach to adaptation

(Early warning system)

Ozone and allergen monitoring impacts

(EPA air monitoring grant)



Food Security and Climate

- The PH&S Working Group is guided by the measures developed within the report that the working group developed in November 2020, *Report to the Connecticut Governor's Council on Climate Change: Public Health and Safety Working Group*
- Food Security Recommendations in the Report:
 - Recommendation PHS-31: Develop state and regional food security action plans to mitigate the risk of climate change and extreme weather events on the food system
 - 1. Set minimum targets for production and distribution by food category and location that can be coordinated with other New England states
 - 2. Work with other New England states to develop and implement policies, procedures, and plans to ensure that the regional food supply is sufficient to weather global and national food supply chain disruption caused by climate change and pandemics



Food Security and the GC3 Phase 1 Report

How is food referenced in the GC3 Phase 1 report?

• **Progress and Mitigation Strategies:** Measure 15. Promote responsible and just materials management. Consider implementing the recommendations of the Connecticut Coalition for Sustainable Materials Management (CCSMM)vii to address both the climate impacts of waste generation and environmental justice concerns. A strategy to address these issues could include the following: g. Develop and implement food rescue and recovery programs. (pg. 37)

• <u>Working and Natural Lands</u>: Measure 45. Build a sustainable and equitable food system through support for urban agriculture and strengthening state grant programs. (pg. 46)

• **Public Health & Safety:** Measure 51. Develop a coordination framework for public health and safety priorities with a focus on the intersection of health equity and climate impacts, including addressing heat- related exposure, response and illnesses; ozone and allergen monitoring and impacts; food security; and needs of mental health populations in disaster response. (pg. 47)



• Other food themes: equity, prioritizing community lifelines, food as a basic necessity

Food Security & Climate Goals

- The PH&S Working Group discussed three guiding principles pertaining to food security in Connecticut, Fall 2022:
- Ensure access to healthy foods
 - Changes in weather patterns can lead to severe events, such as flooding, drought conditions, and an increase in ambient air temperature and humidity;
 - Keeping the food we eat safe and accessible can becomes more difficult with these added factors.
- Strengthen food supply and distribution
 - Extreme weather events can disrupt food distribution infrastructure, damage food supplies, and limit access to safe and healthy foods.
- Lack of food security can exacerbate issues with mental health



PH&S Food Security Subcommittee

Initial Meeting (October 24):

- Discussed food security work already in progress in Connecticut and around the region
- Discussed importance of urban farming, local food and agriculture
- Developed mission statement with subcommittee members



PH&S Future Work Next Steps

- Develop a timeline and detailed work plan
- Convening key leaders to help guide decision making and early collaboration
- Reviewing contents of other state food plans and creating compendium of results

• Massachusetts, New Jersey, Vermont have significant inclusion of climate in their food plans



RESILIENT INFRASTRUCTURE & NATURE-BASED SOLUTIONS GC3 WORKING GROUP REVIEW



ESF-6 Mass Care Working Group

- The Mass Care Working Group is charged with providing recommendations to the DEMHS Advisory Council on regional and statewide solutions to high priority issues critical to assuring adequate shelter, nourishment and care throughout Connecticut during emergency events that exceed local capacity.
- Includes members from state and federal agencies, non-profit partners, the state's universities/colleges and education system, and at times the private sector.
- Initiatives include Sheltering, Mass Feeding, Reunification Services, and Co-location of persons, including those with functional needs, service animals and family pets
- New initiatives: Mental Health & Climate Change—checklist/annex to address mental health issues related to emergencies—Red Cross and CT DMHAS and other Subject Matter Experts
- Next meeting: December 6, 2022

Introductory Remarks – Matt Fulda, Co-Chair

Living Shorelines – Matt Fulda, Co-Chair

Nature-Based Solutions and Stormwater Utilities – Kevin Grigg, Co-Chair

- Case Studies
 - New Haven Emily Pysh, Co-Chair
 - Meriden George Bradner, Co-Chair

With the charge of monitoring and reporting on implementation, our meetings focused on education:

DEEP Climate Resilience Fund

- Federal resilience grant programs and opportunities
- Nature-based solutions: benefits, designs, research, and implementation opportunities and successes

Case studies of nature-based resilience in environmental justice communities



BENEFITS OF LIVING SHORELINES

- Natural flood mitigation Living shorelines reduce coastal erosion and attenuate wave action that can increase coastal flooding
- Many low-laying EEJ communities are constantly threatened by coastal flooding from tidal and storm events.
- Well designed living shorelines can provide increase resilience and long term mitigation of certain flooding events.

Living Shorelines create a natural coastal interface as opposed to engineered mitigation efforts which create hardscapes and separate people from the coast.

Habitat Creation: Living shorelines can increase the suitable habitat for many marine species, increasing the diversity and abundance of marine life along the coast.

Sediment Deposition: Through reduced wave action, sediment is able to settle throughout a living shoreline which can be used to trap potential environmental contamination.

BENEFITS OF STORMWATER MITIGATION

- Improved water quality in local water resources rivers, lakes, estuaries
- Reduced drainage related flooding which often disproportionately impacts older urban areas with outdated drainage infrastructure
- Opportunity to create resilience to future precipitation conditions
- Stormwater management mitigation can improve water quality and address drainage-related flooding issues which are often disproportionately found in historically disadvantaged communities

BENEFITS OF STORMWATER GREEN INFRASTRUCTURE

Green infrastructure mimics the processes on natural systems. It can address water quality and drainage-related flooding, and provide community co-benefits including community spaces, health benefits, and urban heat relief

- Community benefits associated with use of green stormwater infrastructure (GSI):
 - Streetscape improvements/aesthetic benefits
 - Created or enhanced public green space for parks and passive recreation
- Health benefits can include improved air quality and increased access to green space and parks
- Heat resilience/cooling benefits from increased tree canopy and vegetation
- Potential unintended consequences and concerns with the siting of GSI in EJ communities (gentrification, displacement, inequitable distribution of GSI, etc.)

BENEFITS OF STORMWATER UTILITIES

 Stormwater Utilities – mechanism for equitably distributing the cost of compliance and watershed protection

- Different rate structures provide different levels of equity*
- Most equitable Fees corresponding to runoff generation
- Improvement projects can be targeted to need
- Stormwater utilities provide a mechanism for equitably distributing the cost of compliance and watershed protection by balancing fees with potential impact and allowing for wholistic consideration of locations for stormwater improvements

*Equity Comparison: Stormwater Utility Guidance, Pros and Cons of Rate Structures, New Jersey Department of Environmental Protection, accessed December 14, 2021, <u>NJDEP | Stormwater Utility Guidance |</u> <u>Developing Stormwater Fees & Credits</u>



RESILIENCE IMPLEMENTATION IN CONNECTICUT





CASE STUDY: NEW HAVEN

Challenges

- Increased sea level
- Increased rainfall frequency/ intensity
- Increased major combined storm events

Building a Resiliency Pipeline

- Studies followed by funding
- Citywide bioswale installations
- ACOE Flood/ surge control, pump station, & permanent flood protection
- FEMA 10ft diameter pipe and outfall structure Living shoreline/habitat restoration

Lessons Learned

- Partner early
- Phasing projects
- Application development expertise



CASE STUDY: MERIDEN

- Meriden flood prone areas are the most distressed areas of the city.
- Low income, mainly rental properties. Property owners don't want to put investment in these properties.
- The floodplain encompasses about 230 properties. At completion this project will reduce to less than 80 properties
- Reducing the Harbor Brook 100 year floodplain by approximately 75% at the completion of the project
- Creating new habitats, biodiversity and recreational use for the community.
- Increased economic opportunity in the area once completed.

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