"We organize our community to advocate for racial equity, social and environmental justice in our schools and community…"

Brass City Hyper-Local Air Quality Monitoring

Community led and operated data collection and neighborhood reporting.

3/1/2026

RACCE
Radical Advocates for Cross-Cultural Education

CIRCA
Connecticut Institute for Resilience and Climate Adaptation

UCONN
UNIVERSITY OF CONNECTICUT

CONNECTICUT ENERGY & ENVIRONMENT

Sponsored by a Climate & Equity grant from the Connecticut Institute for Resilience and Climate Adaptation (CIRCA). CIRCA is a partnership between the University of Connecticut and the State of Connecticut Department of Energy and Environmental Protection. More information can be found at: www.circa.uconn.edu

Final Grantee Report Template

CIRCA Climate & Equity Program – 2025 Projects

Summary:

RACCE Inc conducted a hyper-local ambient and indoor air quality monitoring, reporting, community engagement and advocacy project. RACCE staff and volunteer members of our organization established student and youth mobile and stationary air quality monitoring teams in three Waterbury neighborhoods. We established monitoring locations based on previous mobile monitoring activities at Hopeville Elementary @ Washington Elementary Schools (South End), Waterbury's Downtown Green, and the Reed K-8 and Walsh Elementary Schools (North End). Our team collected and shared air quality data via door-to-door canvassing, community forums at churches and non-profit service providers, and held data and advocacy walks to determine community action plans to address poor air quality.

Grant Project Activities:

What activities did your organization complete using Climate & Equity funds?

- We established in-home and yard based stationery IQ Air devices and trained as well as supported mobile air monitoring teams in all three neighborhoods.
- RACCE staff and volunteers aggregated collected data and delivered via door-to-door canvassing and every door direct mailings air quality data reports to homes and businesses in the selected neighborhoods.
- Conducted (3) community forums to recruit participants and provided an educational series on air quality and its connection to public as well as individual health.
- Conducted (3) data and advocacy walks where residents and team members were introduced to participatory action research, advocacy 101 training, and went through coordinated exercises to build neighborhood awareness and advocacy positions on how our city should address volatile air quality in and around parks, schools, and transit hubs.
- Conducted recruitment and outreach activities at (2) Waterbury UCONN and (2)Naugatuck Valley C.C.

Grant Project Outcomes:

What outcomes resulted from the grant project activities?

Our project was able to introduce and train (4) youth community leaders, (4) households, and (1) local non-profit organizations how to use air quality monitoring devices (Atmos and IQ Air) in January and February of 2025. These community members were important stakeholders throughout the entirety of the project as they became local experts on the air they breathe as well as becoming community ambassadors sharing hyper-local air quality data to family, friends and neighbors. RACCE members and volunteers increased their knowledge of air quality and which airborne particulate matter (PM 2.5) impacts their health, environment, and educational success.

These stakeholders were able to create and promote city-based advocacy positions:

1. Each locally elected board should have a sub-committee that is tasked with addressing air quality and other environmental conditions that directly impact public health
2. Waterbury Public School should establish, in every school building, an air quality monitoring system that reports live data to school officials, parents, and students/
3. The City of Waterbury should establish a green workforce development taskforce so that economic development doesn't come at the expense of public health

Community Engagement:

RACCE had previously identified three specific neighborhoods with a history of volatile air quality as well as high density of school aged children living there. RACCE was successful at recruiting participants through targeted canvassing, air quality report sharing, and community forums at key sites in those neighborhoods. It should be noted that we reached over 2000 households and engaged directly with 80 plus residents at our (6) community-based events.

Our outreach efforts were fortified with engagement strategies that were designed to be informational as well as leadership development programming for residents aged 16 and up. We also used local and state public health data on asthma rates and treatment levels to cross-reference resident experiences with poor air quality.

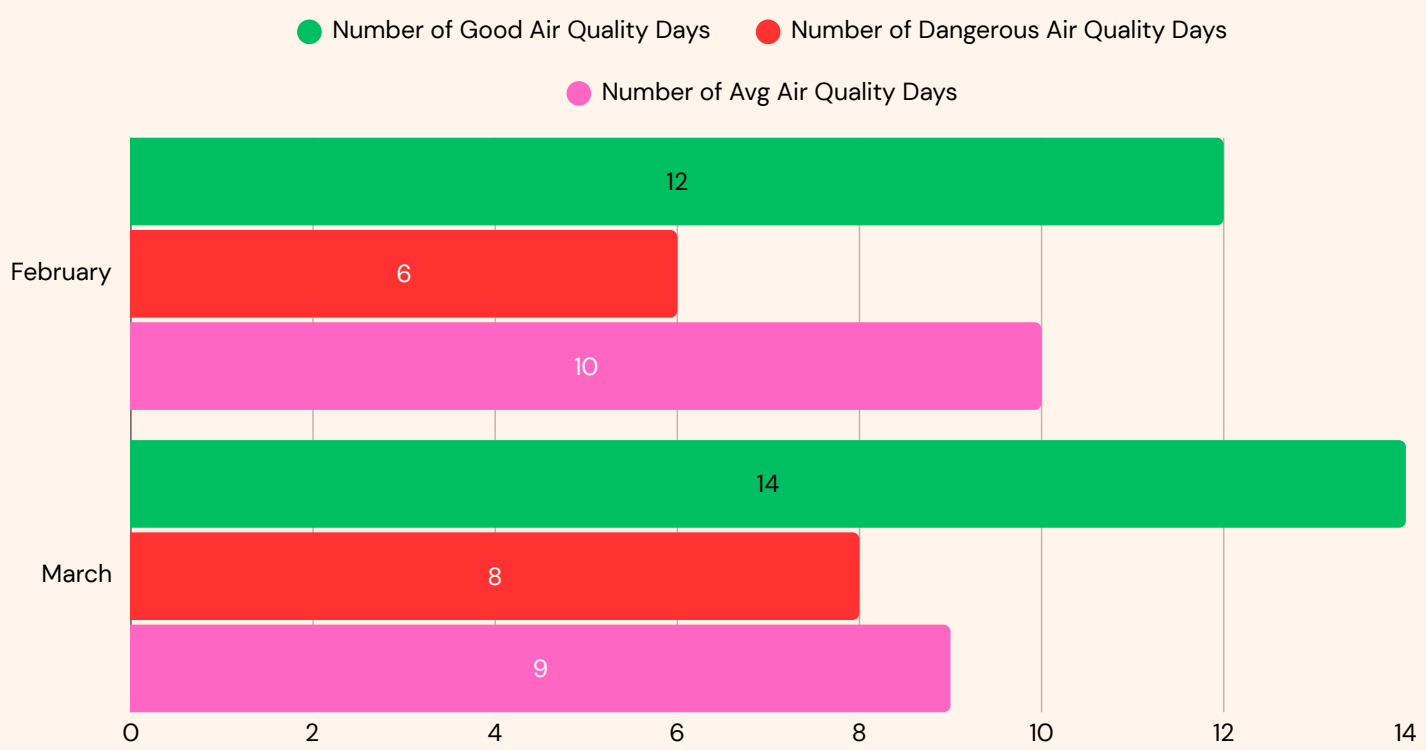
Capacity-Building Progress:

A vast majority of households and community members were unaware of the volatility of air quality before this project started. Ever fewer were aware of the accessibility of low-cost monitoring solutions. Community members who became members of the participatory actions research team grew their understanding of technologies, benefits of personal and home-based air quality monitoring, and how to analyze and then conduct outreach efforts to inform their family, friends and neighbors of the air quality in

and around their homes, schools, and parks. Additionally with technical advisors supporting RACCE, Waterbury community members grew their knowledge of different kinds of air pollutants but also who was responsible for emitting them and who could help them address it. Combining these aspects with RACCE's community organizing and advocacy programming many of the residents are now able to establish and support their own advocacy initiatives as it relates to air quality.

Outreach Documents

February and March 2025
Monthly Air Quality Report
Hopeville and Washington School Neighborhoods



SCAN ME To Sign-Up

Or Text RACCE-AQM to 52886 to Join

24 Hour Periods of Volatile Organic Compounds (VOCs) above World Health Organizations recommended average of 0-100.
VOCs are products, including paints, varnishes, cleaning supplies, air fresheners, office equipment, and even some building materials.

4

24 Hour Periods of PM 2.5 Greater Than 35 Micrograms Per Unit (MCPU). The World Health Organization recommends that exposure to particulate should be under 15 MG. PM 2.5 comes from vehicles and industrial pollution.

7

Community Forum Presentation and Workshop

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“We organize our community to advocate for racial equity, social and environmental justice in our schools and community…”

Agreements for the Day

We will practice Call-In culture today-not Call-Out culture so that we can ensure

Humility, Authenticity, and Trustworthiness is accessible for everyone today!

- **Environmental Racism:** "racial discrimination in environmental policy making, environmental enforcement and environmental remediation, but it's also the exclusion of people of color in the decision-making around environmental justice, environmental hazards and environmental policy making."

~Dr. & Rev. Benjamin F. Chavis

- **Anti-Racism** is defined as the work of actively opposing racism by advocating for changes in political, economic, and social life. Anti-racism tends to be an individualized approach, and set up in opposition to individual racist behaviors and impacts.

~Race Forward, "Race Reporting Guide" (2015)

Defining Community Organizing for Social Change!!!

Addressing White Supremacy and Systemic Racism!

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The act of organizing the motivated and capable community folx who are currently unorganized and unsupported to advance our common goal of having a more fair and just communities.

Activities include: Base Building, Leadership Development,Campaign Advancement and Participatory Action Research

Its different than advocacy!

We believe successful advocacy campaigns are the result of good community organizing!

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Self Advocacy: Taking action to represent and advance your own interests. "Liberating yourself"

Peer Advocacy: Taking action to represent the rights and interests of someone other than yourself. "Defending & liberating your friends and family"

Systems Advocacy: Taking action to influence social, political, and economic systems to bring about change for groups of people. "Freedom from oppression"

Legal Advocacy: through the courts or an investigatory body or agency –potentially uses the judicial system to advance social change goals.

Community Organizing:

is a long-term strategy to create meaningful relationships and build power so that you can use that power to create social change or improve the material conditions people are forced to exist in.

Advocacy Campaigning:

is a short-term strategy to achieve a goal associated with changing or creating a policy that you and your colleagues agree is a good thing.

Engagement is a shared responsibility that requires shared goals and objectives to be advanced as a result of the activity.

Outreach is generally considered a 1-way communication that relies on one person or group providing information to an individual or group that is presumed to not have it already.

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Advocacy Campaigning	**Single streams of data used in isolation to address "thin" policy or regulatory gaps.**
Community Organizing	**Multiple streams of varied data that are owned, collected and analyzed by impacted parties.**

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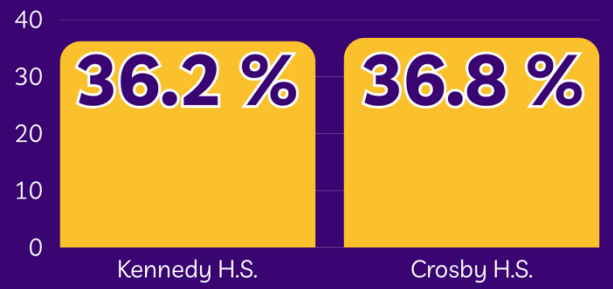
WHERE WATERBURY STUDENTS MISS THE MOST DAYS

2024-25

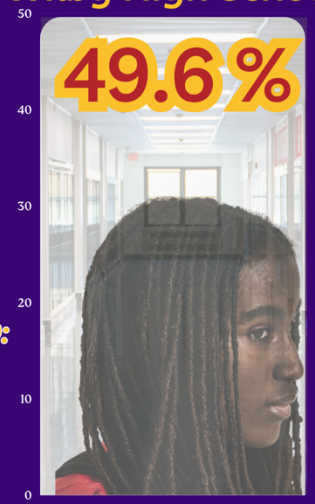
(3) SCHOOLS

1,600

CHRONICALLY ABSENT STUDENTS



Wilby High School



WHAT WATERBURY STUDENTS SAY THEY NEED:

- More Black and Latino educators
- Increased access to college/career readiness
- App-based tools to contact parents and guardians
- Increased access to culturally responsive mental health care
- Student-led climate and safety improvements in school buildings

"I feel like there could be a change but with the way the school system is currently, it feels as if there's no point because of how our generation has been neglected."
12th grader | Kennedy High School

Data accessed via: https://public-edsight.ct.gov/

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LET'S MAKE BREATHING IN CLASS A RIGHT, NOT A PRIVILEGE

BETWEEN 2021 AND 2023, CHILDREN'S ASTHMA ER VISITS IN CONNECTICUT JUMPED FROM 2,822 TO 4,928.

IN CONNECTICUT, 40% OF YOUNG CHILDREN MISSED AT LEAST ONE DAY OF SCHOOL BECAUSE OF ASTHMA.

We can fix this with better ventilation, air-source heat pumps, and electric buses.

Scenario One

A dramatic increase for asthma related visits to the hospital for school-aged children in the South End of Waterbury has occurred. No one knows the exact source of the problem, but Amazon is constructing a huge warehouse only a few miles from the neighborhood with the most incidents. Amazon doesn't respond to parent requests to investigate it and states that they have a city permit to do the work and tells them to go to the city's department of public health for help but they health department won't do any air quality monitoring.

Facts: Hundreds of commercial vehicles and dozens of pieces of heavy equipment are now active in that area of town.

Scenario Two

Waterbury has been allocated $25 million dollars to upgrade its school transportation system. Diesel school buses pollute the air closest to schools and the neighborhoods where a 200-vehicle bus depot in the West End of Waterbury.

The city can only use the money if it conducts public hearings and the board of alderman votes on the expenditures. Local public health officials nor the school board have positions on the importance electrifying the school bus fleet despite a ton of publicly available research that clearly states the positive impacts of reducing carbon emissions by using electric buses.

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Engagement =’s Participatory Action Research

“Participatory action research (PAR) is an approach to research that prioritizes the value of experiential knowledge for tackling problems caused by unequal and harmful social systems, and for envisioning and implementing alternatives.”

~Flora Cornish, Department of Methodology, London School of Economics & Political Science, London, UK

Landscape analysis and power mapping

Digital divide, poverty, safe neighborhoods, over-policing, language, and political apathy.

Accept local knowledge, culture, and history must drive decision-making plus training, compensation, and support to access and understand the difference between low-cost sensors (LCS) to reference-grade equipment (RGE).

Hyper-local mobile air quality monitoring (LCS) that “paid” community members execute and capture a multitude of pollutant data.

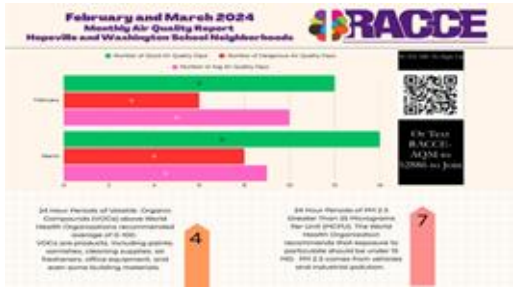
PM 2.5 NO2 VOC’s OZONE

Building trust requires training, support, and a guided-decision making process on how, when, and where data is released to the public.

Establish community operated air quality dashboard.

Launch and operate a community owned air quality alert system.

Scale to stationery monitoring in neighborhoods with most volatile air quality and most vulnerable people. (RGE)



Experienced mobile monitoring teams execute outreach within impacted neighborhoods with AQM reports and engage by recruiting new team members, collecting narratives, and hosting public education events on their findings.

COMMUNITY-BASED AIR QUALITY MONITORING AND ALERT SYSTEM COST ESTIMATES

Start-Up: Technology and Infrastructure Costs Per Grantee Include:
Purchase three stationary air quality monitors (2) Level 1* & (1) Level 2** and connect them to a public and internal administrator dashboard, with opt-in text alerts and all software and tech support, and hardware maintenance costs; purchase and integrate data from (6) mobile monitors to one location and publish on the community dashboard maintained by organizations; and advanced advising by technical consultants to deploy and manage the air quality network(s).

Expansion and Maintenance: Years 2 and 3 Costs Per Grantee Include:
Ongoing access to all software, advanced advising, and technical services for (9) stationary monitor licenses and (12) mobile monitor licenses and the purchase of (4) additional Level 1 monitors and (2) additional Level 2 monitor and annual maintenance of (9) stationery monitors; plus purchase of (6) more mobile monitors; and maintenance of the localized air quality alert system.

Project Management (PM):
Establishes and maintains relationships between community-based organizations (CBO), technical consultants, and government based agencies; directly addresses feasibility and logistical challenges; manages timeframes, goals, tracking and measuring progress within their (CBO) and with all other PM's; and coordinates all activities with community organizing staff and impacted community members for their region.

Community Organizing and Engagement :
Each CBO will establish and execute a multifaceted community organizing and engagement strategy that focuses on developing a participatory actions research model that balances research and data with local knowledge, culture, and history to support decision-making on policies or programming to address poor air quality; compensates and trains citizen leaders acting as local air quality experts; and launches and maintains a hyper local air qaulity alert system that is informed by localized data collection.

Start-up Costs-Year 1 Estimate
$40,000.00

Expansion and Maintenance Years 2 & 3
$75,000.00

Project Manager(PM)
$35,000.00 per year

Community Organizing and Engagement
$85,000.00 per year

*Level 1 Monitors capture, measure and report on PM, Temp, RH, and are solar powered
** Level 2 Monitors capture, measure and report on a maximum of (4) of the following PM, CO, NO, NO2, O3, SO2,CO2, Temp, RH, and are solar powered

This draft summary was created by CEEJAC Air and Transportation Sub-Committee Co-Chair Robbie Goodrich. To be shared as draft only. Additional support materials available upon request.
Rgoodrich@racce.net

Guidelines for the Climate & Equity Participation Add-On

It should be noted that other staff and members of RACCE attended at least twenty other meetings in varying roles from CEEJAC Sub-committee chair, lead facilitators, presenters, and attendees at DEEP meetings or events. For instance, our executive director met with members of the Office of Equity and Environmental Justice to plan CEEJAC's annual retreat at least six times.

Meeting Name	Date Attended	Attendee Name	Before the meeting	During the meeting	After the meeting
CEEJAC **https://ctdeep.zoom.us/meeting/register/6pMOnE7oT7aQd8CREfDW7w** CEEJAC Meeting Notes	March 31st, 2025	Shakshi Patel, RACCE	• Made a document ready for information on the meeting • Briefed with my boss and what I need to share during the meeting and what our purpose is: to be knowledgeable about the water conservation and the districts' roles	• Made notes of work done by the conservation districts to report back to my team members so that we can plan on how we can work with the districts on air pollution and water conservation control. • Highlighted what districts work under who, so that if needed, we can contact the appropriate conservation district to work with	• Combined all the notes into a document and shared with my boss and team so that we could go over what we would be able to help with • Began thinking about what specific districts do and how RACCE can be an involved community member or supporter either when it comes to engagement purposes or advocacy purposes

CEEJAC Energy & Technology Subcommittee Meeting - Community Renewable Energy Siting Tool https://ctdeep.zoom.us/meeting/register/JSI5lfvARdGzLRtqr7b9eQ CEEJAC Meeting Notes	April 2, 2025	Shakshi Patel, RACCE	• Read up on what the meeting is about • Did prior research on what CREST is and what their project consists of: Community Renewable Energy Siting Tool	• Throughout the meeting, looked at the database, and followed along with what areas have data, and what water classifications we can see for areas around us • understood the language on the database to take back to my team	• I shared a summary of CREST's development with the RACCE team, noting that it was created in collaboration with 25 organizations, CT DEEP, and UConn's CLEAR, as a response to the CGA's Public Act 24-31 which mandated a siting tool for solar projects. • I explained the goals behind CREST in my notes, as outlined by Eric Hammerling (CT DEEP): to support CT's 2040 decarbonization target, create a transparent permitting process, and ensure equitable conservation of resources across all communities.
CEEJAC Land Subcommittee - CT Green Plan https://ctdeep.zoom.us/	April 24, 2025	Shakshi Patel, RACCE	• I reviewed background materials on the CT Green Plan and DEEP's role in open space	• Took notes throughout the discussion on the Green Plan and DEEP's goals. • Looked up additional information in real-time	Identified key data points to track: • Areas without municipal parks or access to

meeting/register/sTWGRxs0S8eGw_rKzWmADw			conservation to better understand the context. • I prepared talking points and questions in alignment with RACCE's priorities, including equitable access to open spaces in urban areas like Waterbury, and how land use decisions impact youth and education justice.	to better understand open space data and funding programs. • Asked DEEP how they plan to prioritize underserved urban communities in the Green Plan. • DEEP acknowledged past shortcomings in equity and access. • They want to use data to identify areas without municipal parks or grant access. • Plan to mark these areas for more conversation and potential funding.	DEEP's funding programs. • How DEEP is categorizing vulnerable lands and how that impacts urban areas like Waterbury. • Updates on the state statutes to broaden access to conservation funding, particularly for community-based groups. Suggested action: • RACCE should remain proactive by monitoring future changes to DEEP programs (like the Open Space Grant Program) and attending follow-up meetings to ensure the needs of marginalized communities are consistently addressed in the planning process.
CT Green Bank: **Fleet Electrification**	May 29, 2025	Shakshi Patel, RACCE	• Reviewed P.A. 22-25 mandates and Connecticut	• Attended the session as a representative of the school district to	• Drafted a debrief summary for the Board of Education (this

Accelerator for Connecticut School Districts			Green Bank resources. ● Also reviewed CALSTART's Fleet Electrification Accelerator, Connecticut's EV infrastructure policies, and school bus electrification timelines. ● Focus Areas Identified: ○ 2030 and 2040 electric school bus mandates. ○ Funding availability through state and federal programs. ○ Planning needs for distressed and environme	better understand the Fleet Electrification Accelerator opportunity. ● Engaged with presenters from Connecticut Green Bank and CALSTART, taking notes on the full-service planning model and how it supports districts at different readiness levels. ● Took detailed notes on deliverables and next steps, especially the need for internal data like annual mileage, routes, and fuel costs to prepare for intake.	document) outlining key opportunities, funding sources, and action steps. ● Flagged next steps for internal consideration, including identifying a district point person to lead intake coordination with CALSTART. ● Started outlining what data we need to gather to participate in the 2025 cohort, such as: ● Current fleet composition ● Fuel and maintenance expenses ● Route maps and utility rates

			ntal justice (EJ) communities.		
CEEJAC Waste Subcommittee Meeting - Enforcement 101: https://ctdeep.zoom.us/meeting/register/UWA3a-aoTRG3M7i815tnGg	June 17, 2025	Shakshi Patel, RACCE	• I reviewed the agenda and objectives to understand how DEEP's Waste Division handles enforcement—especially how complaints are processed and what happens during inspections • I familiarized myself with key terms and procedures, like what constitutes a regulated activity and how state and local agencies coordinate enforcement	• During the meeting, I actively listened and took detailed notes as DEEP staff walked through the enforcement process—from complaint intake to inspections and potential penalties • I also took note of who else can be contacted: local CEOs, health departments, zoning officials, wetlands commissions, and even the facility directly if it's a permitted solid waste facility. This clarified how multi-layered the enforcement ecosystem is—and how community members	• I began organizing my notes into a resource I could share with colleagues and community members who might be dealing with waste violations. I drafted a short summary of what makes an effective complaint and which local offices people should consider contacting depending on the type of issue • I plan to follow up with DEEP to clarify a couple of questions about how complaint data is tracked and whether there's a way for community members to see follow-up actions taken

				can play a vital role in initiating that process.	
CEEJAC Quarterly Meeting	June 26, 2025	Shakshi Patel, RACCE	• **Reviewed the meeting agenda** to understand updates from the six CEEJAC subcommittees (Water, Waste, Land, Energy & Technology, Air & Transportation). • **Prepared notes and reflections** on issues relevant to the communities you work with—particularly around water justice, waste facility expansion, youth disengagement, and the impact of land use near urban parks.	• **Listened to and supported Indigenous speakers**, especially Clan Mother Shoran Waupatukuay Piper from the Golden Hill Paugussett Tribal Nation, who raised essential concerns about clean drinking water, air quality, land degradation, and the state's responsibility to support Tribal nations with basic environmental infrastructure. • In the **Energy & Technology** and **Air & Transportation** updates, I noted how air quality and clean energy transitions are being approached from a planning perspective, but flagged internally how important it is to ensure those plans	• After the meeting, I reviewed my notes and started organizing them by subcommittee so I could share updates with my team. I made a list of key action items: follow up on the Water Subcommittee survey, promote the September 2 Enforcement 201 workshop, and look into ways to support the watershed network in Eastern Connecticut • I'm thinking about ways we can plug into the education and outreach efforts CEEJAC is working on—maybe even co-hosting a workshop or distributing information through our networks.

				reflect community-level needs, not just technical targets	
CEEJAC Energy and Technology Subcommittee	July 16, 2025	Shakshi Patel, RACCE	• Understand what a regional electricity grid is and how it operates • Learn about ISO-NE's responsibilities and how it coordinates with FERC and CT utilities	• Actively listened and took notes during ISO-NE's presentation, especially on the grid's structure, ISO's market operations, and CT's role in the regional system Identified underlying issues while listening: • Lack of emphasis on environmental justice or frontline communities in the presentation • Absence of equity metrics or public accountability tools in ISO-NE's framework	• Reflected on how energy justice was largely absent from ISO-NE's presentation, even though CT has a high energy burden in communities of color • Considered drafting a summary for community partners or youth to break down what ISO-NE does and why it matters, especially in terms of utility bills, energy infrastructure, and grid transition
CEEJAC Air & Transportation	July 30th, 2025	Shakshi Patel, RACCE	• I reviewed CHEAPR background	• I noted the differences between Rebate+ incentives for BEVs vs.	• I identified opportunities to push for deeper prioritization of frontline

Subcommittee Meeting - CHEAPR Updates			materials, including updates on rebate incentive levels, program caps, and the status of the Community+ proposal. ● I familiarized myself with the January 2025 changes and gathered key metrics from Rebate Redemption Comparisons to understand current demand trends.	PHEVs and tracked how pricing caps may impact access for low-income communities. ● I took detailed notes on the August 1st incentive change rollout, especially how it affects Rebate+ and standard-level participants. ● I monitored how decision-makers responded to budget sustainability concerns and future structural reform options	communities, especially as program demand continues to outpace funding. ● I plan to share updates with local partners working on transportation access, environmental justice, and clean energy affordability, especially those unfamiliar with CHEAPR.
CEEJAC Energy & Technology Meeting: CT Green Bank & Energy Programs	July 31st, 2025	Shakshi Patel, RACCE	I reviewed DEEP's background materials on the OSWA program, with a focus on: ● 2024 updates to GC3	I attended the full Land Resources Hour session, actively listening to the OSWA grant rollout. I took detailed notes on:	● I drafted a summary of the meeting's main takeaways for internal distribution to community partners and RACCE team members

			recommendations around equity in land use • Prior scoring frameworks for OSWA and how EJ criteria were previously applied I flagged interest in understanding: • How equity was quantified or weighted in scoring • Whether smaller community organizations would have the capacity or support to apply	• New equity-related enhancements in scoring criteria, including alignment with GC3 EJ goals • The financial advantages offered to EJ and distressed municipalities (e.g., 75% reimbursement tier) • Reimbursement for non-traditional but essential costs like legal and appraisal fees — important for capacity-limited orgs I closely noted: • Projects with strong public access, community support, and EJ alignment will score higher	• I began mapping which Waterbury neighborhoods may qualify as EJ or distressed communities for OSWA priority eligibility