Community Energy Innovation Prize

AMERICAN MADE
U.S. DEPARTMENT OF ENERGY

Clean Tech Innovation Network (CTIN)
Impact Report:

1 Project Implementation

mHUB (lead institution), along with its community-based partner Greater Englewood Chamber of Commerce (GECC), has established the Clean Tech Innovation Network (CTIN) that supports manufacturing-based innovation, entrepreneurship, and job creation in cleantech with a specific focus on energy infrastructure for grid modernization. CTIN's goal is to reduce barriers for startups and small-to-medium enterprises (SMEs) to create new clean energy products and jobs, especially those led by people of color and women. It recruits participants from area Opportunity Zones (OZs) and the Chicago Metropolitan Statistical Area (MSA) for skills training and entrepreneurial programming, with a particular focus on returning citizens and residents from the Englewood neighborhood and the larger South Side of Chicago.

The CTIN team employed a variety of resources and strategic approaches to carry out the program's activities successfully. The team designed workforce development and entrepreneurship programs that directly addressed the needs of disadvantaged communities. This included:

- Skills training and certification programs in solar energy & installation, ensuring participants were equipped with marketable skills for the future workforce.
- Mentorship and technical support for BIPOC entrepreneurs, with a focus on developing products and businesses in the clean energy sector.

By working closely with GECC and other local partners, the CTIN team ensured that the clean energy innovation opportunities were not only accessible but also aligned with the specific needs of disadvantaged communities, fostering economic empowerment and sustainable growth.

Our diverse team brings together community engagement, clean energy, and entrepreneurial leadership. mHUB spearheaded the initiative with the support of the Greater Englewood Chamber of Commerce and organizations deeply embedded in local economic development. Both teams leveraged engagement to make sure programs, events, and information were communicated to the community.

2 Community Engagement, Partnerships, and Impact

Throughout the execution of the Clean Tech Innovation Network (CTIN), the team has prioritized direct engagement with Chicago's southside communities through strategic partnerships, outreach efforts, and tailored programming, ensuring these communities benefit from clean energy innovation and workforce development opportunities. This engagement was conducted in close collaboration with our community partner, the Greater Englewood Chamber of Commerce (GECC), which has deep roots in Chicago's Southside neighborhoods, specifically Englewood.

<u>Community Outreach and Recruitment:</u>

The CTIN team, in partnership with GECC, conducted targeted outreach to reach BIPOC entrepreneurs, returning citizens, and residents in the Greater Englewood area and similar underserved communities. This outreach included:

- Community forums and town halls to raise awareness about the clean energy sector and the opportunities it presents.
- Workshops and information sessions that are designed to introduce clean tech innovations and explain the pathways for residents to get involved, whether through workforce training or entrepreneurship.
- Canvassing and digital outreach to ensure that individuals without access to traditional networks were informed about the opportunities available through CTIN.

Partnership with Local Organizations:

The collaboration with GECC provided a bridge to the community, allowing CTIN to leverage its trusted relationships with local businesses, civic leaders, and residents. GECC helped identify local participants, including BIPOC-led startups and entrepreneurs and connected them to the resources and mentorship provided through CTIN. CTIN also partnered with other community organizations, to extend outreach efforts and provide additional support for participants in disadvantaged areas.

Progress against the planned community and engagement activities follow:

- Hosted a community forum and design session. South-side community members, stakeholders, and leaders engaged in dialogue about the CTIN project.
- Hosted a series of conversations with leaders in Clean Energy to demystify the general ecosystem in the clean tech industry while exploring the current trends. Attendees had the opportunity to ask questions and engage about clean energy innovations.
- Both partners engage regularly with the Alderpersons and local leaders within our

neighborhoods to identify and respond to community needs.

- Both partners have seen significant success from canvassing the neighborhood to promote career, training, and entrepreneurship opportunities. The respective community engagement teams intend to continue this effort in 2025 to support CEI-funded programs.
- mHUB distributes an annual member survey to identify needs within the member community and gather input on new programs. GECC regularly conducts focus groups and surveys to gather community input.

Throughout this time, we've been able to engage with a variety of stakeholders that have committed to helping entrepreneurs, startups, and create new clean energy jobs.

• Teamwork Englewood • Chicago Inventors Organization • Grow Greater Englewood • E.G. Wood • Englewood Made • Nanette, Community Resident and Homeowner, Business Owner, and GECC Board of Directors • Revolution Institute	• Uptive Manufacturing • Eastek International • Sierra Circuits • Particle • Memfault • Landi Industries • Twinmo

Partnerships Formed to Support CTIN Goals and Beyond:

- Teamwork Englewood: support recruitment into the solar training program, focusing specifically on re-entering citizens in Englewood.
- Pride Rock: Violence prevention group to support recruitment into CTIN training program focusing on youth between the ages of 12 and 25 in Englewood.
- Mr. Dad's Father's Club: support recruitment into the CTIN training program focusing specifically on single fathers in Englewood.
- U.S. Small Business Administration: Signed an agreement with mHUB to deliver regular training sessions on key topics critical to small businesses.
- U.S. Department of Energy (DOE) Office of Technology Transitions: Awarded mHUB Phase I of its Energy Program for Innovation (EPIC) Round 3 to develop the Climate & Energy Pilot Launchpad program to provide targeted support to pilot-ready climate and energy hardtech startups and SMEs.
- A large tech company focused on climate philanthropy committed to partnering with mHUB to refine its early-stage program, mPOWER, aimed at underrepresented founders for specific applications to Clean Energy.

The Clean Tech Innovation Network (CTIN) has been built on a foundation of energy, environmental, and climate justice, ensuring that marginalized communities are active participants and beneficiaries in the clean energy transition. Our approach has been intentional in promoting equity, inclusion, and long-term sustainability through the following activities:

- From the outset, CTIN has been focused on BIPOC innovators, returning citizens, and low-income neighborhoods, ensuring that these historically disadvantaged groups have access to the tools, training, and opportunities needed to succeed in the clean energy economy.
- Our community partners, such as the Greater Englewood Chamber of Commerce, have helped us identify and engage residents in underserved areas, ensuring that clean energy innovations directly benefit those who are most vulnerable to the impacts of climate change.
- We have designed programs that provide technical support, mentorship, and prototyping

resources for BIPOC-led startups and entrepreneurs. These efforts help ensure that traditionally marginalized communities are not just consumers of clean energy solutions, but also creators and producers of these technologies.

- The CTIN workforce development initiatives specifically target returning citizens and low-income individuals, providing training and certification in clean energy fields like solar energy, electric vehicle infrastructure, and energy storage. This helps to address economic inequality by creating pathways to high-demand, well-paying jobs in the clean tech industry.

Community-Centered Environmental Solutions:

CTIN has engaged residents and community organizations in solving environmental issues like air quality, energy efficiency, and sustainable manufacturing. By involving the community in these discussions, we are working to ensure that solutions are designed to address the specific environmental challenges faced by disadvantaged areas, such as pollution or lack of access to clean energy.

Our clean energy workshops and outreach events have emphasized the health and environmental benefits of clean technologies, such as reducing carbon emissions, improving air quality, and mitigating the effects of climate change on vulnerable populations.

Metrics: Outputs	Proposed	Progress- *As of 11/15/2024*
CONCEPT Phase		
# of climate and energy startups supported	1 (GECC) 3 (mHUB)	1 (GECC) 5 (mHUB)
% of startups with at least one underrepresented founding team member	> 50%	> 50%
# of returning citizens supported	10	10
# of new clean energy businesses created	2	4
# of manufacturers engaged to support clean energy technology commercialization	4	7
PROGRESS Phase		
# of climate and energy startups supported	2 (GECC) 4 (mHUB)	1 (GECC) 6 (mHUB)
% of startups with at least one underrepresented founding team member	Greater than 50%	83%
# of returning citizens supported	30	13
# of new clean energy businesses created	4	5
# of manufacturers engaged to support clean energy technology commercialization	8	5

Successes achieved:

- Build a tiered-support network to connect clean energy innovation resources in OZs across Chicago [led by mHUB]
    - Executed a reciprocal membership agreement to provide access to mHUB's innovation center resources to GECC-supported businesses and vice versa that has currently supported 7 business owners.
    - Expanded the Supply Chain Growth Accelerator partnership and successfully acquired $675,000 in funding to scale the program over the next one year.
- Expand dedicated support resources for clean energy startups [Led by mHUB]
    - Allocated time for a dedicated program manager to oversee the aggregation and delivery of resources and programming for clean energy startups.
    - Launched a clean energy innovation and manufacturing workshop series with a focus on early product development and manufacturing readiness for startups and innovators with a focus on opportunities and pathways for women and people of color. hosted 19 workshops for more than 200 total attendees throughout the CONCEPT Phase.
    - Finalized its core model for key business milestones across startup stages.
    - Won a Department of Energy EPIC prize to design a Pilot Readiness program for clean energy startups which bridges a critical gap for climate-focused businesses.
    - Finalized a partnership with a large tech company to refine its early-stage ideation program geared towards underrepresented founders, mPOWER, for specific applications for clean energy founders. The mPOWER Clean Energy Founders program will launch in 2025, and mHUB will recruit heavily from GECC's network.
- Launch a Clean Energy Incubator & workforce training program for returning citizens program [Led by GECC]
    - Designed and finalized curriculum for and launched recruitment for the first solar training program in partnership with employment partner, E&ES Employment Services.
    - Working with McCormick Foundation to partner on providing micro-grants for returning citizens.

      Received $100,000 from Builder's Initiative to provide supportive services and stipends to trainees in workforce training programs.
    - Secured 1,200 sq. ft. space to operate the hands-on component of the first solar training cohort and acquired AR/VR tools to complement hands-on training.

mHUB and GECC encountered the following challenges and are working together to mitigate them now and moving forward.

- General confusion around Clean Energy as an industry and its opportunities for both new business creation and jobs: Through previous and ongoing community engagement activities, there is a need and opportunity for robust education and inspiration about the clean energy transition. CTIN is building this element into all its planned activities and programs.
- Lack of available space within the neighborhood to accommodate training: Lack of space in the community was a challenge, however, GECC has acquired 1,200 sq. ft. of space at Harper High School to accommodate the necessary hands-on portion of its solar training program including a test roof.
- Changing socio-political sentiment around racial equity and climate initiatives: Both mHUB and GECC have experienced changing sentiment around programs rooted in racial equity. However, both organizations generally and for CTIN are committed to funding scale and are examining language to facilitate that while still driving the important stated impact of the prog

3 Future Team Priorities

- A description of how this experience informed and/or influenced the future careers and professional goals of the students on the team
- The submission includes a clear description of how the experience informed and/or influenced the career and professional goals of the students on the team, either positively or negatively.
- A description of the key takeaways from the project experience and how the takeaways informed and/or influenced future organizational priorities and next steps for the Community Partner.

The Clean Tech Innovation Network (CTIN) project provided significant insights that have shaped both mHUB's and the Greater Englewood Chamber of Commerce's (GECC) future strategies. Below are the key takeaways from the project and how they have informed future priorities and next steps.

<u>The Power of Inclusive Clean Tech Development:</u>

- Takeaway: The project reinforced the importance of inclusive innovation in clean tech, particularly in engaging BIPOC innovators and underrepresented entrepreneurs in the clean energy sector. Participants who traditionally face barriers to entry thrived when provided with the right resources, mentorship, and technical support.
- Impact on Future Priorities: GECC has prioritized continuing to foster entrepreneurship opportunities within the clean energy space. They plan to develop additional programs targeting local entrepreneurs and returning citizens, ensuring that clean tech development continues to include those from disadvantaged backgrounds. mHUB has committed to continuing this partnership and driving efforts to seek additional funding, strengthen connectivity between programs, and increase its presence within Englewood through onsite participation in GECC programming and events.

<u>Workforce Development as a Critical Driver:</u>

- Takeaway: Workforce training in clean energy emerged as a key driver for economic mobility. The project highlighted a high demand for technical skills in areas like solar energy, electric vehicle infrastructure, and energy efficiency. Participants who completed workforce development programs demonstrated significant gains in employment prospects.
- Impact on Future Priorities: GECC will focus on expanding workforce training initiatives in clean energy by partnering with local educational institutions and businesses. The aim is to create long-term career pathways for underrepresented communities, ensuring sustained access to clean energy jobs and skills. mHUB will deliver entrepreneurial programming both at its facility and in partnership with GECC in Englewood to expose trained workers to entrepreneurial thinking and opportunities.

<u>Community-Led Solutions Are Essential:</u>

- Takeaway: The importance of community-led initiatives became clear through participant feedback and engagement. By centering on the voices and needs of the community, the project was able to design more effective and impactful programs. Localized problem-solving environmental justice issues resonated deeply with the community.
- Impact on Future Priorities: GECC is now committed to enhancing community input in all future programs, incorporating regular town halls and feedback sessions to ensure community-driven solutions remain at the forefront of their clean energy efforts. mHUB will remain a committed and active partner in this work, supporting GECC's efforts to set up a physical location for a Clean Energy Incubator in Englewood serving the broader south side of Chicago.

Strategic Partnerships and Collaboration:

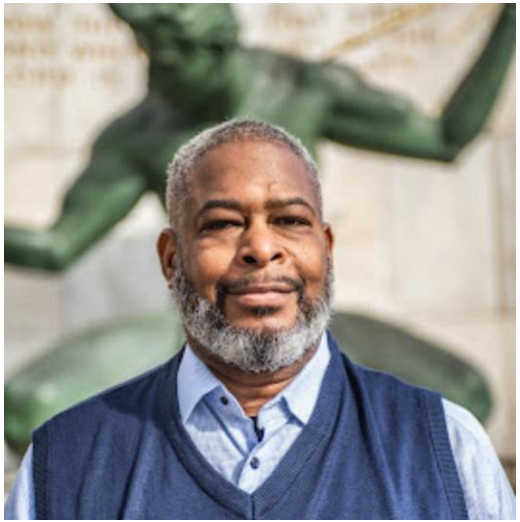
- Takeaway: Building strong partnerships between academic institutions, community organizations, and local businesses was crucial to the project's success. The collaboration provided participants with holistic support, from training to mentorship to job placement.
- Impact on Future Priorities: GECC will continue to strengthen its partnership network, especially with local clean energy startups and manufacturers with support from mHUB. These relationships will be critical in scaling programs that provide direct access to emerging technologies, resources, and job opportunities for the community.

Next Steps:

- Expanding clean energy entrepreneurship programs focused on BIPOC innovators and returning citizens.
- Increasing workforce development offers in partnership with local colleges and businesses, targeting clean energy career pathways.
- Amplifying community engagement through regular town halls, feedback sessions, and co-designed initiatives with residents.
- Strengthening partnerships with manufacturers, startups, and investors through mHUB's network to ensure ongoing support for cleantech solutions in the community.

These takeaways have helped refine the strategic vision for both mHUB and GECC, ensuring future programs are more inclusive, community-driven, and focused on creating long-term economic and environmental impact.

Below is our supporting visualization: the PowerPoint explores the need in EV/EV charging and how it can shape the environment and workforce.



Presented
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EQUITY in Community Infrastructure

OVERVIEW

- Global Warming
- Clean Energy Mobility
- Current Market Analysis
- Community Involvement
- Opportunities
- Industry Outlook

Problem

Global Warming

- Green House Gas
  - Transportation
  - Energy Generation

Clean Energy & Mobility

- Electric Vehicles
- EV Charging Infrastructure
- Clean Energy
  - Wind
  - Solar
  - Hydrogen

Market Analysis

TECHNOLOGY

- Electric vehicles
- EV infrastructure
- Clean Energy Generation

CURRENT CONSTRAINT

High Costs

Excludes DAC & MFH Communities

Very early

Equitable Inclusion

Strategy

- Community Involvement
- Intentional Recruiting

Benefit

Reach Netzero Goals

Balanced market approach

Community Involvement

Activity

- EV Infrastructure
- Energy Resiliency
- Workforce Development

Benefit

Increased EV Adoption

Decreased economic impact

Generational Wealth

Opportunites

- **C-Level Executive**
- **Entrepreneur/Founder**
- **Career Professional**
  - Engineers
  - Architects
- **Contractors**
  - Facilitator
  - Installer
  - Technician

INDUSTRY OUTLOOK

Mobility/ EVs

- Lower Costs
- Increased Range
- Ultra fast charging
- Autonomous vehicles
- Passenger
- delivery

Clean Energy

- Grid resiliency
- Energy independence

Resources

- AABE
- BEVI
- Boss
- Economic Development Agencies
  - MEDC, DEGC (MotorCity Match), Regional Chamber (GEM)
- MMSDC
- NABWIC
- SBA

Summary

- Global Warming
- Clean Energy Mobility
- Current Market Analysis
- Community Involvement
- Opportunities
- Industry Outlook
- Resources

Q & A