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## 2025 CLEAN TECH ECONOMY COALITION REQUEST FOR PROPOSALS: CLUTER ANALYSIS

### **BACKGROUND ON mHUB**

mHUB was launched in March of 2017 by World Business Chicago in coordination with the Illinois Science and Technology Coalition and UI LABS, and under the guidance of the Chicagoland Manufacturing Advisory Council. The mission of the organization was to develop an entrepreneurial ecosystem around physical products and hardtech innovation and accelerate industry growth by cultivating a community of collaboration and connectivity between innovator, entrepreneurs, and manufacturers.

mHUB focused on removing structural barriers of entry for innovators, entrepreneurs, and manufacturers by providing access to capital intensive equipment; building networks of suppliers, mentors, and investors; and fostering a learning and community environment. In 4.5 years, the organization has supported over 450 startups and small businesses to launch 1,200 products, generate \$430 million in revenue, awarded 412 patents, raise over \$1B of investment, and created over 2,100 jobs. mHUB has also trained over 2,000 of people, provided 16,000 hours of training, and hosted over 350 community events.

The 501c3 nonprofit public charity was initially funded through industry commitments from Marmon Holding Group, GE Ventures, The Chamberlain Group, Bank of America, Molex, Underwriters Laboratories, Comcast, Arrow Electronics, Wintrust Financial, Chase Foundation and Technology and Manufacturing Association. Additional financial support was provided by the Illinois Facility Fund to finance the tenant improvements and initial equipment purchases. Over the last 4.5 years, mHUB has grown from a world-class hardtech incubator to include an engineering and design consultancy; accelerator program in Advanced Manufacturing, Med Tech and Climate, and Energy Tech; and a pre-seed impact venture fund. It has expanded industry partnerships and community partnerships to over 100 organizations.

In addition, mHUB has been awarded the following federal grants to continue to expand resources and impact:

#### U.S. Economic Development Administration:

- November 2016 – i6 Challenge – “Manufacturing Innovation Hub” - \$500,000 Grant
- July 2019 – Seed Grant Challenge – “Product Impact Fund and Accelerator” - \$300,000 Grant
- September 2020 – Venture Challenge Scale – “Scaling Hardtech Development Services” \$1.3 million Grant
- May 2021 – CARES Economic Adjustment Assistance – “Chicago Proactive Response: COVID 19 Economic Recovery with 1871 and MATTER” \$2.8 million Grant

#### Department of Energy:

- June 2018 – American Inventions Made OnShore Prize – “Build4Scale Energy Commercialization Training” - \$150,000 Prize
- October 2020 - Energy Program for Innovation Clusters #1 – “mHUB Innovation Center & Accelerator” - \$50,000 Prize 4
- June 2021 – Energy Program for Innovation Cluster #2 – “Midwest Regional Innovation Partnership with Evergreen Climate Innovations (formerly Clean Energy Trust), Argonne National Lab, Oak Ridge National Lab, University of Tennessee and Lawrence Technical University” - \$1 million Grant

In October 2020, mHUB was acknowledged by the U.S. Department of Energy as one of the 20 most innovative and impactful incubators focused on developing strong regional innovation clusters for energy-related technology and entrepreneurship. This designation and partnership was expanded in early 2021 with program relationships with Argonne National Laboratory, Chain Reaction Innovations, Evergreen Climate Innovations (formerly Clean



Energy Trust), Oak Ridge National Laboratory, and University of Tennessee and Lawrence Technical University. mHUB seeks to leverage this national leadership in energy entrepreneurship and economic development to accelerate the growth of the regional clean energy economy.

## **2025 ILLINOIS CLEAN TECH ECONOMY COALITION BACKGROUND**

The Clean Tech Economy industry cluster was identified as a priority growth sector through three emerging independent efforts and in coordination with the State of Illinois, City of Chicago, Cook County Government, and Chicago Metropolitan Agency for Planning:

- Regional Innovation Centers – Collaboration between 1871, P33, World Business Chicago, Discovery Partners Institute, MATTER, and mHUB that explored over a dozen potential growth sectors and prioritized two clusters – Clean Tech and AI in Life Sciences – based on the region's competitive advantages, industry leaders, innovation and entrepreneurship capacity, market size and growth opportunity, and past and future potential for creation of jobs and wealth.
- Cook Country Government – Exploration of industry clusters in partnership with the University of Illinois at Chicago Voorhees Center for Neighborhood and Community Improvement that analyzed industries based on their impact on equity, job creation, and manufacturing strength.
- University of Chicago, Polsky Center – Comprehensive planning efforts to leverage their global leadership in basic and applied energy research, education, entrepreneurship, and civic engagement into technologies, companies, and civic partners including City Colleges of Chicago, Chicago Cook Workforce Partnership, and Emerald South Economic Development Collaborative, that maximize economic impact on the South Side of Chicago, the city of Chicago, and the state of Illinois

In 2021, the EDA launched the Build Back Better Regional Challenge (BBBRC). The goal of the challenge is to help regional economies recover from the pandemic and build economic diversity and resiliency to mitigate impacts of future economic disasters as well as benefit regional workforces and residents through creation of high-quality jobs, increased wages, and revitalized communities. Clean Tech is a potential cluster for focus in the challenge.

The challenge requires a lead organization to bring together a coalition of organizations that together will implement 3-8 tightly aligned projects that together accelerate equitable economic development through the target industry cluster, in this case, clean tech. There are two award stages in the BBBRC:

### Phase 1:

- Goal: Help regions develop transformational economic development strategies
- Awardees: 50-60 regional coalitions
- Award: Up to \$500K total for planning and strategy development
- Application: Due October 19<sup>th</sup>

### Phase 2:

- Fund the implementation of those strategies that will create & grow regional economic growth clusters
- Awardees: 20-30 coalitions that were finalists in Phase 1
- Award: \$25-\$75M and up to \$100M to implement 3-8 tightly aligned projects
- Application: Due March 15th, 2022

mHUB has led the emerging regional cluster to define a coalition and advance to Phase 1, having been selected as one of 60 finalists from among 529 applications. In order to arrive at this point, mHUB led the cluster through a rigorous process to develop a competitive proposal. In addition to research and assessment of the landscape, and engaging a broad group of advisors to guide the overarching strategy, mHUB put out an open call for proposals for component projects to a broad swath of potential regional partners.



36 eligible proposals were submitted and evaluated by 5-9 independent evaluators on a rubric closely tied to the EDA's selection criteria. The most successful individual proposals were paired together into meaningful groupings considering project focus areas and content, geographic reach, and an intentional pairing of community-based organizations with lead institutions. The resulting project portfolio consists of 6 overarching projects, each with multiple organizations working together and receiving funding under this proposal. Each of the 6 projects has a "lead institution," and the total of 19 organizations across the projects comprise the 2025 Clean Tech Economy Coalition (CTEC, or "coalition"). Additional organizations across sectors will be engaged as partners, though they will not receive funding through this grant.

## **COMPONENT PROJECTS**

The 6 projects together seek to lay comprehensive "groundwork" for a thriving Clean Tech sector. Two support the lifecycle of tech transfer, innovation and commercialization. Two seek to align and ready key workforce and manufacturing partners. And finally, two focus on deploying clean technologies today, one focused on electric vehicle charging infrastructure and the other on downstate grid modernization.

Each project is described in this section, along with the roles of each organization. The scope and funding levels may shift based on feedback from the EDA and furthered thinking on the part of the coalition.

### **PROJECT 1: University of Chicago Polsky Center for Entrepreneurship Clean Tech Innovation Center**

A Clean Tech Innovation Center centered in the Washington Park neighborhood with reach extending across Chicago's South Side. This project will bring community-driven priorities and the experience of UChicago and its research partners together to create an inclusive place-based clean tech innovation ecosystem. This partnership will seed new innovations through applied research and entrepreneurship, and connect into other coalition work and partners, workforce and training efforts, and manufacturer partners for a wrap-around approach.

- **University of Chicago, Polsky Center of Entrepreneurship (lead):** Construction of the Clean Tech Innovation Center, a new applied research, entrepreneurship, and workforce development facility located in the Washington Park neighborhood. Following completion of construction of the project, deploy 24 months of on-site programming during the grant term that will become self-sustaining beyond that period. The programming will connect applied academic research, workforce development, and entrepreneurship opportunities targeting clean tech economic growth in the South Side (\$26.3M total budget)
- **Emerald South Economic Development Collaborative**, a 501c3 nonprofit organization, will create vital links and synergies between the Clean Tech Innovation Center and surrounding neighborhoods. Assist with workforce development, program design, clean tech demonstration project development, and community engagement. (\$2.7M)

### **PROJECT 2: Driving Equitable Economic Growth through Clean Energy Technology Innovations, Commercialization and Small Business Development**

An entrepreneurship, commercialization and small business support network located in Chicago's United Center Park neighborhood, with program outpost in Englewood and program areas in Auburn Gresham, and Dolton, IL with a Chicago MSA wide service area. The network offers lab equipment, wrap-around business support, trainings, and equitable access to capital for clean tech entrepreneurs, with particular focus on wealth and job creation through for underrepresented founders and business owners. From idea to commercialization, this project will connect to other coalition projects as well as existing community partners for comprehensive support. This is a collaboration between mHUB (Project Lead) and Evergreen Climate Innovations (formerly Clean Energy Trust), Elevate Energy and Greater Englewood Chamber of Commerce (Project Participants) and will provide a network approach to maximize community engagement and broaden access to capital-intensive resources and trainings to support Clean Tech startups.

- **mHUB (lead):** Expansion and relocation of mHUB to an Opportunity Zone and severely economically distressed census tract, and the expansion of resources to support the commercialization of energy and hardtech startups and small businesses, and community-based programs focused on capacity building and expanding diversity, equity, and inclusion within hardtech and manufacturing industry. (\$47M total budget)

- **Elevate Energy:** Green Workforce Incubator and Support for an Equitable Illinois (GreenWISE IL) aims to ensure that BIPOC communities participate in and reap the economic benefits of the green tech revolution. Led by Elevate and Sustainable Options for Urban Living (SOUL), GreenWISE IL will create a clean energy business and workforce incubator program and revolving loan fund for construction firms of color with specific focus on the Auburn Gresham neighborhood and Dolton, IL. (\$6M)
- **Greater Englewood Chamber of Commerce:** GECC will develop a community solar, storage, and electric vehicle car-sharing demonstration in the Englewood neighborhood and provide job training, skills development, and entrepreneurship support for predominately African-American and Hispanic Englewood residents. (\$3.2M total budget)
- **Evergreen Climate Innovations (formerly Clean Energy Trust):** Extend existing resources that improve the scope, caliber, and accessibility of training and commercialization assistance to regional clean tech companies. The training focus will be on advanced manufacturing jobs within energy efficiency, renewable energy, and across the entire clean tech landscape. The commercialization focus will be on supporting startups as they graduate from accelerator programs to the point where they are prepared to take on venture capital funding and scale. (\$1.6M total budget)

**PROJECT 3: Decarbonizing manufacturing and expanding the supply chain through retooling, coordination, and market incentives to support clean tech industry growth**

This project seeks to support and incentivize supply chain participants to invest in sustainable practices, while also looking ahead to help direct future supply chain investments. Direct support for manufacturers takes a layered approach including technical assistance, direct financial assistance, and broader incentive to change via a novel system of vaulting carbon permits. This project will look to create climate monitoring and prediction tools that will allow project partners to better guide the needed supply chain investments as they evolve and engage in carbon and climate education programs and community engagement activities.

- **Cook County Government (lead):** Develop the Advanced Sustainable Practices in Manufacturing Program to offer one on one business advising, educational services and resources, and grants to businesses to catalyze investments in sustainability practices. The program will also help manufacturers diversify into clean energy supply chains. (\$15M total budget)
- **Center for Neighborhood Technology:** Work with Cook County to develop sustainable practices businesses can take to mitigate the impacts of environmental justice issues. Build on its pilot tool to document urban flooding in the Calumet region and expand to 15 additional geographies in the Chicago region. (\$3.2M total budget)
- **Climate Vault:** Scale operations of calculating emissions for manufacturing organizations served through this project, assisting in taking steps to reduce or eliminate their carbon footprint, among other activities. Support the creation of market incentives to increase adoption of carbon mitigating technologies. (\$1.2M total budget)
- **Illinois Manufacturing Excellence Center:** Leverage IMEC resources to support establishing and scaling the clean tech supply chain with support including but not limited to capability with manufacturing outreach, particularly with small and mid-sized manufacturers, assessment and technical assistance capabilities, as well as utilizing the US Commerce NIST MEP's approach to measuring economic impact.

**PROJECT 4: Understanding future workforce trends and coordinating state, county city colleges toward building capacity for emerging skills requirements**

This project seeks to build a state-wide view of the current and future workforce needs in clean tech, understand where there are critical gaps relative to local talent pools, and design the education and training programs needed to facilitate job matches. Project participants span the state university system, community colleges, and city colleges to ensure a coordinated approach across these vital parts of the workforce training infrastructure. This project will also support matching for the immediate workforce needs of projects 5 and 6 in this proposal.

- **Southern Illinois University Edwardsville on behalf of the Illinois Innovation Network (lead):** Launch a state-wide clean tech workforce development program by engaging industry, mapping assets and needs, ensuring local talent pools have access to education and training resources necessary for success. Develop curriculum, facilitate on-the-job training, and recruit for

education and training programs. Reduce employer barriers to participation in education and training efforts. (\$9.3M total budget)

- **Daley College:** Assist with the creation of clean tech workforce development programs and curriculum utilizing facilities, equipment, and technologies developed across this coalition. Engage industry to facilitate demand-driven training programs that support the growth of the clean tech manufacturing supply chain. (\$2.6M)
- **College of Lake County:** Expand existing clean tech workforce development programming utilizing existing facilities and those proposed as part of this coalition. Leverage existing and new partnerships with manufacturers, the community, and government agencies to assist in placing that workforce at existing and newly attracted clean tech employers. (\$30M)
- **Bright Star Community Outreach:** The Greater Bronzeville Clean Energy Workforce Initiative is a collaborative effort between 100+ partner organizations, including schools, non-profit organizations, and community stakeholders to bring clean energy education and training to the community. Assist in recruiting and developing the clean tech workforce in Bronzeville, sharing in the development of and utilizing the curriculum, training programs, and technology demonstration developed by others in the coalition. (\$2M)

#### **PROJECT 5: Grid modernization and energy storage with focus on downstate coal impacted communities and urban settings**

This project will span testing to implementation, specifically around grid modernization in rural and urban settings. A grid modernization effort around Carbondale led by SIUC will enable deployment of technologies such as energy storage and electric vehicles that will directly work to revitalize this coal-impacted community, while a microgrid testing sandbox run by Northwestern will generate new insights for development and future scaling. Argonne will support the transfer of ideas and technologies across this lifecycle, as well as facilitate the sharing of learnings across other projects and linkages to workforce and supply chain needs.

- **Southern Illinois University Carbondale (lead):** Define and optimize changes in the Southern Illinois electrical grid to support widespread deployment of distributed energy resources, including electric vehicles, energy storage, and renewable generation. Deploy commercial, personal, and public transportation electric vehicle charging infrastructure. Connect technology deployments with workforce development activities led by SIUC Carbondale and deployed across the state. (\$7.2M)
- **Argonne National Laboratory:** Lead the technology transfer of energy storage, microgrid development, and electric vehicle charging infrastructure in deployments led by SIUC and Northwestern. Promote industrial production across the supply chain in regions most affected by the transition to clean technologies. Assist project 4 in transferring the technical knowledge within Argonne into workforce development programs and make connections between the workforce and industry. (\$14.4M)
- **Northwestern University:** Develop an advanced microgrid in an accessible suburban campus location that enables testing of long duration energy storage. The project will provide access to the test bed for coalition partners (including public, corporate, and academic) to transfer its learnings to economic development, workforce development, and decarbonization efforts across the region. (\$6.2M)

#### **PROJECT 6: Electric vehicle charging and infrastructure deployment throughout southern Cook County and Chicago**

This project seeks to scale up Electric Vehicle infrastructure and test new applications of these technologies. A primary focus will be to install >110 EV charging stations primarily in distressed or underserved communities. In addition, this project team will test two additional concepts: 10 electric school buses and charging station, and an EV car-sharing program. Participants will work in partnership with community sites and seek to quantify impacts to air quality. Learnings will be shared across these pilots and will be cross-pollinated with parallel efforts in Southern IL.

- **Northwestern University (lead):** Partner with Cook County to deploy an additional 40 direct current fast charging stations across 20 locations, deploy 10 electric school buses, and pilot a V2G enabled bus charging station. Offer electric vehicle education programs in marginalized communities, potentially through workforce development and innovation hubs in this coalition. Research air quality impacts of EV adoption. (\$7.5M)

- **Cook County Government:** Install 55 standalone dual-port Level 2, 10 streetlight dual port Level 2, and 10 direct current fast EV charging stations in locations across Cook County underserved by EV charging infrastructure, primarily in the South suburbs of Chicago. Complete a feasibility study for a potential EV car sharing program focused on low-income residents. Connect these charging station deployments with workforce development efforts of this coalition. (\$6.8M)

## **SCOPE OF SERVICES**

This RFP seeks assistance in developing the CTEC's vision for regional growth to encompass and further shape the 6 defined projects. The work of the coalition will be carried out not only by its 19 members but seeks to build upon and bolster the work of myriad partners, including those from the public sector, private companies in manufacturing, clean tech and related industries, university partners, and other nonprofits. An overall understanding of the landscape and opportunities for the region will enable a stronger overall vision and Phase 2 BBBRC application.

The chosen consultant team will be responsible for designing and leading the analysis and report development in coordination with the mHUB team, who will respectively coordinate the organizations and advisory groups engaged in the coalition, to achieve the goals and objectives below:

The first deliverable is a clean tech economy cluster analysis report that will provide the basis for the coalition's vision for inclusive economic growth for clean tech:

1. A working definition of the Illinois clean tech regional cluster in terms of geographic region per EDA parameters, and cluster participants and sub-segments, grounded in analysis
  - a. Segments of interest include Clean Energy (Hydrogen & Fuel Cell, Grid Modernization, Carbon Capture), Transportation (Batteries & Energy Storage, Charging Infrastructure, Climate Prediction), and other newly emerging technologies that may not have significant historical data.
  - b. Analysis of marginalized communities in terms of location and workforce potential as it relates to the segments and regional definition identified above
  - c. A robust regional economic analysis detail, based on the region's assets, where there are key intersections of firms (clusters), people (human capital) and technology (innovation) that – when connected by the right built and virtual environment and institutional environment – will create the synergies that make the place most productive and thus competitive for clean tech industries
  - d. Data should be disaggregated as finely as possible to best represent specific clean tech segments (e.g., batteries); to capture local (e.g., Cook County), regional (Chicago MSA), and contextualized in the national cluster activity
2. A grounded baseline understanding of the existing assets and trends in the clean tech cluster in Illinois they key levers and obstacles to growth through 2025
  - a. Where possible, the consultant should estimate likely five-, ten-, and twenty-year growth prospects for specific clean tech segments.
  - b. For each clean tech segment, the consultant should rank the region as defined, relative to other regions in terms of assets and trends; identify the five to ten best-performing regions; provide high-level, reasonable hypotheses regarding the performance of region relative to other regions
3. Key identified strategies for achieving inclusive growth in the cluster through 2025
  - a. Identify interventions that could improve the relative performance of Chicagoland in specific clean-tech segments. Finally, using these data and analyses, the consultant should summarize the potential of the clean tech segments covered in the coalition in terms of economic development outcomes (e.g., jobs, payroll) and types of interventions that would be required for the region to reach its potential in these segments.
  - b. Identify any specific partners or partner segments that should be engaged in the coalition's work to ensure strategies are successful.

- c. The consultant team should have a deep understanding of and practical experience with inclusive growth, both analyzing challenges and developing and implementing economic growth strategies designed to assure that disadvantaged people and communities participate in and drive the economic growth and wealth creation from the outset.

This report will provide a source of content for the 10-page overarching narrative that mHUB will need to submit on behalf of the coalition, as well as the six individual 6-page project narratives. While the final draft should be delivered by February 25, 2022, an initial view of the above analysis should be available by early February to inform program design which will be happening concurrent to this analysis.

In addition, the consultant or consultant team will participate in weekly working sessions with the mHUB team as it shapes the overall vision for economic growth through this work, as well 3-6 working sessions (with required preparation) to advise the 6 individual project teams on areas to emphasize to create stronger linkages to the overarching narrative.

Finally, the consultant or consultant team will engage in ad-hoc coordination with the grant writer and mHUB teams and review draft narrative to ensure findings and strategies are reflected accurately and link across the full set of narratives created.

### **PROPOSAL CONTENT**

- A general description of your firm, including history, staff and structure, as well as your understanding of the work
- A description of your firm's qualifications and technical capabilities
- A narrative of your project approach, including research methods and engagement strategies to achieve the above scope of work
- A proposed timeline of the work schedule and deliverables
- A brief explanation of your firm's understanding of and approach to inclusive growth
- A summary of your firm's commitment to diversity, equity, and inclusion (DEI), including any WBE/MBE/WBE status, DEI policies or practices, specific DEI expertise held by team members, or other relevant information
- A profile of the consultant team, including resumes/bios of specific team leads and members
- Detailed budget including the total number of hours devoted to each task, staff levels and hourly fees of proposed team members
- Relevant examples of previous work
- Professional references, including at least one current or past client. Please include the contact name, organization, email address, and phone number for your references

### **PROPOSAL TIMETABLE**

- RFP distributed – January 10, 2022
- Proposals due to mHUB – January 18, 2022
- Follow-up questions as needed – January 19-20, 2022
- Firm selected and notified – January 21, 2022
- Expected project start – January 24, 2022
- Expected project completion – February 25, 2022

### **SELECTION CRITERIA**

The winning team will be selected by its ability to meet the following criteria:

- Overall experience and reputation of company and consultant team
- Technical expertise in the areas of economic development, with specific respect to innovation economies and inclusive growth
- Commitment to inclusive growth principles and diversity, equity, and inclusion



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- Clarity of project approach with respect to project goals and scope
  - Quality and relatedness of previous work and positive references
  - Project budget, clarity, and value, including hourly fees and total cost

### **KEY CONTACTS**

The following are the key contacts for information you may seek in preparing your proposal:

- Devi Raja, Lead Consultant, [devi@aimandarrowgroup.com](mailto:devi@aimandarrowgroup.com), 846-651-5537
- Manas Mehandru, Chief Operating Officer, [Manas@mHUBChicago.com](mailto:Manas@mHUBChicago.com), 312-248-8704
- Haven Allen, Chief Executive Officer, [Haven@mHUBChicago.com](mailto:Haven@mHUBChicago.com), 312-248-8705

Requests for additional information and questions should be coordinated through Devi Raja.

Please return the complete proposal via email to Devi Raja at [devi.@aimandarrowgroup.com](mailto:devi.@aimandarrowgroup.com). We would also appreciate a response if you decline to submit a proposal.