

2025 CLEAN TECH ECONOMY

REQUEST FOR PROPOSAL

FOR

Projects and Partnerships to Accelerate Illinois
Clean Energy Economy

RFP. 08082021

An Initiative Led By:





9/9/2021

September 9, 2021

RE: Build Back Better Regional Challenge – Clean Tech Economy

To Whom It May Concern,

On behalf of mHUB and the University of Chicago, we invite you to respond to the enclosed *Request for Proposals* (RFP) for projects and programs to participate in a \$100M regional proposal for the U.S. Department of Commerce, Economic Development Administration, *Build Back Better Regional Challenge (BBBRC)*.

The \$1 billion Build Back Better Regional Challenge will provide a transformational investment to 20-30 regions across the country to support economic revitalization that advances equity across the country. The Chicago region is well positioned to grow the Clean Tech Economy industry cluster through new collaborations and investments in planning, infrastructure, innovation and entrepreneurship, workforce, and economic development.

The aim for this RFP is to identify 3 to 8 proposals to invest up to \$100 million over 24 to 48 months in a comprehensive coordinated effort to grow our Clean Tech Economy. Selected project leaders and their key partners will form the coalition of eligible entities that commit to working together to apply to the BBBRC and work together to build and expand the competitive regional clean energy economy growth cluster in an inclusive way.

Projects will be selected based on the completion of the required documents defined in this RFP and by an independent evaluation committee that will focus on maximizing impact and accelerating growth across the region, with an emphasis on ensuring investments are equitably distributed across all communities in the Chicago region and in rural Illinois.

Proposals are due Sunday, September 26 at 12:00 pm CT with notifications of initial project selection by Monday, October 4. Each proposal will be reviewed by an independent evaluation committee made up of industry representatives, technical experts and civic leaders and evaluated based on technical merit, impact potential and demonstrated collaboration. Selected proposals will be included in a complete regional proposal for the Build Back Better Regional Challenge Coalition, which is due Tuesday, October 19 at 11:59 pm ET to the Economic Development Administration.

Included in this *Request for Proposal* are the following documents:

- Exhibit A – Lead Organizations Background
- Exhibit B – RFP Schedule of Events
- Exhibit C – Clean Tech Coalition Overview
- Exhibit D – General Project Overview
- Exhibit E – Proposal Guidelines
- Exhibit F – Eligible Entities
- Exhibit G – Selected Project’s Expectations
- Exhibit H – Important Supporting Documents
- Exhibit I – Estimated Project Timeline

Please review the enclosed information and send one (1) electronic copy of your Proposal to RFP@2025CleanTech.com no later than **12:00 pm CT on Sunday, September 26, 2021**. We respectfully request that your proposal follow the guidelines outlined in the enclosed documents. Should you have any questions regarding the *Request for Proposal*, please email RFP@2025CleanTech.com or attend the upcoming office hours and/or webinar detailed below.

Sincerely,

A handwritten signature in blue ink, appearing to read 'Haven Allen'.

Haven Allen
Chief Executive Officer and Co-founder, mHUB
Managing Partner, Product Impact Fund I

A handwritten signature in black ink, appearing to read 'Juan J. de Pablo'.

Juan J. de Pablo
Vice president for National Laboratories,
Science Strategy and Innovation, The University
of Chicago

Exhibit A – LEAD ORGANIZATIONS BACKGROUND

Clean Tech Coalition – Build Back Better Regional Challenge
Request for Proposal

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 \$895 million 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

- June 2021 – Energy Program for Innovation Cluster #2 – “Midwest Regional Innovation Partnership with 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, 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 in partnership with the University of Chicago to accelerate the growth of the regional clean energy economy.

The University of Chicago

The University of Chicago was established in 1892 in the South Side of Chicago. Throughout its history, UChicago research has led to breakthroughs that have benefitted humankind and transformed thinking in a wide range of domains, ranging from medicine, to economics, to anthropology. UChicago demonstrated the first controlled, self-sustained nuclear chain reaction, which formed the basis for the development of the first form of clean energy - nuclear energy - and led to the foundation of Argonne National Laboratory. Seventy-five years later, the University of Chicago through the UChicago Argonne, LLC continues to manage and operate Argonne National Laboratory and the Fermi Research Alliance, LLC manages the Fermi National Accelerator Laboratory on behalf of the Department of Energy. Importantly, UChicago research has been critical in bringing about social justice, excellence in urban schooling, and the concept of inclusive innovation, which seeks to educate and train an inclusive and diverse workforce in parallel to the development of new technologies and emerging companies and the creation of jobs.

The UChicago is home to the Booth School of Business and the Polsky Center for Entrepreneurship and Innovation. Established in 1998, the Polsky Center has provided over two decades of venture support for individuals interested in entrepreneurship, and robust training for students interested in pursuing a career in venture capital and private equity. It is also the home of the New Venture Challenge, one of the top accelerator programs in the nation. Over 500 companies have launched out of the Polsky Center and make up an active and thriving ecosystem today, including household names such as Grubhub, Simple Mills, and Braintree/Venmo. They have raised more than \$1.2 billion, achieved \$8.5 billion in mergers and exits, and created more than 13,300 jobs. Through its COMPASS and Duality accelerators, and through a vibrant collaboration with Argonne’s Chain Reactions Innovations program – one of the nation’s leading accelerators for clean energy technologies – the Polsky Center has enabled and accelerated the growth of countless companies in a wide range of sectors, including clean energy.

The University of Chicago is enriched by the city it calls home. In partnership with its neighbors, UChicago invests in Chicago's mid-South Side across such areas as health, education, economic growth, and the arts. Together with its medical center, UChicago is the largest private employer on the South



Side. Over the course of the COVID-19 pandemic, UChicago launched its Community Support Initiative, which provided many tens of thousands of free meals, grants to small businesses and nonprofits, rent relief to University tenants, and support for health care workers and patients at UChicago Medicine.

Through the Build Back Better Regional Challenge, UChicago will leverage its research, innovation, and its physical presence on the South Side to support the Chicago region's transition to clean energy, increase the mitigation of climate change, and apply an Inclusive Innovation framework to ensure that direct investment leads to greater equity and economic opportunity for disadvantaged communities on the city's South Side.

Exhibit B – RFP SCHEDULE OF EVENTS

Clean Tech Coalition – Build Back Better Regional Challenge
Request for Proposal

This *Request for Proposal* is governed by the following schedule**:

Release of RFP	September 9, 2021
Informational Webinar & FAQ	September 15, 2021
Proposals are due	September 26, 2021
Initial Notifications Provided	October 4, 2021
Full Coalition Proposals are due	October 19, 2021

***All dates are subject to change*

An informational webinar will be held on Wednesday, September 15, 2021, at 12:00 pm to 1:00 pm. To register for the informational webinar, sign up via this link:

https://mhubchicago.zoom.us/webinar/register/WN_ZX5wd55CQKWzEkv3i-jeQ

These sessions will be used to provide background on the coalition proposal, answer questions about the process, and provide basic feedback on potential proposals. The video and transcripts of the webinar will be made available to all registrants.

In addition, mHUB and the University of Chicago will hold open office hours to discuss potential project ideas alignment, scale, and scope, and opportunities for inter-project collaboration.

Available Office Hour Timeslots	
w/ Haven Allen, CEO of mHUB	w/ Juan de Pablo and team of U of Chicago
Monday, September 13 from 11:00 to 3:00	Wednesday, September 15 from 10:00 to 12:00
Tuesday, September 14 from 8:00 am to 11:00	Thursday, September 16 from 12:00 and 3:00
	Friday, September 17 from 12:00 to 2:00

Schedule time with Haven Allen, CEO of mHUB here: <http://mhubchicago.com/schedule/3859> or emailing MV@mhubchicago.com.

Schedule time with Juan de Pablo and team of the University of Chicago by emailing cleantechproject@uchicago.edu.

Exhibit C – CLEAN TECH COALITION OVERVIEW

Clean Tech Coalition – Build Back Better Regional Challenge
Request for Proposal

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.

These three efforts and diverse set of public, private, and civic partners are aligned around the potential for regional and local impact through a robust collaboration to grow the Clean Tech Economy for Illinois.

This coalition will establish a clean tech cluster in the Midwest through focused investment in innovation around clean energy, including battery technology and materials, regional production of such technologies for local applications and trade, rapid rollout of critical microgrid and electric vehicle infrastructure across the region, high-resolution climate monitoring and prediction, development of local hubs for scale-up and manufacturing, and coordinated and inclusive education and workforce development strategies to support an end-to-end regional clean tech supply chain.

As envisaged in this RFP, clean tech is any product or process that reduces negative environmental impacts by way of renewable energy or energy efficiency improvements. Clean tech includes clean energy, clean air, clean water, transportation, recycling and waste reduction, supply chain improvement, the built environment, manufacturing, and more.¹ Based on existing assets and capabilities within the Illinois and Midwest region, we recommend the coalition focus its investments in clean energy and transportation, the associated infrastructure, and workforce development. In the following section, this RFP describes relevant opportunities within each industry vertical and specify the opportunities for the Midwest to lead in technological advancement. Note that proposals that fall outside of the opportunities outlined below will also be considered, provided they make a distinct and promising advancement to clean tech.

¹ <https://cleanenergyventures.com/clean-energy-venture-capital/climatetech-is-cleantech-in-need-of-a-rebrand/>

Industry Vertical #1: Clean Energy

The clean energy sector includes all technologies that reduce reliance on greenhouse gas (GHG), producing fossil fuels, or that lead to decarbonization through innovative policies and carbon capture. A Midwest clean tech cluster would focus on advancing the full energy lifecycle from production to capture. On the production side, the Midwest has an opportunity to leverage existing R&D and manufacturing assets to accelerate innovation and spur demand of hydrogen and fuel cell technologies to bring down the cost of clean hydrogen. From an infrastructure standpoint, construction of clean microgrids will create a more resilient grid system and present opportunities to utilize hydrogen as a clean fuel. Finally, advancing carbon capture projects will be critical to reducing the climate impact of Midwestern industries and contributing to national and global goals of carbon neutrality.

Hydrogen & Fuel Cell: In the last decade, significant advancements have come about in clean energy production and power generation, yet adoption of hydrogen and fuel cell technologies still lag due to affordability and technical barriers. In June 2021, the U.S. Department of Energy launched the *Hydrogen Energy Earthshot* with the goal of reducing the cost of clean hydrogen by 80% per \$1 kilogram in one decade.² As new applications for hydrogen are developed, it is projected that hydrogen could reach a \$130-\$170 billion a year industry in the U.S. by 2050.³ The applications for hydrogen and fuel cell technologies are growing across the nation, but especially within the Midwest. In the Midwest, hydrogen can play a critical role in reducing the environmental impact of transportation & logistics through hydrogen-electric delivery vehicles, hot metal production through hydrogen integrations, and agriculture through farm equipment and fertilizers.

The recent announcement by Hyzon Motors of intent to move hydrogen vehicle manufacturing facilities to Bolingbrook, Illinois opens the door for development of a new center of competence. Hyzon focuses on the core technology of the fuel cell and electric propulsion system manufacture and will leverage third-party capabilities to manufacture the balance of the vehicle. The objective is to make hydrogen-powered commercial mobility more attractive than diesel in every way, including performance and cost. More generally, the creation of a regional hydrogen hub could bring together the specific advantages of the Chicago area. These include key locations near vehicle and component manufacturing facilities, the premier transportation hub in the country including marine shipping of hydrogen, trucking, and rail traffic. The recent announcement of fuel cell vehicle manufacture, fuel cell pack assembly, and proximity to key universities and a national lab make Chicago competitive with the California hydrogen corridor.

Grid Modernization: There is increasing demand for more efficient power transmission and a more reliable, uninterrupted power supply. In many states, especially California, and along the East Coast where energy retail rates are high, microgrid infrastructure is flourishing as a consumer-side solution to reducing GHG-emissions, maximizing use of on-site energy, and building more resiliency against weather and cyber risks.⁴ The Midwest is lagging significantly behind, largely due to the low cost of power disincentivizing investments in microgrid infrastructure.⁵ While this may be cost effective in the short-run, it is holding the Midwest back from a comprehensive clean energy conversion and slowing regional demand for advanced energy management and storage technologies. To be a true leader in clean energy, the Midwest must establish a robust microgrid infrastructure where hydrogen and fuel cell, battery and energy storage, AI-enabled energy management, and advanced cybersecurity technology

² <https://www.energy.gov/articles/secretary-granholm-launches-hydrogen-energy-earthshot-accelerate-breakthroughs-toward-net>

³ <https://hydrogenenergy.illinois.edu/about#tile10357>

⁴ <https://www.c2es.org/content/microgrids/>

⁵ <https://energynews.us/2018/10/01/microgrids-slowly-make-inroads-in-midwest-with-illinois-taking-the-lead/>

can be deployed. In recent years, private industrial and consumer demand for microgrids in the Midwest has been growing. Illinois is leading the region with 15 microgrids, followed by Michigan (10), and Minnesota (9).⁶ Illinois presents a bright spot where a combination of policy (e.g., 2011 state grid modernization law) and utility industry leadership (e.g., ComEd, Ameren) is driving demand. Microgrids also offer significant opportunities for education and workforce development for clean energy career paths. For example, the North Minneapolis Microgrid project is coupling a job training center, community solar garden, and other energy initiatives with a microgrid development to create a more resilient, sustainable local community.⁷ Public-private partnerships, infrastructure funding, and advancements in grid component technologies will be critical for a cluster-oriented microgrid strategy.

Carbon Capture: The Midwest is already leading in decoupling emissions and GDP growth through investments in renewables and transition to gas.⁸ Carbon capture technology is the next step in further reduce the impact of GHG-producing industries and reach net-zero emissions goals. It also presents an opportunity to ramp up production of hydrogen as a by-product of the process.

Note that carbon sequestration in soils is also particularly promising. In particular, CO₂ conversion and capture by plants (e.g., switchgrass or tallgrass prairies) or microbial systems offer inexpensive and highly scalable strategies for decarbonization. Maximizing terrestrial carbon sequestration via intensive revegetation of both urban and rural land would contribute to decarbonization goals in measurable ways. Science-driven revegetation also protects the carbon that is currently stored in soils from erosion from flooding and wind. Programs are encouraged that enhance terrestrial carbon storage in (1) urban environments, with the double benefit of also reducing urban heat island effect, and (2) in rural regions with the revitalization of these communities through the creation of carbon storage as an ecosystem service compatible with agricultural practices. Such programs should also be integrated with robust sensing and monitoring activity in order to quantify accruals and lay the groundwork for trustworthy carbon market/trading systems.

Given the scale of carbon capture and storage projects, especially the necessity for multi-stage and sector engagement, these initiatives have significant economic opportunity by way of job creation and generation of economic activity along the supply chain, especially in rural areas. Significant economic opportunities also exist within the carbon capture retrofit market for existing facilities.⁹ Federal funding will help existing coalitions and industry leaders scale and accelerate CCUS technology innovation and project deployment.

Industry Vertical #2 Transportation

Within transportation, the coalition should focus on investing in innovation within advanced battery and electric vehicle charging technology, scaling existing regional battery and electric vehicle supply chains, driving consumer and fleet demand for EVs, and rapidly expanding of charging network infrastructure.

Batteries & Energy Storage: There is a pressing need to develop a new generation of batteries with greater capacity, greater lifetime, and shorter charge times. There is also a need to reduce reliance on scarce metals, and to develop batteries that can be easily disassembled and recycled. The development of new, underlying technologies and materials, including composites, polymers, material coatings, may

⁶ <https://energynews.us/2018/10/01/microgrids-slowly-make-inroads-in-midwest-with-illinois-taking-the-lead/>

⁷ <https://rmi.org/elab-accelerator-2018-teams-north-minneapolis-microgrid-project/>

⁸ <https://www.wri.org/insights/ranking-41-us-states-decoupling-emissions-and-gdp-growth>

⁹ https://rhg.com/wp-content/uploads/2021/04/The-Economic-Benefits-of-Carbon-Capture-Investment-and-Employment-Opportunities_Phase-III.pdf

also be relevant to other industries such as consumer electronics, storage for solar panels and even on the power grid. While this transition is already underway with the increasing penetration of electric cars and grid-connected storage, the demand for storage is expected to increase by a factor of thirty in the next decade. Moreover, future technological breakthroughs underway at National Labs and Universities and aimed at developing solutions decarbonize sectors such as heavy-duty trucks and airplanes, is expected to be an engine for economic growth.

The Midwest region is a hotbed for storage-related activities with entities ranging from two Department of Energy national labs, universities (e.g., UChicago, University of Illinois at Chicago, Northwestern, University of Illinois at Champaign-Urbana), companies (e.g., Rivian, Lion Electric, EVBox etc.) and accelerators/incubators (e.g., Chain Reactions Innovations, Compass, mHUB). However, there is opportunity to further connect the activities in the region to drive economic impact to the region and U.S. that could be achieved as the energy transition unfolds.

There is a significant opportunity to build on this nucleus to establish the Midwest as an energy storage powerhouse by creating a dynamic, multifaceted, and diverse regional network. Activities envisioned should include (i) nurturing innovation and entrepreneurship (ii) promoting expanded industrial presence across the supply chain (iii) enabling storage installations, especially in disadvantaged communities and (iv) creating a diverse workforce across skill levels. Developing such a regional innovation ecosystem should spur regional economic growth, benefitting all communities while ensuring equitable job creation in this emerging technology.

Charging Infrastructure: As the interest for EVs grow, the infrastructure of charging EVs must keep up as in the Midwest, all the large cities such as Chicago, Detroit, and Indianapolis are connected by vast rural areas and individuals need to travel longer stretches. It's clear in looking at a map that EV charging stations are severely lacking in rural areas of the Midwest. The charging station market is segmented into three groups, Level 1, Level 2 and DC fast charging. While Level 2 is estimated to be the largest share of the EV charging market, DC fast charging is expected to grow at the highest CAGR.¹⁰ Due to DC charging expansion, the development and rise of connectors in EV is continuing to grow. Developing manufacturing facilities to produce EV charging stations and components will be a large demand.

Climate Prediction: Climate change is now on the priority list for the Biden Administration. It is also a priority for local governments seeking to be prepared for climate crises. The impacts of climate change are unevenly felt across socioeconomic and racial lines, and there is an urgent need to fully understand these disparities and use quantitative information to guide investments in communities, infrastructure, and programs. Programs and partnerships are encouraged that promote development of high-resolution climate projections, which are highly relevant to understand climate impacts at the neighborhood scale, and to guide adaptation and resilience investments. Such high-resolution models should be enhanced by networks of accurate observation and sensing systems of the urban, peri-urban, and rural communities and ecosystems. High-resolution climate projections are particularly relevant in the context of transportation for deployment of robust microgrids, networks of charging stations, safety, risk, and resiliency.

¹⁰ <https://www.prnewswire.com/news-releases/electric-vehicle-charging-stations-market-worth-103-6-billion-by-2028--growing-at-a-cagr-of-26-4-from-2021--exclusive-report-by-meticulous-research-301324939.html>

Horizontal Capabilities

- Artificial Intelligence
- Cybersecurity
- 5G & Broadband & Connectivity
- Robotics
- Quantum Computing
- Manufacturing Supply Chain
- Advanced Materials

Economic Outlook & Potential Outcomes

Globally, the current market size and estimated CAGR for Clean Energy Technologies is 6.9% CAGR and \$423.7B by 2026.¹¹ Breakdown by industry verticals and sub industries include:

- Clean energy: 22.7% CAGR, \$226B market in 2021
 - Hydrogen generation: 5.7% CAGR, \$184.1 billion by 2028
 - Carbon capture: 6.1% CAGR, \$4.6958 billion by 2027
 - Microgrid: 11.4% CAGR, \$42.3 billion by 2026
- Transportation (Electrified Mobility)
 - EVs: 33.6% CAGR, \$2.5 trillion by 2027
 - Battery: 9.5% CAGR, \$188.7 billion by 2026

COVID-19 impacted clean energy initially and about 17% of the workforce disappeared within the first couple of months, but it continues to be one of the biggest job creators. In the Midwest, it is estimated that 87,000 clean tech jobs will be created by 2030 and \$40 billion in capital will be invested. The Midwest is also home to many highly skilled, but displaced, workers from coal mining and coal power generation thus providing a great transition to support the infrastructure of emerging hydrogen, microgrids and installation of charging stations. Across the Midwest, there are more than 677,000 clean energy jobs. The surge for clean energy and electrification means the creation of good paying jobs, a more environmentally friendly power and transportation sector and economic growth for the Midwest. Additionally, microgrids generate between \$2.40 to \$6 in economic benefits for every \$1 invested.¹²

¹¹ <https://www.globenewswire.com/news-release/2021/08/10/2277874/0/en/Global-Clean-Energy-Technologies-Market-Size-Expected-to-Grow-to-USD-423-7-Billion-by-2026-Facts-Factors.html>

¹² <https://energynews.us/2020/07/01/this-minneapolis-microgrid-could-serve-as-a-jobs-training-and-resiliency-hub/>

Exhibit D – GENERAL PROJECT INFORMATION

Clean Tech Coalition – Build Back Better Regional Challenge
Request for Proposal

The Clean Tech Coalition is seeking project proposals from eligible entities across a variety of potential investment areas that align with the industry verticals identified above. Proposals should range between \$750,000 and \$25 million with full deployment of funding between 24 and 48 months. Examples of potential investment areas include, but are not limited to:

- Access to Capital (e.g., revolving loan fund, accelerator program, etc.)
- Applied Research and Innovation (e.g., science and research park, university research institute, etc.)
- Coal Economy Impact (e.g., training centers, industrial park, etc.)
- Entrepreneurship and Commercialization (e.g., incubator with wet lab space, university and national lab tech transfer programs, etc.)
- Equity Assessment (e.g., analysis of current equity and inclusion capacity as part of project proposal to achieve direct investment in disadvantaged communities).
- Environmental Justice (e.g., training and capacity building, air and water pollution, etc.)
- Infrastructure (e.g., fleet yard charging infrastructure, technology demonstration and testbed, etc.)
- Manufacturing (e.g., supply chain development, multi-tenant manufacturing facility, etc.)
- Planning and Development (e.g., brownfield development, market feasibility study, etc.)
- Workforce Development (e.g., constructing training centers, statewide training program, etc.)

All proposals should focus on either creating new capacity or scaling an existing program or entity. Proposals must align with the regional assets and economic development strategic plans and investments, clear industry engagement and commitments, equitable distribution of impact, and a post-award sustainability plan. Each proposal must demonstrate a minimum 20% cost match.

Through this program, the U.S. Economic Development Administration can provide funding to support a wide range of non-construction and construction activities. This includes construction activities for eligible entities such as water and sewer system improvements, industrial parks, shipping and logistics facilities, business incubators and accelerators, brownfield redevelopment, technology-based facilities, food aggregation, processing and distribution centers, wet labs, multi-tenant manufacturing facilities, science and research parks, transportation enhancements, and telecommunications infrastructure (e.g., broadband) and development facilities. This also includes non-construction activities such as design and engineering, technical assistance, economic recovery strategy development, entrepreneurial support, demand-driven workforce training, new academic curricula, market feasibility studies, and the capitalization of revolving loan funds (RLFs).

Exhibit E – PROPOSAL GUIDELINES

Clean Tech Coalition – Build Back Better Regional Challenge
Request for Proposal

Each proposal must consist of a Project Narrative and Preliminary Budget. Below you will find a detailed description of the requested information:

The Project Narrative should address all activities that will be undertaken to complete the individual component project within the regional growth cluster and briefly summarize how the component supports the overall regional growth cluster’s goals, referring back to the Overarching Narrative. **The Project Narrative may not exceed 6 single-sided, 8.5x11-inch pages, with a minimum 12-point font and 1-inch margins.**

A competitive application will contain the following elements in the Project Narrative:

Section 1: Program Description and Scope of Work

- Section 1a: An executive summary that includes the project component title, identifies the name of the lead institution for the project and, if applicable, the applicant implementing the component project, and provides a project summary of no more than 250 words.
- Section 1b: A scope of work of no more than one page linked to the project’s purpose and key milestones, including deliverables.

Section 2: Regional Industry Assets and Needs

- Section 2a: A description of the component project’s location and region. A description of the populations and geographies connected to location is recommended to inform the equity plan.
- Section 2b: A brief description of how the proposed project supports the industry and links to the local CEDS, as described in the Overarching Narrative.

Section 3: Proposed Solution

- Describe how the solution will fulfill the needs described in Section 2 of the Project Narrative. Describe the solution in detail. Explain how feasible the solution is. Explain how the project will accelerate industry growth by creating virtuous cycles of innovation and entrepreneurship, increasing employment, and attracting private investment. Explain how the proposed project would meet The U.S. Economic Development Administration’s Recovery and Resilience investment priority, which all American Rescue Plan Act projects are expected to meet. You may also explain in this space how the proposed projects will meet any of EDA’s U.S. Economic Development Administration’s other investment priorities.

Section 4: Partners and Program Outreach

- Section 4a: Describe any former, current, or future partnerships/working relationships with public and/or private entities at the national, state, regional, and/or local level that will be working on this project. Provide a brief description of each entity and specific detail on the roles and responsibilities of these collaborators including effectiveness of past collaboration efforts.
- Section 4b: Outline how outreach will be conducted for new and diverse stakeholders and program participants. How will this project promote diversity, equity, and inclusion in the region?
- Section 4c: How will this project integrate diversity, equity, and inclusion as part of its outcomes and enable direct investment in disadvantaged populations in the region?

Section 5: Measurable Goals and Impacts

- Provide details on what data will be collected and expected outcomes. Outline evidence- and data-based anticipated goals, including outputs and outcomes. Expected outcomes should be discussed in terms of the SMART framework—specific, measurable, attainable, relevant, and timebound—and the application should speak to why and how these goals were selected. Outcomes should at a minimum highlight: anticipated job creation and/or wage growth, anticipated regional GDP growth, reduced unemployment, workers placed in quality jobs, and the demographic breakdown of populations benefiting from investments.

Section 6: Sustainability Plan

- Provide a sustainability plan for post-federal award, including anticipated challenges, potential barriers, a forecast of post-award period operations, and a specific plan to become self-sustaining once grant funds have been expended. This plan should also explain the steps that you will take to ensure that the economic benefits of the project will be shared by all communities in the project region, including any underserved communities. Your explanation should address the communities affected, barriers those communities may face in accessing benefits of the project, contemplated outreach efforts, and other planned steps to address identified barriers, as appropriate.

Preliminary Budget

Provide a brief narrative of the estimated expenses, cost match, description of indirect cost rate, and identification of public sector investment opportunities in the project. Projects and program proposals must also include an initial proposed budget leveraging the following budget template and aligned with the U.S. Economic Development Administration Object Class Categories:

Object Class Categories	Year 1	Year 2	Year 3	Year 4
a. Personnel				
b. Fringe Benefits				
c. Travel				
d. Equipment				
e. Supplies				
f. Contractual				
g. Construction				
h. Other				
i. Total Direct Charges				
j. Indirect Charges				
k. Totals				

Indirect charges default to 10% of Total Direct Charges unless a previously negotiated indirect cost rate has been approved by a federal agency. Proposals must clearly identify the potential cost share the participating organization(s) can commit to the overall project cost. The expectation is that a minimum 20% of the overall project cost is independently sourced and attributable via non-federal sources of funding.

During the evaluation and selection process it is possible that individual proposals are suggested to combine with other peer organization's proposals.

Exhibit F – ELIGIBLE ENTITIES***

Clean Tech Coalition – Build Back Better Regional Challenge
Request for Proposal

Eligible applicants for investment assistance as a lead institution or a coalition member include a(n):

- District Organization;
- Indian Tribe or a consortium of Indian Tribes;
- State, county, city, or other political subdivision of a State, including a special purpose unit of a State or local government engaged in economic or infrastructure development activities, or a consortium of political subdivisions;
- Institution of higher education or a consortium of institutions of higher education;
- Public or private non-profit organization or association acting in cooperation with officials of a political subdivision of a State.

****Language is exactly as outlined in the Notice of Funding Opportunity*

Exhibit G – SELECTED PROJECT’S EXPECTATIONS***

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Phase 1 if selected

Initial notifications for selected proposals will be provided by Monday, October 4, 2021. All selected proposal’s participating organizations will be expected to provide a letter of support for the Clean Tech Coalition and provide general support for development of the Phase 1 full application.

Phase 2 if selected

Each of the 3 to 8 projects identified in the phase 1 proposal will be required to develop a comprehensive application package. This will require significant staffing investments by the participating organizations. Technical assistance will be provided by the consortium lead entity to support the development of the appropriate materials in preparation for the Clean Tech Coalition final application due by March 15, 2022.

A complete application includes:

- Project Narrative:
 - Program Description and Scope of Work
 - Regional Industry Assets and Needs
 - Proposed Solution
 - Partners and Program Outreach
 - Measurable Goals and Impacts
 - Sustainability Plan
- One Form SF-424A (Budget Information—Non-Construction Programs).
- One Budget Narrative that clearly identifies and justifies how funds in each line item of the budget
- Documentation of Matching Share for each matching share source, such as a commitment letter, board resolution, proof of bonding authority, or similar document, as applicable.

In addition, an application to support a business incubator component, technology or other type of incubator or accelerator, regardless of the type of assistance being requested (i.e., construction or non-construction) must also include:

- a. A feasibility study establishing the market demand for the specific start-up companies proposed for incubation (technology, general business, manufacturing, etc.), presence of necessary resources, and community support for the incubator;
- b. Documentation with detailed demonstration that the applicant has the financial capacity to operate the incubator facility (if applicable) and reach a positive cash flow within a reasonable period of time, which EDA generally expects to be three years; and
- c. A management plan for operation of the incubator that, at a minimum, includes a/an:
 - i. *Tenant/client selection policy* that includes a description of the types of businesses sought, any established selection criteria, and metrics on businesses that will continue to be tracked after they leave the incubator;

- ii. *Tenant lease or license agreement* (if applicable) that enumerates the shared services to be provided; delineates the incubator's business assistance policy, including the provision of management, technical, and training assistance, and the incubator's graduation policy; and establishes periodic access to the tenant's business records to permit assessment of the financial and operational viability of the tenant's business;
- iii. *Business assistance policy* that outlines the various types of assistance that the incubator will provide to start-up firms, including how the incubator will support tenants/clients with access to capital needed to grow their businesses successfully; how diverse and minority businesses will be supported?
- iv. *Staffing plan* that details the talent and resources that will be dedicated to supporting the start-up companies accepted into the incubator, including, as applicable, hiring diversity goals.
- v. *Tenant graduation policy* that is documented as a provision of the tenant lease or license agreement (if applicable) with clear requirements for tenant graduation from the facility or services of the incubator; and
- vi. *Incubator performance plan* that includes how the incubator will track the success of incubator tenants/clients, specifically identifying what performance measurement data the incubator proposes to collect from tenants/clients and for what period of time during and after the service period the data will be collected. This should also include members of any oversight or policy board for the incubator that will be responsible for setting performance goals of the incubator, selecting or approving selections of staff, establishing and reviewing policy, and monitoring performance.

****Language is exactly as outlined in the Notice of Funding Opportunity*

Exhibit H – IMPORTANT SUPPORTING DOCUMENTS

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- Chicago Metropolitan Agency for Planning On to 2050 Plan - <https://www.cmap.illinois.gov/2050>
- City of Chicago COVID19 Recovery Task Force Advisory Report - <https://www.chicago.gov/city/en/sites/covid-19/home/covid-19-recovery-taskforce.html>
- EDA Build Back Better Regional Challenge Website - <https://eda.gov/arpa/build-back-better/>
- EDA Build Back Better Regional Challenge NOFO - <https://www.grants.gov/web/grants/view-opportunity.html?oppld=334735>
- EDA American Rescue Plan Build Back Better Regional Challenge – Frequently Asked Questions - <https://eda.gov/arpa/build-back-better/faq/>
- EDA Build Back Better Regional Challenge Webinar Slide - <https://eda.gov/files/arpa/webinars/Build-Back-Better-webinar-slides.pdf>
- EDA Build Back Better Regional Challenge One-Pager - https://eda.gov/files/arpa/one-pagers/EDA_ARPA_BBB-One-Pager.pdf
- State of Illinois 2019 Economic Development Plan - <https://www2.illinois.gov/dceo/Documents/IllinoisEconomicPlan2019.10.9.2019.pdf>

Exhibit I – ESTIMATED PROJECT TIMELINE

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This project is governed by the following schedule:

Phase 1, Concept Proposal Due	October 19, 2021
Phase 1, Award Date	December 8, 2021
Phase 2, Full Application Due	March 15, 2022
Phase 2, Award Date	September 30, 2022