Office of Technology Transitions

Office of Clean Energy Demonstrations

U.S. DEPARTMENT OF ENERGY | Office of ENERGY EFFICIENCY & RENEWABLE ENERGY

AMERICAN MADE
U.S. DEPARTMENT OF ENERGY

MAKE IT Prize

Strategies Track

Round One, Phase One Winners

November 15, 2023

CTEC CHICAGOLAND GRID MODERNIZATION MANUFACTURING INITIATIVE

Project Overview: The **Clean Tech Economy Coalition (CTEC)** will develop a comprehensive road map to grow a grid modernization technology manufacturing cluster in the Chicago Metropolitan Statistical Area (MSA), leveraging existing R&D/commercialization, manufacturing, and labor resources and developing new partnerships and programs to drive innovation, production, and workforce capacity.

The Coalition: The Illinois Clean Tech Economy Coalition (CTEC), led by mHUB, Argonne National Laboratory, and University of Chicago was formed in 2021 to ensure Illinois emerges as a national and global leader in clean energy technology. It includes over 28 partners and 160+ supporters.

Project Partners (Phase 1)

mHUB
Lead Organization

The Region: The Chicagoland area is the 2nd largest manufacturing hub in the U.S. Its diversified manufacturing base, strong transportation & distribution infrastructure, and innovation/research assets make it a prime candidate to become a leader in clean energy manufacturing.

- Location quotients: environmental controls (6.2), battery storage technologies (1.8), hydrogen fuel cells (1.1), wind energy generation (2.5), and solar energy generation (1.9)
- Area companies have 788 patents in clean/climate tech
- Chicago has 25 percent of the nation's workforce in environmental controls manufacturing
- Illinois has a workforce of 5.2 million people in jobs with transferable skills to work in the energy cluster

ILLINOIS CLEAN TECH COALITION

mHUB

Project Hermes: Closing the Clean Energy Value Chain

Tulsa: A New Kind of Energy

In contract to its reputation in legacy energy, Tulsa has been producing renewables since the 1940s. Oklahoma is the **3rd largest producer of wind energy** in the U.S. behind Texas and Iowa.

Recent Wins

Tulsa has expanded its green manufacturing infrastructure with recent wins including:

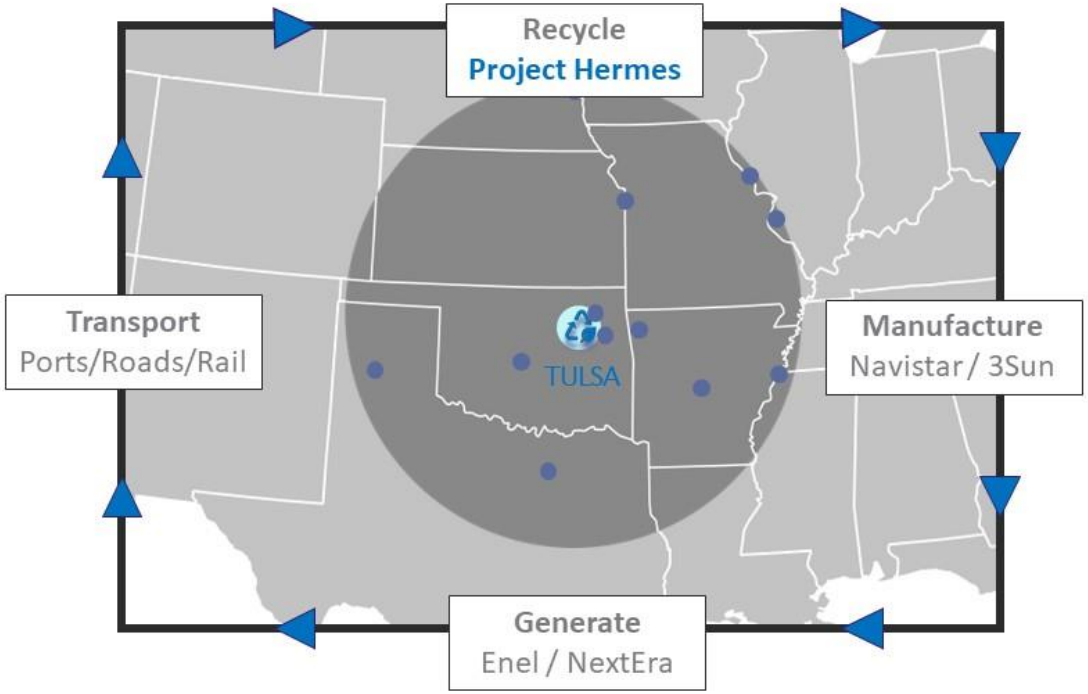
- 3Sun – $1B PV gigafactory
- NextEra Energy – 100MW Green H2 Plant
- Navistar – Expansion of EV OEM capacity

Centrally Located

Located within 400 miles of cities with major renewable infrastructure including Dallas, Des Moines, Bentonville, Omaha, Kansas City, and St. Louis.

Transportation Hub

With access to the farthest inland ice-free port (Tulsa Ports), a robust railway system, and an interconnection of multiple highways, Tulsa is well positioned as a central point for material import and export.



PARTNER TULSA

TULSA INNOVATION LABS

Rose Rock Bridge

Project title: An Engagement plan on developing a roadmap to support Wind Energy Manufacturing, Assembly, Deployment, and End-of-life recycling (WE-MADE) in South Texas

Key Project Members: Team Lead – Dr. AMM Nazmul Ahsan, Assistant Professor; Dr. Jianzhi (James) Li, Professor; Dr. Yangyang Long, Assistant Professor; and Dr. Mostafa Malki, Visiting Associate Professor
Organization: The University of Texas Rio Grande Valley, Edinburg, TX

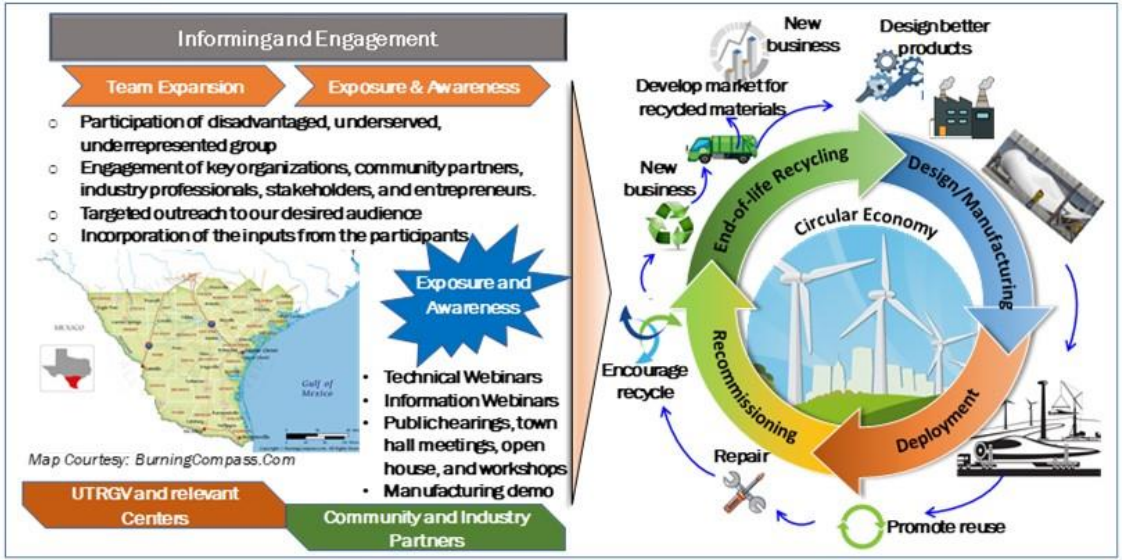
Summary: This project will strategically bring together university professors and centers, community partners, industry professionals, and entrepreneurs to gather input and build relationships to develop and nurture a sustainable, regional entrepreneurial roadmap focusing on launching and growing new ventures on wind energy technology/device manufacturing and recycling.

The region: The team will focus on the wind energy manufacturing opportunity in South Texas region. Per the US EPA Environmental Justice Glossary and the White House Climate and Economic Justice Screening Tool (CEJST), this region is predominantly defined as a disadvantaged, overburdened, and underserved community that will tremendously benefit from new opportunities driven by wind energy manufacturing and recycling endeavors.

Project Goal: Build interest, engagement, and community involvement to develop a roadmap for Wind Energy manufacturing and recycling (WE-MADE) ventures in South Texas. This initiative is aimed at promoting equitable and sustainable economic development and job creation around clean energy manufacturing, particularly in South Texas region.

Project Impact:

- Growing network, strengthening collaboration, and increasing awareness of the opportunity in wind energy among entrepreneurs leading to increased participation in clean energy in South Texas.
- A regional entrepreneurial ecosystem for historically underserved groups in renewable energy innovation.



Team: Beatrice Nebraska Clean Energy Manufacturing

Members:

John Worthley:

- Role: Project Lead
- Description: John is a project manager with over 25 years of experience leading teams on clean energy manufacturing industry lab research and active duty training with the Los Angeles-class nuclear-powered fast attack submarines (SSN), Sikorsky CH-53E Super Stallion, and aircraft carrier USS Nimitz (CVN 68). His expertise spans a wide range of clean energy manufacturing areas, including the development of advanced components for vertical-axis wind turbines, energy-efficient production processes, and sustainable supply chain management.

Judith Verner:

- Role: Industrial Expert
- Description: Judith Verner, representing Hoover Materials Handling Group, is a pivotal member of our team. With a rich background in industrial operations, she brings in-depth expertise in manufacturing processes, safety protocols, and industrial management. Her extensive knowledge is crucial for developing a credible roadmap and engaging with potential manufacturers. Judith's experience ensures that our project is aligned with industry standards and best practices.

- Rachel Kreikemeier:
- Role: Economic Development Strategist
- Description: Rachel Kreikemeier, affiliated with Ngage Group, plays a central role in advancing economic development in our region. Her organization is dedicated to promoting economic growth and sustainability. Rachel's expertise in economic development and regional strategy positions her as a key stakeholder in our project.

- Alonzo Denney:
- Role: Tribal and Community Liaison
- Description: Alonzo Denney, a leader of the Santee Sioux Tribe, brings an essential tribal perspective to our team. His role as a tribal stakeholder ensures that the unique interests, concerns, and cultural aspects of tribal entities in our region are acknowledged and addressed in our roadmap. Alonzo's expertise in tribal leadership and community engagement is pivotal in earning tribal and community support.

- Craig Rea:
- Role: Project Management and Regional Development Expert
- Description: Craig Rea, serving as a Project Manager at Southeast Nebraska Development District (SENDD), brings a wealth of experience in project management and regional development. SENDD's mission aligns closely with our goal of regional development and economic growth.

- David Madcharo:
- Role: Education and Workforce Development Lead
- Description: David Madcharo, the Program Director at Southeast Community College, plays a crucial role in supporting education and workforce development in our region. His role as an educational stakeholder is essential for providing specialized training and skill development to prepare the local workforce for clean energy manufacturing.

Region: Beatrice, Nebraska

Why We Are Competing in This Prize: In Beatrice, Nebraska, we see a unique opportunity to leverage our region's strengths, including a skilled manufacturing workforce, abundant renewable energy resources, and a supportive local community. By competing in this prize, we aim to harness these advantages to build a thriving clean energy manufacturing base, create quality jobs, and promote economic and environmental sustainability in our community. Beatrice, with its historical ties to manufacturing and its strategic location, is poised to be a hub for clean energy innovation, and we are dedicated to making that vision a reality.

Greening the Great Plains:

Oklahoma Resilient Energy Manufacturing Hub

Team Greening the Great Plains

Partnership

Windustry's work with Lawton Fort Sill EDC, Great Plains BDC, Carter Wind Turbines, Tribal Nations, and others will promote local manufacturing of wind turbines and other clean energy components. J40 success metrics include:

- ✓ $ invested in work executed within underserved community, including workforce development and job training
- ✓ # of and $ budgeted to community organizations representing underserved communities
- ✓ # of stakeholder engagement events including DEIA participants

LAWTON FORT SILL ECONOMIC DEVELOPMENT CORPORATION
CARTER WIND
HOLT CAT
eFormative options
NATIVE SUN COMMUNITY POWER DEVELOPMENT
Advanced Energy Systems

Key Project Members

Lisa Daniels & Heather Rhoads, Windustry
Brad Cooksey, Lawton EDC
Matt Carter, Carter Wind Turbines
Tim Olsen, Advanced Energy Systems

Program Activities

Phase 1: ENGAGE Collaborators with relationship-building

Phase 2: CREATE Roadmap and implement community and industry engagement; conduct benefits assessments, feasibility studies and site development reviews; apply for funding

Phase 3: ACTIVATE Financing development, workforce development and job training, construction planning; earn local, Tribal, and labor support; share success stories

Mission and Impact

Windustry's mission is to promote sustainable energy solutions and empower communities to develop and own clean energy assets.

As an independent voice and resource acting in support of communities, we work – through education, outreach, advocacy – to advance broad community commitment to renewable energy.

AMERICAN MADE
U.S. DEPARTMENT OF ENERGY

Wind, Solar, Storage, Biodigester and EVSE Component Manufacturing for Energy Resilience

Post-COVID Energy Storage Supply Chain Manufacturing Roadmap for a Vibrant Northeast Ohio Region

Principal Team

- **Team NEO:** Northeast Ohio Region's private, nonprofit economic development organization and JobsOhio Network Partner.
- **BRITE:** Ohio's innovation-first energy technology entrepreneur program advancing the transition to a clean energy economy.
- **Urban League of Greater Cleveland:** Community-based organization focused on eliminating the racial, economic, and societal barriers that prevent Black Americans and other underrepresented/underserved communities of color from achieving their full potential
- **Thrive Mahoning Valley:** Community-led coalition that strives to create a more welcoming and equitable community.

Region: The Northeast Ohio Region includes the 18 counties within the following areas: Akron MSA, Canton-Massillon MSA, Cleveland-Elyria MSA, Mansfield MSA, Youngstown-Warren-Boardman MSA

Prize Goal: Enable small & mid-sized companies to diversify and engage in clean energy manufacturing as well as attract energy storage supply chain companies to Northeast Ohio towards vibrant regional economy -- one that is talented, resilient, innovative, and equitable -- with a goal to drive economic growth and prosperity.

MAKE IT Prize Strategies Track—Phase 1: Engage Narrative Submission

NextCorps Rochester Area Clean Energy Manufacturing Hub

NextCorps, Inc

Team: NextCorps is a nationally recognized hub for innovation and economic development

Location: Rochester, New York

Goal: Revitalizing the manufacturing sector in the Rochester, NY region and building a resilient economy focused on industries of the future.

The proposed NextCorps Rochester Area Clean Energy Manufacturing Hub will foster clean energy technology-based economic development by leveraging and enhancing ecosystem capacity for hardware technology entrepreneurs. Collaborations fostered through this program will provide regional economic benefit by supporting clean energy entrepreneurs starting new businesses and bringing new products to market, and by repurposing unused manufacturing facilities and increasing workforce development opportunities.

Evansville Energy Nucleus

Evansville, IN

Project Overview

The Nucleus is a collaborative effort between Evansville, Indiana's Circular Venture Lab (CVL) and the University of Evansville's Center for Innovation and Change (CIC).

The two organizations have detailed resources specific to clean energy manufacturers interested in relocating to the region through the CVL website.

Sixteen critical stakeholders in four areas of project focus have been identified and to provide support to the initiative. Community engagement is crucial to ensure our residents understand the initiative and in establishing trust.

Efforts to attract manufacturers of clean energy components and systems will center on census tracts in the Evansville Promise Neighborhood (EPN) and other underserved communities in the region.

Team Members

Circular Venture Lab
Logan Jenkins, Executive Director
8 years experience in the clean energy ecosystem, 3 years experience in energy-focused economic development, and exit via acquisition in advanced materials.

University of Evansville CIC
Erin Lewis, Executive Director
CIC leader since 2015. Lead applicant and partner in $30m EPN 2023 grant through US Department of Education, secured $32m in additional matching funds.

Key Partner:
Evansville Regional Economic Partnership

CIRCULAR VENTURE LAB

Center for Innovation & Change
UNIVERSITY OF EVANSVILLE

Our Region

Evansville, Indiana is the blue-collar heart of a blue-collar region, located along miles of the Ohio River.

Today, the Evansville region is the nation's hub for the molded plastics industry, with dozens of large companies and chemical suppliers having significant operations here. Multiple supply chain and logistics companies call Evansville home.

Manufacturing in our region, with a metropolitan population of 300,000, accounts for one in five jobs and contributes $22 billion in annual GDP. This represents 41% of the area's total economic activity, compared to just 8% nationally.

Evansville has the right mix of infrastructure, incentives, expertise, and proximity to big cities to provide new manufacturing companies and their employees a high quality of life.

Project Timeline

CONVENE
Aug-Dec 2023
- Identify Stakeholders
- Beta Website
- Community Engagement

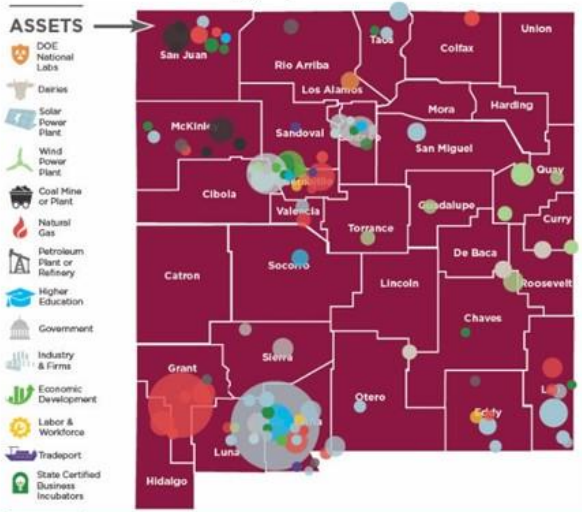
REFINE
Jan-Jun 2024
- Further Community Engagement
- Target Companies/Industries
- Initial Marketing

BUILD
Jul-Dec 2024
- Workforce Development Programs
- Manufacturer Commitment
- Physical Facility

EXPAND
2025-Beyond
- Replicable Statewide Program
- Additional Funding Sources
- Self-sustainable Nonprofit

MESA NM: Manufacturing Energy Solutions & Advancements in NM

Arrowhead Center (Arrowhead) at New Mexico State University (NMSU) elevates technological advancement, commercialization and entrepreneurial strengths within the institution and across New Mexico. As the organization supporting NMSU's technology transfer and economic development activities, Arrowhead has spent almost two-decades shaping programming to empower innovators, entrepreneurs and small businesses across the state. Home of the NM Clean Energy Resilience and Growth (CERG) Cluster, Arrowhead recognizes both the need – and opportunity – for increased manufacturing in the clean energy space. The **MAKE IT** Prize provides a unique opportunity to catalyze this activity.



MESA NM will create a forward-thinking and adaptive clean energy manufacturing roadmap for the future via three pillars:

- **INNOVATION:** Leveraging and growing NM's innovative ecosystem to drive economic growth and clean energy manufacturing.
- **COLLABORATION:** Fostering collaboration and convening diverse stakeholders to ensure a unified approach to energy manufacturing.
- **INCLUSION:** Harnessing deep regional insights to champion inclusivity, prioritizing underserved communities and reflecting NM's diverse socio-economic landscape.

MESA NM
Manufacturing Energy Solutions & Advancements in New Mexico
Innovation, Collaboration, and Inclusion

ARROWHEAD CENTER®

NM STATE

Manufacturing and Technology Resource Consortium (MTRC)

AT STONY BROOK UNIVERSITY

ScaleFor ClimateTech

Accelerating Climate Tech Innovation with the MAKE IT Prize

Our Team: Since November of 2022, Scale For ClimateTech (S4C) by SecondMuse and Manufacturing and Technology Consortium (MTRC) at Stony Brook University have partnered to engage with and create resources for manufacturers to better work with climate tech startups.

Our Region:
The S4C and MTRC work has been focused in the area of Long Island, New York. We believe in the ability of their shared program to assist in the challenges facing Long Island job growth for marginalized communities.

Why We Are Competing:
By expanding the work that has already been done, S4C and MTRC will help ease the pathway to scaling climate tech innovations, ensure that Long Island becomes an enticing region for climate tech manufacturing, and generate clean energy job growth in the region.

Pennsylvania Sustainable Business Network Manufacturing Initiative

Pennsylvania is well-suited for clean energy manufacturing, with a large and skilled workforce, abundant natural resources, and proximity to major markets. The clean energy manufacturing industry in Pennsylvania is still in its early stages of development, but it has the potential to create thousands of jobs and revitalize the region's economy. The Pennsylvania Sustainable Business Network (PASBN) and American Sustainable Business Institute team of business organizations, companies, and investors is working to create a larger voice and drive for innovation for sustainable manufacturing in Pennsylvania, with a focus on uplifting communities of color, minorities, and historically underrepresented people in the workforce. We have found a distinct need in Pennsylvania to find a cohesive voice for sustainable manufacturing. We are at a unique point in history where the state is ready to make an economic transition from a fossil fuels economic base to a clean energy economy that supports everyone equitably. The PASBN team is excited to support this transition by convening Pennsylvania businesses and community members and tie this to our work in the wider Appalachian region. This prize would be an essential foundation and allow for a Pennsylvania sustainable business voice to be heard as a global sustainable manufacturing hub for years to come.

White Mountain Economic Development a 501(C3) is proposing a Strategies Track Make It grant to support the regional ongoing community efforts to create the Regional Energy and Educational Tech Center (REETC) to be located in St. Johns, Arizona a disadvantaged, overburdened and underserved community that is being impacted by the closure of coal fired power plants throughout the region. The region has been working for 4 years to develop the REETC with an educational workforce focus that offers opportunities for clean energy companies to come to the region. The first phase of the REETC will consist of 25,000 sq ft of which Northern Pioneer Community College will take 20,000 sq ft and the additional 5,000 sq ft will be utilized by a USDA RISE grant to continue to provide workforce development as well as business incubation. The NPC space will be utilized to revamp its current Energy and Industrial Technician program which historically has provided necessary training to the regional coal fired power plants. This program is being changed by the new college President who has an energy and manufacturing background to focus more on control systems and advanced manufacturing opportunities. The NPC space will also include a consolidation of its construction programs for advanced manufacturing as well as support for healthcare, IT and other disciplines. The project has already received planning funding from the USDA for an initial feasibility study ($50,000), a second grant for initial drawings and cost estimates and a USDA RISE grant ($1.3m) for workforce development and business incubation for both Apache and Navajo counties, an EDA grant ($355,000) for environmental, full drawings, operational costing and partnership planning and a Congressionally Directed Spending grant ($1.9m) for fiber for the project and broadband for the City of St. Johns. Once the planning grants are completed (target Q1 2024) the city will go after construction funding hopefully to also include some student/teacher housing. Partnerships in addition to NPC include the University of Arizona Tech Parks DOE funded business incubation program, Labforce a statewide online Learning Management System, White Mountain Economic Development, St. Johns Unified School District, Arizona@Work, REAL AZ, GAIN and Salt River Project (SRP utility). The mission of the partnerships is to provide economic development opportunities to the region regardless of income, ethnicity, backgrounds, re-entry status or any other limiting factor. The project has already received a Letter of Intent from Carbon Utility, a carbon capture company who wishes to locate its first experimental carbon capture unit at the REETC even before the REETC has been built. A second company, WoodSyn has been engaged in exploration of possibly placing their manufacturing facility in the region as they utilize the small diameter wood from the forests to create panels for building in both residential and commercial settings. The company has received a DOE grant of $2.1m to further facilitate the development of the technology. WoodSyn is currently quoting the costs of utilizing their materials (plants already exist in Europe) in the construction of the REETC and possible housing in the region based on the lower cost of construction and higher energy efficiency. The Strategies Track grant is needed to help build out a full marketing program to include a “Soft Landings” program for energy manufactures to coordinate sites, workforce, tax incentives and use regional partnerships.

Berkshire Innovation Center

The Berkshire Innovation Center serves as a catalyst to spark innovation and sustainable growth of technology-focused companies in the Berkshires. We do this in part through programming that promotes learning and technology-led career paths, and convening and connecting our community.

When these three pillars come together - **learning, technology, and community** - the ground is fertile for innovation.

WITH INDUSTRY - 40 plus industry members in high priority sectors such as advanced manufacturing, clean tech, aerospace, and life sciences.

WITH ACADEMIA - 15 academic members ranging from regional vocational schools to major research institutions such as UMass Amherst, RPI, and MIT.

WITH GOVERNMENT - A trusted partner with State and Federal Agencies including the US EDA, the Mass Clean Energy Center, and the Mass Tech Collaborative.

With this application, the BIC seeks to continue to leverage its strong academic, industry, and governmental partnerships, as well as its proximity to the the innovation hubs of Albany and Boston, to drive clean energy manufacturing in the region, and specifically to the 50-plus acres of prime industrial real estate immediately surrounding the Innovation Center.

The Berkshire Innovation Center has been cited by economic development, workforce development and regional planning organizations across the Commonwealth as a critical component of the future economic success of the Berkshires. The BIC staff has a strong background in project management, manufacturing, curriculum design and implementation, and business development and the organization boasts an active and influential Board of Directors from both industry and academia. In short, the BIC team has the experience and relationships critical to the success of this project.

berkshireinnovationcenter.com