

boost

Building Ventures Around
Community Energy Challenges

DOE BOOST PLATFORM

Community Energy Challenges

DOE Boost Platform is funded by DOE's Technology Commercialization Fund administered by Office of Technology Transitions.



Building Ventures Around Community Energy Challenges.

11 Community Engagement Workshops.



Renewable
Energy



Water
Management



Energy
Efficiency



Grid
Resilience

Community Workshop Locations



Evansville, IN

Evansville's proximity to coal-fired power plants and the consequential pollution challenges, including poor air quality and water contamination, require urgent attention and action.

- **Areas of Interest**

- **Clean Technology:** Technology solutions that address environmental challenges, with a specific emphasis on CO2 removal and the mitigation of mercury and coal ash pollution.
- **Materials and Manufacturing:** A focus on materials science, particularly plastics production/recycling, reflecting Evansville's significant presence and history in this sector.
- **Alternative Energy:** Projects expanding alternative energy and clean technology, highlighting ongoing initiatives in renewable energy sectors.
- **Smart Neighborhoods to Smart Cities:** Applying technological solutions to neighborhood work, aiming for broader applications towards creating intelligent urban environments.

- **Partners**

- Morton Solar
- Enviro Kinetics Inc.
- GRAVICOM
- Sixth and Zero
- Rain Cage Carbon/DMAG USA
- Berry Global
- AgroRenew
- Builda Construction Management
- Circular Venture Lab
- Ohio State University
- Evansville Regional Economic Partnership
- Tepe Park Neighborhood
- Southwest Indiana Small Business Development Center



Las Vegas, New Mexico

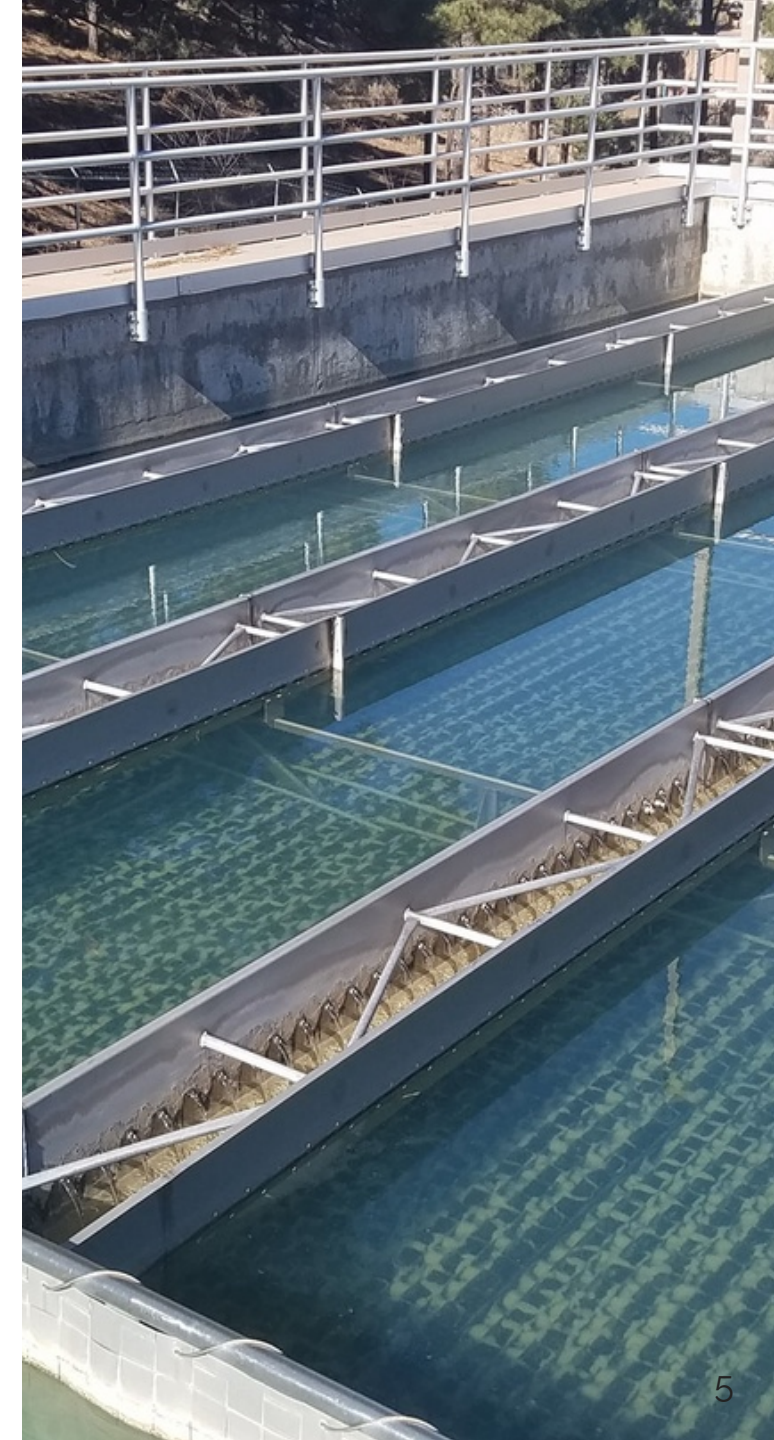
Las Vegas, New Mexico, is seeking innovative solutions to enhance sustainable land and water management, integrate renewable energy into homes, develop community EV charging stations, and promote the reuse of glass for sustainable construction materials.

- **Areas of Interest**

- **Land and Water Management:** Conservation and stewardship, gray water systems, water technology for effluent conversion, soil and land recovery.
- **Mobile Microgrid Technology:** Development and deployment of mobile microgrids to support clean food truck ecosystems, emergency response, and remote area electrification.
- **EV Charging Infrastructure:** Strategies and technologies for expanding electric vehicle charging stations in town to attract business and support the transition to electric vehicles.
- **Recycling Technologies:** Advanced solutions for recycling plastics, glass reuse, techniques for removing labels and producing concrete from recycled materials.

- **Partners**

- MainStreet de Las Vegas
- New Mexico Highlands University, Luna Community College
- Hermit's Peak Watershed Alliance
- Las Vegas New Mexico Community Foundation



Puerto Rico

Puerto Rico's initiative targets a full transition to renewable energy by 2050, requiring breakthroughs in several key technology areas.

- **Areas of Interest**

- **Electric Load and Consumption:** Analysis of changes in electric load considering population, GDP, climate variations, and EV adoption.
- **Distributed Solar PV and Storage:** Significant deployment of rooftop PV and storage systems due to economic benefits and local generation needs.
- **Bulk Power System and Grid Resilience:** Enhancements to transmission networks, inclusion of synchronous condensers, GFM inverters, and substantial battery energy storage for grid stability.

- **Partners**

- Hispanic Federation Puerto Rico
- Banco Popular
- LUMA Energy
- Puerto Rico Department of Economic Development and Commerce
- University of Puerto Rico
- Sierra Club, Puerto Rico Chapter
- Environmental Defense Fund
- Puerto Rico Energy Bureau



Brunswick, Georgia

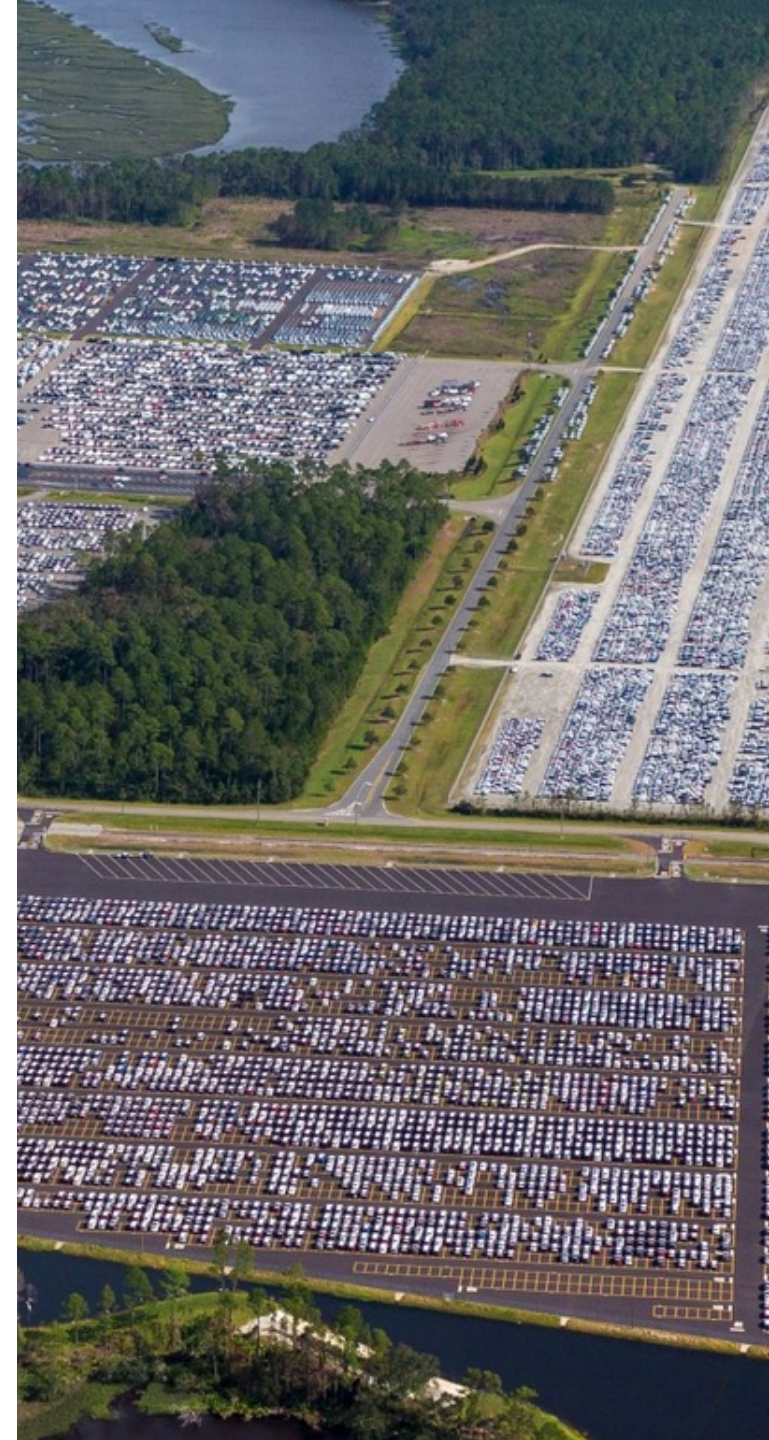
Brunswick, Georgia, stands at a critical juncture, facing significant environmental, economic, and infrastructural challenges that have far-reaching implications for community health and resilience.

- **Areas of Interest**

- **Environmental Pollution Remediation Technologies:** Innovative solutions for cleaning up toxic waste sites, including soil and water purification systems.
- **Sustainable Housing and Urban Development:** Technologies that offer affordable, sustainable housing with green building materials, and designs that integrate stormwater management and energy efficiency.
- **Coastal Resilience and Marine Ecosystem Protection:** Engineering and natural solutions to combat rising sea levels, coastal erosion, and invasive species.
- **Public Transportation and Infrastructure Modernization:** Smart infrastructure solutions that improve public transportation options, such as electric vehicle charging networks, micro-transit systems, and AI-powered platforms for infrastructure maintenance and disaster resilience.

- **Partners**

- Lucas Center for Entrepreneurship
- College of Coastal Georgia, Green Scene, Georgia
- LUMA Energy



Oakland, California

Oakland, California, stands at the forefront of urban innovation and sustainability, grappling with multifaceted challenges that span infrastructure, workforce development, pollution, and the need for resilient systems

- **Areas of Interest**

- **Infrastructure and Electrification:** Upgrading the city's infrastructure to withstand natural disasters, particularly earthquakes, and transitioning the port and public transportation to electric power to reduce emissions and support electric vehicles and boats.
- **Resilience Against Disasters:** Developing technologies and systems, such as microgrids and cybersecurity measures, to maintain progress and safeguard the community against both natural and man-made disasters.
- **Pollution Reduction and Environmental Health:** Implementing solutions to significantly reduce air pollution from gas and wild fires, and improving indoor air quality through modern insulation and air purification technologies.

- **Partners**

- Cleantech Open
- Kim Jones, Oakland Adult and Career Education
- Carline Au, East Bay Economic Development Alliance
- Areana Flores, Bay Area Air Quality Management District



South Valley, Albuquerque

South Valley Albuquerque faces a multifaceted challenge centered around environmental pollution, access to sustainable farming and technology, and the need for enhanced network connectivity and workforce development within the community.

- **Areas of Interest**

- **Environmental Health Monitoring and Remediation Technologies:** Innovative solutions for real-time monitoring and remediation of air, water, and soil pollution to protect and improve community health.
- **Water Conservation and Pollution Mitigation Technologies:** Solutions focused on minimizing water evaporation from sources and improving the quality of water available for agricultural and community use.
- **Rapid Produce Cleaning and Refrigeration Solutions:** Technologies to enable farmers to meet stringent food safety and quality requirements.
- **Agricultural and Meat Processing Innovations for Food Security and Compliance:** Technologies and systems that enhance food security through sustainable farming practices and scalable meat processing that meets USDA regulations.

- **Partners**

- Nick Blatt, Waterjet Cutting Inc.
- Jeff Bargiel, CNM Ingenuity
- Cyndy Bohannon, Find the Good Stuff
- Oswaldo Galarza, AIR Global
- CSol Power LLC
- Stephen Gomez, Santa Fe Community College
- John Grott, Southwest Composites
- Genevieve Mitchell, Mountain View Community Association
- Elisa Noordam, Chile del Sol
- Stephanie Peterson, Exhibit!
- Fred Vigil, Deuce LLC



Idaho Falls, Idaho

Idaho Falls faces significant challenges in waste management, affordable housing, and the integration of eco-friendly technologies. The community seeks innovative solutions to convert waste into energy, enhance sustainable housing, and develop local infrastructure to support economic and environmental goals.

- **Areas of Interest**

- **Waste Management:** Develop local recycling solutions to improve capabilities and reduce costs while innovating processes to convert community waste streams into energy and material alternatives.
- **Renewable Resources:** Optimize systems engineering to enhance the use of renewable energy sources and implement seamless EV charging infrastructure and advance battery recycling technologies.
- **Environmental Health:** Develop solutions to address air and water pollution effectively and innovate technologies to tackle pharmaceutical and PFAs contamination in potable water.

- **Partners**

- Mayor's Office of Idaho Falls, City of Rexburg, City of Ammon
- Idaho State University Center for Advanced Energy Studies, College of Eastern Idaho
- Idaho Power
- Idaho Regional Waste Services
- Moxie Endeavors
- United Way of Idaho Falls
- Yellowstone-Teton Clean Cities



Farmington, New Mexico

Farmington faces significant challenges related to the transition from fossil fuels to clean energy, workforce development, and economic diversification. The community seeks innovative solutions to manage natural resources, develop clean technologies, and enhance economic viability.

- **Areas of Interest**

- **Natural Resource Management:** Develop policies and partnerships for sustainable management and remediation of natural resources, such as converting pest-affected trees into heating pellets and protecting wildlife from PFAS contamination in drinking water.
- **Clean Tech:** Deploy sustainable clean technologies to meet the region's energy needs, including mobile EV charging stations for emergency response, green hydrogen production, and clean backup power for critical facilities.
- **Education Preparedness:** Collaborate with local schools and colleges to prepare the next-generation workforce through EV technician programs, workforce readiness development, and project-based learning opportunities.

- **Partners**

- San Juan College
- Navajo Technical University
- Power and Control Solutions Inc.
- Jack's Plastic Welding
- Four Corners Economic Development
- Upper Fruitland Community



Atlanta, Georgia

Atlanta faces significant challenges related to energy equity, access to clean technologies, and sustainable development. The community seeks innovative solutions to support clean energy adoption, enhance energy resilience, and foster equitable economic growth.

- **Areas of Interest**

- **Entrepreneurial Resources:** Leverage Atlanta's strong entrepreneurial culture to develop and support startups focusing on clean energy technologies and sustainable practices.
- **Community Ties:** Strengthen early engagement and cooperation with community organizations to ensure inclusive and effective energy solutions that meet local needs.
- **Gentrification:** Implement community economic initiatives that promote energy efficiency and renewable energy without displacing historically disadvantaged residents.
- **Market Implementation:** Develop strategies to ensure clean energy technologies address market needs, create clear business cases, and engage trusted community stakeholders to promote adoption.

- **Partners**

- Floreo Labs
- Russell Innovation Center for Entrepreneurs
- Partnership for Southern Equity
- Green Power Ventures
- Focused Community Strategies
- South Atlanta Civic League
- Atlanta Tech Village
- The chamber of commerce, Metro Atlanta Chamber
- Invest Atlanta
- Atlanta Urbanite Mobility Challenge



Newport News, Virginia

Newport News faces significant challenges in enhancing energy resilience, advancing clean technologies, and supporting sustainable development. The community seeks innovative technology solutions to address these challenges effectively.

- **Areas of Interest**

- **Smart City Infrastructure:** Implement smart city technologies, including advanced sensors and data analytics, to improve urban infrastructure, enhance energy efficiency, and promote sustainable urban development.
- **Data Science and Cybersecurity:** Utilize data science to address environmental disparities and improve cybersecurity measures to protect critical energy infrastructure.
- **Advanced Manufacturing:** Adopt advanced manufacturing techniques to develop and deploy clean energy technologies and improve local production capabilities.
- **Transportation Technologies:** Develop and implement advanced transportation technologies, such as electric vehicle infrastructure and unmanned aerial systems (UAS), to improve mobility and reduce emissions.

- **Partners**

- City of Newport News, Hampton Economic Development
- Hampton University
- Old Dominion University
- ITA International
- Globalinx Data Centers
- Virginia Peninsula Chamber
- Hampton Roads Workforce Council
- Invest Atlanta
- Atlanta Urbanite Mobility Challenge
- Hampton Economic Development
- NASA Langley Research Center
- Perrarus Solutions
- Jefferson Lab
- Naval Submarine League
- Vorg Electronics
- Kiwanis



Mi'kmaq Nation, Maine

The Mi'kmaq Nation in Presque Isle faces significant challenges in achieving energy sovereignty, reducing energy costs, and addressing environmental contamination. The community seeks innovative technology solutions to improve energy resilience, promote sustainable practices, and foster local economic growth.

- **Areas of Interest**

- **Alternative Energy Sources:** Pursue diverse and reliable alternative energy sources, such as packed bed thermal energy storage systems, to provide low-cost, dependable power and reduce dependency on a single utility provider.
- **Microgrid Technology:** Explore the feasibility of implementing microgrids to improve grid resilience, integrate renewable energy sources, and ensure energy independence for the Mi'kmaq Nation.
- **Environmental Remediation:** Develop solutions for soil contamination and PFAS pollution in water to protect natural resources and community health, leveraging local and federal research initiatives.
- **Energy Efficiency:** Deploy energy efficiency technologies in residential and community buildings to lower heating and electricity costs, particularly during the cold Maine winters.

- **Partners**

- Mi'kmaq Nation, community leaders
- Maine Community College

