



MOUND ADVANCED TECHNOLOGY CENTER ENERGY CENTER INITIATIVE

Miamisburg Mound Community Improvement Corporation





Vision

The Miamisburg Mound Community Improvement Corporation (MMCIC) will support the nation's and the state of Ohio's energy conservation, education, technology development, and job creation goals by developing, deploying, demonstrating and integrating renewable and alternative energy technologies at the Mound Advanced Technology Center (MATC).

Mound will become a national model by focusing on three goals:

- 1.) Becoming net zero of external energy consumption through conservation and the generation of renewable energy, reducing dependence on fossil fuels.
- 2.) Providing educational opportunities to industry, students and the public, leveraging its conservation and renewable energy efforts to generate awareness.
- 3.) Promoting business development and job creation focused on promising renewable and alternative energy technologies as part of its economic development mission.



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Strategies to Achieve Mound's Energy Center Initiative

While some activities have been launched, a formal plan, including program goals, objectives, activities and metrics, must be developed in specific detail for each part of the strategy. These will be merged into an overall program plan that will be created with the support of a \$1 million FY10 line item, included in the House 2010 Energy and Water Appropriations Bill. The Energy Center has three basic goals:

- **Goal 1 - Reduce dependence on external power sources.**

Mound's activities to achieve net-zero have already begun with measures to 1.) establish on-site renewable production using two solar sources, through the projects that have been proposed for Mound in requests for financial support from the state of Ohio; 2.) increase building efficiency through investments in various energy-efficient building systems for heating, ventilation and air conditioning (HVAC) and electrical service; and 3.) alter energy usage patterns by modifying building operations.



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- **Goal 2 – Establish a renewable energy campus that utilizes Mound’s unique variety of commercial building types (lab, office, warehouse, manufacturing) as a tool for education, networking and information sharing.**

The range of projects involved in achieving net-zero status across the Mound campus will set the stage for the site to become a regional authority in topics related to renewable energy. Education, networking and information sharing will be a natural extension of that leadership position. Relying on existing resources and its own experience, Mound will implement activities that aim to 1.) reduce the cultural barriers to renewable energy sources; 2.) increase energy conservation awareness; and 3.) expand energy-related knowledge and know-how.

Based on its existing relationships, assets, and pending renewable (solar) projects, and future demonstration projects, Mound will continue to act in a coordinating role, organizing educational forums, roundtables, exhibits, and other events designed to improve the knowledge base of those with business and personal interests in renewable and alternative energy. Numerous audiences, ranging from children and college students to business leaders and the general public, could benefit from such an effort.

The net-zero strategy also provides opportunities to create the training and hands-on experiences needed to interest and inspire students in renewable energy topics.

- **Goal 3 – Provide economic benefits by leveraging Mound assets to develop alternative and renewable technologies, and jobs.**

The overarching goal at Mound is to redevelop the former nuclear weapons site and return it to productive use. Thus, the main thrust of activities and investments at Mound must be 1.) creation of jobs and community wealth; 2.) site asset reuse; and 3.) technology and market development acceleration.

Mound’s business development strategy related to the Energy Center Initiative is to combine its educational, research and net-zero efforts in ways that will attract additional energy companies to the site. This will establish the critical mass of synergistic activities necessary to generate an energy focal point for business growth and job creation.

When combined, Mound’s energy campus and its business development activities will serve as a catalyst to accelerate the energy industry in Ohio. An energy campus support infrastructure would need to be organized to include resources and services from a variety of support organizations, including:

- Federal energy organization(s), (e.g., Department of Energy)
- Electric utility provider(s)
- Existing energy companies
- New/aspiring energy companies
- Economic development administrator
- Research institutions
- Educational institutions



Mound Laser & Photonics Center

These organizations will participate in the development of energy businesses and products by supporting activities such as business incubation, development, demonstration and integration projects, education and training, and research. While many of the organizations exist to support such an effort, no one in the region has assumed the important role of coordinating and facilitating local energy efforts. Given its relationships, asset base, technical background and economic development mission, Mound is in a unique position to support this mission and role.



Why Mound as a Center for Renewable and Alternative Energy Technologies

Mound is an emerging technology park being redeveloped from a former Department of Energy nuclear weapons production and development site in southwest Ohio. Miamisburg Mound Community Improvement Corporation (MMCIC), Mound's economic development organization, is uniquely positioned to support the Energy Center Initiative for several reasons:

- **Not-for-profit charter.** The organization is charged with building wealth for the community through job creation. Acting as an agent for the city of Miamisburg, it has greater flexibility and fewer operational restrictions than most public sector entities.
- **Record of achievement.** Mound has a remarkable redevelopment history involving the creation of new jobs, incubation of new companies, passage of federal enabling legislation, transfer of property, and soon to include the complete remediation and de-listing of a nuclear weapons superfund site. These successes are the result of political and business relationships, sound management strategies, and the community's commitment to the vision of Mound as a technology park.

- **Economic development and energy mission.** Mound is leveraging its assets, relationships and unique position as a former Department of Energy facility to target markets in emerging energy, materials, advanced manufacturing, and information systems. These areas represent technology specialties of the site's existing client base and the region's strengths (as identified in a study conducted by Battelle for the state of Ohio). The emerging national focus on renewable and alternative energies has created an opportunity for Mound to increase its efforts in this market segment.

Support for the Mound's Energy Center Initiative

Support and collaboration for Mound's Energy Center Initiative have come from several sources:

- **Congress and DOE-EM.** Recognizing that the completion of remediation in 2010 will position Mound to fully realize its economic development potential, Congress has supported Mound's environmental cleanup with line items of \$30 million (FY06), and \$4.75 million (FY09). The Department of Energy, Office of Environmental Management, has contributed \$5 million (FY08) to supplement the Congressional line item, and committed an additional \$20 million from stimulus funds in 2009.

In addition, a \$1 million line item has been placed in the House 2010 Energy and Water Appropriations Bill to launch Mound's energy initiative, and further articulate the steps necessary to achieve the vision.

- **DOE - Office of Legacy Management.** The DOE Office of Legacy Management has committed \$15 million in support of the Mound facility's redevelopment, which is estimated at \$55 million. Other funding sources, such as those generated through Mound facility leases, have been used for redevelopment as well.

- **State of Ohio.** The state of Ohio has contributed to the site's redevelopment in two ways: First, the state has provided \$2.4 million in grants for infrastructure, including Mound roadways and utilities.

Second, the state has partnered with Mound and several site businesses by providing an award of approximately \$1 million to develop a state-of-the-art hydrogen fuel cell testing system. Additional state support has been provided directly to the businesses through grants and tax credits.

- **Energy communities.** DOE has launched an "Energy Parks" initiative in which "closure sites" across the country will take on a specific role to advance the department's national energy mission. Mound's Energy Center Initiative is an example of how the DOE's program could be implemented at a closure site.

To advance this concept, the Energy Communities Alliance (ECA) has created a Sub-Committee for Energy Parks. (ECA is an information-sharing and advocacy organization of local governments, including closure sites, impacted by Department of Energy activities.) The committee, chaired by the president of MMCIC, Mound's redevelopment organization, is scheduled to meet with Under Secretary of Energy Kristina Johnson to discuss DOE's "Energy Parks" initiative.



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- **Community.** The City of Miamisburg and Montgomery County have also supported the redevelopment efforts, providing over \$2.1 million toward various improvements. In addition, countless hours have been provided by community leaders and volunteers as in-kind contributions toward redevelopment.
- **Universities.** Discussions have been held with a local university to become involved in Mound's initiatives. The university has a satellite location at Mound and has launched one of the nation's first graduate programs in renewable energy. It is also one of a 14-member state consortium of research universities (UCEAO) that can be made available to support the effort.
- **Local utility.** Mound has developed a relationship with a local utility and entered into a Memorandum of Agreement through which funds have been committed to advance Mound's Energy Center Initiative.

Mound is a party to an application by Dayton Power and Light Energy Resources (DPLER) to the state of Ohio for funds for the first solar (60kW) array on site. Mound itself has submitted a second request to the state for yet another array. From an educational perspective, these two systems will demonstrate the performance differences for two diverse solar-panel technologies side-by-side at a common location in southwest Ohio.

In addition, Mound is a part of a "smart grid" grant proposal made by the utility seeking stimulus funds.

DOE, Dayton Power and Light, the Dayton Development Coalition and MMCIC are collaborating in an educational and business networking initiative at Mound. The program began with an "Energy Roundtable and Exhibition" held in June 2009. The event was booked to capacity with 150 participants and 25 exhibitors. It generated interest in potential joint ventures between Mound and several businesses, thus promoting economic development. A second event, focused on solar technologies, is scheduled in January 2010, with a follow-on program devoted to energy conservation.

MMCIC is also sponsoring a "Green Energy Ohio" solar conference at Mound in October, and the National Association of Industrial and Office Properties (NAIOP) energy awareness program in January.



Mound Technical Solutions

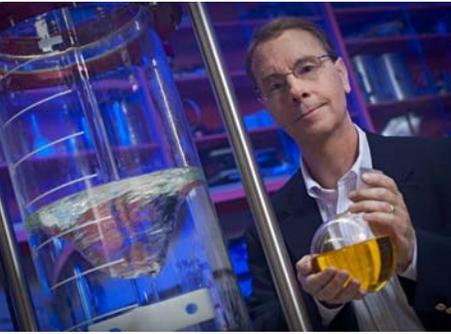
Mound's Redevelopment Background and Accomplishments

The 306-acre DOE Mound site is located in southwest Ohio near Dayton, within the city limits of Miamisburg. The site has undergone remediation since the announcement of its closure in 1993. The community has been actively involved in the site's remediation and has forged a partnership with the DOE to redevelop Mound as a scientific business and technology park. The relationship with DOE was formalized through the following vehicles:

- A Mound sales contract with MMCIC, a community redevelopment organization
- A 1998 memorandum of agreement outlining the organizations' working relationship
- DOE grant agreements and financial support, and
- Site's transition and cost-sharing agreements

With the support of DOE, the state of Ohio, the Ohio Congressional delegation and local community resources, MMCIC has developed and implemented strategies and tactics for business growth and job creation. The redevelopment strategy has been to leverage the nation's investment in the site's human, real and personal property assets to the greatest extent possible so that businesses can generate employment and compete in the marketplace on the strength of their technological advances.

The economic development effort has created more than 600 jobs, and through an incubator program, produced 15 companies, including five Ph.D.-owned firms that remain on site today. These companies harnessed the knowledge and skills developed during the principals' employment as DOE contract employees to create new business opportunities. As entrepreneurs, they have developed significant new technological breakthroughs in emerging energy and other technologies.



Inorganic Specialists

With their links to the core competencies found in other Mound businesses, Dayton-area industry, local universities, and nearby Wright Patterson Air Force Base laboratories, Mound's energy-focused businesses are at the center of a critical mass of technological expertise, research activity, developmental progress and momentum. Together, these assets uniquely position Mound to serve markets in the areas of emerging energy, materials, advanced manufacturing, and information systems.

These assets and existing relationships are the basis of powerful – and immediate – opportunities at Mound that support the Department of Energy's mission and the job-creation objectives of the American Recovery and Reinvestment Act of 2009. Mound represents an opportunity to quickly establish a Renewable and Alternative Energy Center, whose goal is to bring clean, reliable and affordable energy technologies to market to substantially improve Americans' lives while generating new jobs and enhancing Mound's success as a business park.

Parties' Goals Aligned

Partnerships last when the relationships are mutually beneficial. The goals and interests of the involved parties are closely aligned and supported by the design of the vision. These interests are driven by revenue opportunities and public policy to develop green, renewable and alternative energy, decrease consumer cost, and improve national security. Mound wants to take advantage of its position, relationships and assets to leverage this movement to create business and employment opportunities. By working together, the parties will realize significant benefits. This can – and should – be accomplished with the support of state and federal leadership leveraging Mound's contributions. With modest investment, the Energy Center is an opportunity to quickly demonstrate what can be accomplished under the government's new energy policy.



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