



Reducing Barriers to Solar Development on Brownfields

Left: O'Shea Solar Park. Photo courtesy of DTE Energy.
Right: Team members at the 2019 Dow Symposium

GLOBAL IMPACT ARTICLE SERIES

Michigan has a 15% renewable electricity standard by 2021, which means the state's utilities must procure 15% of their energy from renewable sources. Some of the largest utilities, Consumers Energy and DTE, are looking to expand their solar energy production by seeking unconventional sites to host solar arrays, such as brownfields. Brownfields are contaminated pieces of land that are difficult or impossible to use for farmland, residential, or commercial building developments. Most solar is currently sited on greenfields or undeveloped land that is usually used for farming. The Michigan State Land Bank Authority would like to put many of these abandoned or foreclosed brownfields to productive use; however, developments on brownfields tend to come with additional risks and costs that deter a lot of developers.

A Dow Sustainability Fellows team at the University of Michigan investigated the challenges that exist for siting on brownfields and how the environmental and economic benefits of solar development on contaminated sites can be fully realized. They prepared a report with key recommendations and case studies for the Michigan Land Bank Authority.

“ [The report] is a resource, pulling information together for whoever is interested in it,” says Kseniya Husak, a public policy student at the University of Michigan. Developing solar on brownfields will help Michigan make use of its unremediated sites and help reach its environmental goals.

BROWNFIELDS ISSUES

The Michigan Land Bank Authority manages almost 3,000 properties within the state of Michigan, many of which are brownfields. There are significant hurdles that exist with developing solar on brownfields because they pose a risk to human and environmental health. There are clear advantages for solar developers to site on greenfields, but the team hopes this conversation will soon change.

Challenges for Brownfield Solar Development

- Environmental liability
- Utility control and resistance for connecting to the grid
- Costs are higher for developing on brownfields compared to greenfields
- Identifying ideal sites such as rural vs. urban
- Community acceptance



“Siting on brownfields is very confusing because liability is such a challenge and the opaqueness around liability contributes to not promoting sites for solar,” adds Husak. “It creates malaise around solar developers and everyone is under the spell around liability and the fear is palpable.”

The team conducted 24 phone interviews with a wide range of stakeholders with knowledge of brownfields, the electricity sector, and solar energy development in Michigan to better understand the barriers faced when developing solar on brownfields. To address the above challenges, the team developed recommendations to the Land Bank.

SOLUTIONS AND BENEFITS

Recommendations to the Michigan Land Bank Authority

- Eliminate retroactive liability
- Streamline a process for conducting Baseline Environmental Assessments of sites
- Develop partnerships with Consumers Energy and DTE and smaller utilities
- Amend existing brownfield redevelopment programs
- Secure dedicated funding for brownfield solar
- Consolidate information on site characteristics in a user-friendly online portal
- Centralize state resources and information for solar developments on brownfields
- Prioritize cities with renewable energy goals
- Engage local community members early and often to ensure support

The benefits of developing brownfields including removing contaminated sites from the community, increasing the tax base of the surrounding area, creating new jobs, and contributing to human and environmental health and safety.

IMPACT AND NEXT STEPS

Prioritizing solar electricity production on brownfield sites is good for Michigan’s economy and its environment. “[The main impact is] advancing the solar on brownfields conversation in the state and pointing out opportunities and challenges,” says Claire Dodinval, another U-M team member.

The team hopes the Michigan Land Bank Authority will use their recommendations to convene a multi-agency working group to tackle the above challenges and be better positioned to develop necessary solutions. The team hopes this will create multiple positive outcomes. “The case studies can be used to help communities set policies for clean energy,” adds Dodinval.

PROJECT TEAM

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CLIENT

- Land Bank for the State of Michigan

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SUSTAINABLE DEVELOPMENT GOALS

