

RE-Powering America's Land

Evaluating the Feasibility of Siting Renewable Energy Production on Potentially Contaminated Land

Lackawanna, New York

RE-Powering: EPA/NREL Feasibility Studies

The U.S. Environmental Protection Agency's (EPA) *RE-Powering America's Land* Initiative encourages renewable energy development on current and formerly contaminated land, landfills and mine sites when it is aligned with the community's vision for the site. EPA and the U.S. Department of Energy's (DOE) National Renewable Energy Laboratory (NREL) are collaborating on a project to evaluate the feasibility of siting renewable energy production on potentially contaminated sites. This effort pairs EPA's expertise on contaminated sites with NREL's expertise in renewable energy. The feasibility studies provide site owners and communities with a technical and economic assessment of installing renewable energy on a given site.

Site Description

The ArcelorMittal Tecumseh Redevelopment, Inc., property, formerly the Bethlehem Steel Plant, consists of 1,100 acres located on the shores of Lake Erie in Lackawanna, New York. The site once housed a large, fully integrated steel plant that operated from 1902 until 1983. Since then, nearly all above-grade structures related to the steel manufacturing facilities have been removed, with most utilities, subgrade slabs, and foundations left in place. The main site is a vacant, semi-wooded property containing numerous foundations, floors and other remnants of former industrial buildings. Surrounding parcels are vacant, except for the Gateway Trade Center, which is a deep water shipping port. Site investigations have identified 104 solid waste management units and six surface water bodies that received or could have received solid wastes containing hazardous waste or hazardous constituents. Widespread ground water contamination and the presence of highly contaminated waste in various solid waste management units have been identified at the site.

Community Goals

The community is familiar with the benefits of renewable energy development; 1,040 acres of the site's 1,100 acres are located in the Bethlehem Redevelopment Area, which is home to the successful and nationally known 35-megawatt (MW) Steel Winds project. This new development opportunity may build on the success of the Steel Winds facility and aid the community in addressing the impacts of massive job losses from the de-industrialization of the Great Lakes region.

Feasibility Study: Solar

EPA and NREL conducted a study on the potential for solar power generation on the ArcelorMittalTecumseh Redevelopment, Inc., property. The feasibility study evaluated the technical and economic opportunities and challenges at the site. The completed study:

- Provides a preliminary analysis of the viability of the site
- Assesses solar resource availability
- Identifies possible system size, design and location
- Reviews the economics of the proposed system

The Former Bethlehem Steel Plant site is suitable to host a range in size of solar energy systems from 50 kilowatts (kW) up to 50 megawatts (MW). Based on the ten scenarios analyzed as part of this study, a 50-kW system is the most economically viable at this time given existing incentives. Changes in policy, PV cost, or electricity could make 2 MW systems, which take full advantage of the state's net-metering policy, viable at this site in the future.

ArcelorMittal Tecumseh Redevelopment, Inc., Property Lackawanna, New York

Site Facts:

Site type: RCRA / Brownfield
Renewable technology: Solar

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The information presented in this fact sheet is from the site's initial proposal, site visit(s), discussions with community stakeholders, and other information collected in preparation of the feasibility study. This fact sheet is for informational purposes only and may not reflect the site's current regulatory or remediation status.

For more information, visit www.epa.gov/renewableenergyland or contact cleanenergy@epa.gov



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