

RE-Powering America's Land

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

Perry, Iowa

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 vacant, 138-acre Milwaukee & St. Paul Rail Yard Company rail yard site was originally developed as a rail yard/roundhouse facility used for maintaining railroad equipment. In addition to the main track and numerous railroad spurs, the site included an ash pit, a fuel area, a waste pond, and a boiler wash out. The site also housed a phosphorus warehouse and a metal fabricating facility. Since its closure in 1986, the site has remained underutilized. The city acquired the land in 2004 and secured EPA Brownfields grants to assess and clean up the site. Cleanup work under the Iowa Land Recycling Program was completed during the summer of 2011.

Community Goals

The City of Perry will use the feasibility study as a tool to help develop the type of facility best suited to satisfy its future energy needs. The former rail yard is likely to be best fit for solar photovoltaic (PV) or wind technologies. The local electric utility has a strong history of partnering with the city on previous renewable energy projects and fully supports this study. Reusing the site to produce renewable energy through the application of several possible technologies allows the community to become more sustainable and reduce its carbon footprint.

Feasibility Study: Solar

EPA and NREL conducted a study on the potential for solar power generation on the Milwaukee & St. Paul Rail Yard Company rail yard site. 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; and
- Reviews the economics of the proposed system

The Milwaukee & St. Paul Rail Yard Company rail yard site has sufficient acreage to install up to a 6.4-MW fixed-tilt PV system. However, due to market constraints and lack of available incentives at the time of the study, development of a large-scale solar PV system is not viable in the near term.

The best available economic case for the City of Perry would involve setting up multiple smaller systems on existing municipal buildings to take advantage of net metering. This approach takes advantage of tax incentives designed to promote small-scale distributed generation of electricity. Investigating state, local, and utility-based policy changes that could make a large-scale PV system financially viable is recommended for the City of Perry. Additional analysis is merited as market conditions evolve and new incentives become available.

Milwaukee & St. Paul
Rail Yard Company
Perry, Iowa

Site Facts:

Site type: 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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