

RE-Powering America's Land

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

Aurora, Colorado

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 146.4-acre property in Aurora, Colorado contains areas contaminated with petroleum, solvents and other contaminants, which originated from historic activities at nearby Buckley Air Force Base. The property is zoned for industrial uses and adjacent land is owned by the city and maintained as parks, recreational land and open space. Because the property is located within Buckley Air Force Base's Accident Potential Zone, it is subject to strict land use restrictions, including height, line-of-sight, and radio-frequency restrictions. These restrictions significantly reduce redevelopment options for the property.

Community Goals

The City of Aurora's 2009 Comprehensive Plan emphasizes strategies to increase the number of renewable energy projects on city property, incentivize renewable energy projects, and reduce the city's greenhouse emissions. With success of a 1 megawatt (MW) solar system at Buckley Air Force Base nearby and the inception of the Aurora Campus for Renewable Energy, repurposing this vacant property for solar energy production fits with the city's vision for the site and city-wide development plan. Given the use restrictions and Colorado's abundant solar resource, a solar array looks to be a potential option to transform this site into a community asset.

Feasibility Study: Solar

EPA and NREL conducted a study on the potential for solar power generation on the Tower Road 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 potential system.

The Tower Road site has the potential to host up to an 18-MW solar energy system based on available acreage. However, this large area does not need to be developed all at once and can be developed in phases. Multiple characteristics of the site and local energy market—the high cost of energy, the dropping cost of PV, and the existence of an adequate solar resource and incentives—make the Tower Road site a viable candidate for a community solar project.

At present, the City of Aurora is moving forward with a 500-kW Community Solar Garden project in order to benefit from incentives available through the current Xcel Energy Solar*Rewards Community program. The system is expected to be operational by Fall 2013.

Tower Road Site Aurora, Colorado

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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